

**A SYNCHRONIC STUDY OF THE MAJOR PHONOLOGICAL PROCESSES OF  
KICHONYI**

**BY**

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**DECLARATION**

This project is my original work and has not been submitted in any other university for the purpose of award of a degree.

.....  
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.....  
DATE

This project has been written under supervision and submitted for examination with our approval as university supervisors.

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.....  
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.....  
DATE

## **DEDICATION**

My work is dedicated to:

My loving parents,  
Bernard Mwamuye and Patience Mbaga

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## LIST OF SYMBOLS

//	Phonemic transcription
→	It means, is produced as, is realized as or becomes
—	Syllable boundary
[ ]	brackets for archphonemes
∅	Empty slot or symbol for deletion

## **LIST OF ABBREVIATIONS**

NGP	Natural Generative Phonology
SPE	Sound Pattern of English
GoK	Government of Kenya
GP	Generative Phonology
TGP	Transformational Generative Phonology

## **ABSTRACT**

The research aimed at analyzing the phonological processes of Kichonyi sounds using the Natural Generative Phonology theory (NGP). It set out to describe the phonological processes involving vowels and consonants in Kichonyi and also to investigate the conditions under which these processes take place. The investigation focused on the Kichonyi language as it is spoken in Kilifi South constituency in Kilifi county of Kenya. The objectives of the study were to identify and describe the phonological processes involving consonants in Kichonyi, to identify and describe the phonological processes involving vowels in Kichonyi and to investigate the conditions under which these processes take place. The data used in this analysis was gathered in Ziani, Mwarakaya, Chasimba and Dzitsoni sub-locations. Being a preliminary study on the phonological processes of Kichonyi sounds, it used the NGP theory which was developed by Hooper in 1976. The NGP theory works within certain principles in eliminating abstractness, namely the true Generalization Condition, the No-ordering Condition and Strong Naturalness Condition. The study found out that Kichonyi has 29 consonant phonemes, 2 semi-vowels and 5 vowel phonemes. In addition, the phonological processes involving consonants are hormoganic nasal assimilation, labialization, Ganda law and Aspiration. The phonological processes involving vowels are vowel nasalization, vowel harmony, vowel insertion, vowel deletion and glide formation. The conditions under which these phonological processes take place are captured using phonological rules.

## **CHAPTER ONE**

### **1.1 INTRODUCTION**

This chapter presents an introduction to the various aspects of the study. They include a general background to the study, background to the language under study, a statement of the problem, objectives of the study, justification of the study, scope and limitation, theoretical framework, literature review and methodology and a summary of the chapter.

### **1.2 Background to the Study**

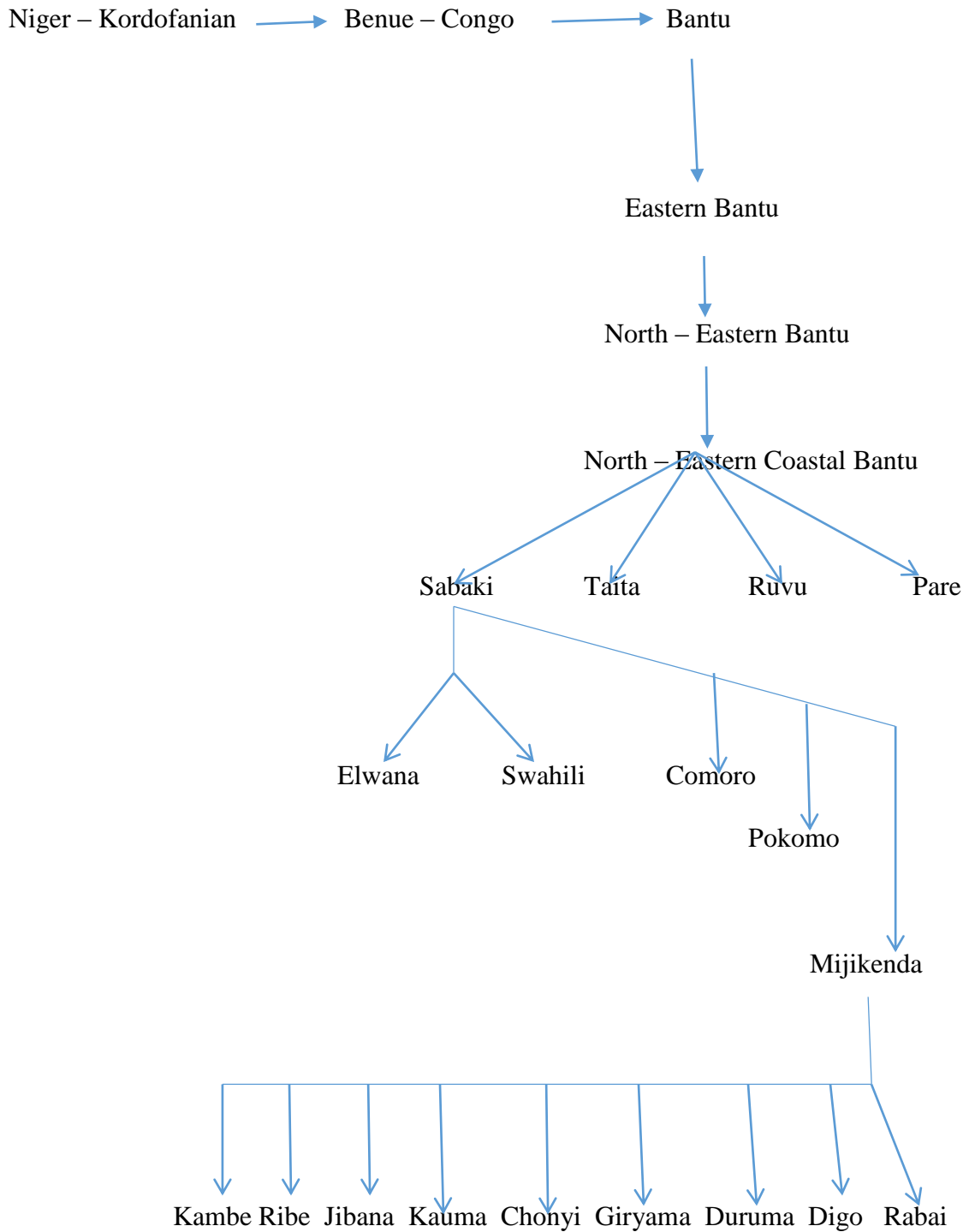
This study was on the phonological processes of the Kichonyi language. A phonological process refers to a mental operation that applies in speech to substitute for a class of sounds or sound sequences presenting a specific common difficulty to the capacity of the individual (Stampe, 1979: 43). The Kichonyi language has suffered neglect in terms of research. Bible Translation Literacy Nairobi (2015) did a study on the consonants sounds and vowel sounds of the Kichonyi language and also worked the orthography. They did not study the phonological processes of Kichonyi. There is need to study the phonological processes of Kichonyi because it is part of the Phonology and it will help explain why some phonemes in the language are realized differently in various environments. Just like other languages, Kichonyi speech is composed of sound segments which are consonants and vowels. This natural classification has been used in many languages of the world and is based on the degree of obstruction of the air streams (Ladefoged 1982).

### **1.3 Background to the Language**

The language under study in this work was Kichonyi, a sub tribe of the Mijikenda which is a Bantu language. The speakers of this language are called Achonyi while one speaker is Muchonyi. The Chonyis are mainly farmers and coconut palm is their main cash crop. (Guthrie, 1947) says that people of the Bantu languages originated from the area around Chad and Cameroon. Greenberg (1966) states that the Bantu languages came from the sub-family of Benue-Congo which is from Niger-Kordofanian, one of the four main language families in the African region. The other three are Nile-Saharan, Afro-Asiatic and Khoisan. He further observes that the Bantus migrated to Congo and continued migrating some to the West, East, North and others to the South.

Guthrie (1947) states that there was a group that went to the Northeast direction which formed the North-Eastern coastal group. This was the mother to the Ruvu, Pare, Taita and Sabaki. The Sabaki group is again divided into the Swahili, Pokomo, Elwama, Comoro and the Mijikenda. The Bantu languages have noun-class systems that portray concordial agreement. Nurse and Spear (1985) states that around 16<sup>th</sup> century, The Mijikenda and the Pokomo migrated to Tana River area due to a conflict between them and the Orma and later the Mijikenda migrated to the Kenyan Coast. The Chonyi people have settled in the Northern Coastal area of the Kenyan Coast. They are mainly found in Kilifi and Malindi counties but a few of them are scattered in Kwale, Mombasa, Tana River and Lamu counties. The Mijikenda community is made up of nine sub-tribes which are: Kambe, Ribe, Jibana, Kauma, Chonyi, Giriyama, Duruma, Digo and Rabai. The languages of the nine ethnic communities are mutually intelligible except for Kidigo which differs slightly especially in its vocabulary. The others employ slightly the same set of vocabulary but only differ in the accent. According to the economic survey of (2005) by the Ministry of planning, the Mijikenda, comprise of the following percentages (%) of the coast population in the six counties of the coastal region: Kilifi - 90.27%, Kwale- 82.6%, Mombasa- 27.09%, Lamu - 6.5%, Taita Taveta - 3.4%, Tana River- 3.1% (Source: GoK). Guthrie (1947) says that the Kichonyi language is classified in zone E group 72. According to the population census of 2009, Kichonyi has 149,000speakers and there are no dialectal variations. The origin of the Chonyi people can be explained diagrammatically as follows:

**Figure 1: The origin of the Chonyi people**



(Adapted from Iribe 2008)

#### **1.4 Statement of the Problem**

This study investigated the phonological processes of Kichonyi using the model of Natural Generative Phonology. There is no known study that has been done so far on the phonological processes of Kichonyi and there was need to carry out this study so as to be able to explain the behaviours of some phonemes in different environments. Bible Translation and Literacy Kenya (2015) did a study of the Kichonyi consonant sounds and vowel sounds and worked out the orthography of the sounds. This study aims at filling in that gap by identifying and describing the phonological processes in Kichonyi, how they occur and give an account of each. This study also carried out an investigation on the conditions under which these processes occur and corresponding rules were formulated. For one to understand a language well, either as a speaker or a researcher, it is important that one starts by learning the sounds of the language.

#### **1.5 Research Questions**

In view of the above statement of the problem this study sought to answer the following research questions:

1. Which phonological processes do the vowel sounds in Kichonyi undergo?
2. Which phonological processes do the consonant sounds in Kichonyi undergo?
3. What are the conditions favourable for the phonological processes to take place?

#### **1.6 Objectives of the Study**

1. To identify and describe the phonological processes involving consonants in Kichonyi.
2. To identify and describe the phonological processes involving vowels in Kichonyi.
3. To investigate the conditions under which these processes take place.

#### **1.7 Justification of the Study**

This study drew its justification from the gap that existed in as far as a detailed synchronic study of Kichonyi phonological processes is concerned. There was no known study that had been done on the phonological processes of Kichonyi and in particular using the NGP model. Mberia (1993) in his conclusion states that his study will inspire researchers to re-examine some of the phenomena he has discussed in the study of other languages especially



those related to Kitharaka. Kichonyi is related to Kitharaka in the sense that they are both Bantu languages. Mberia's work has indeed given this study some insight having discussed phonological processes like Assimilation, vowel deletion and vowel insertion that take place in Kitharaka sounds.

Iribe (2008) in his study of the Morpho phonemics of standard Kiswahili observes that his work will assist in the comparative study of the Bantu languages. Our study had a lot to learn from his study because Kichonyi is closely related to Kiswahili. This study will assist language researchers not only develop an interest in the Kichonyi language but will also give them a basis to work on. Some of the phonological processes that this study described include assimilation processes such as: Homorganic nasal assimilation, Vowel insertion, and vowel harmony.

This work will expose the Kichonyi language to other scholars who might want to study the language given that there is very little known about it and a lot of research still remains to be done just like in the other Mijikenda languages. This study therefore adopted the NGP theory as our descriptive tool in the assessment of its adequacy in accounting for the phonological processes in Kichonyi.

### **1.8 Scope and Limitation**

This was a study on the phonological processes of the Kichonyi language. A phonological study of the Kichonyi language covers a very large area in the sense that it includes both segmental Phonology (i.e. single sound segments like vowels and consonants and the processes these sounds undergo) and supra –segmental phonology like tone. This study only concentrated on the segmental phonology of the Kichonyi language. The main reason for this was that the supra-segmental phonology of Kichonyi constituted a whole research area on its own and could not be part of another study. The Kichonyi language is a highly tonal language just like the other Mijikenda languages. The study however concentrated on the phonological processes and also took to describe the consonants and vowels of Kichonyi because they are part of segmental phonology. This was however a synchronic study due to the time limits of the study. This study worked with sounds segments: vowels and consonants, syllables, words, phrases and sentences.

## 1.9 Theoretical Framework

This study adopted the Natural Generative Phonology (NGP) Theoretical framework. The theory is a modification of transformation generative phonology which is regarded as the Standard Generative Phonology Theory. Generative phonology owes its development to Chomsky and Halle (1968).

Generative Phonology (GP) conceives language as a cognitive rule governed structure. It proposed that there are two levels of phonological analysis – an underlying phonemic level and surface phonetic level. NGP was proposed and developed by Theo Venneman in a series of his papers in the early 1970's. He proposed that phonological statements should be restricted to the ones that are true to the surface forms and the phonological representations should be identified with phonetic forms. NGP was developed by Joan Hooper in 1976. The theory starts from the assumption that arbitrariness be banned from the grammar; a phenomenon which characterized the Transformational Generative Phonology (TGP) developed since mid-1950's, and used in Chomsky and Halle (1968). At that time, there had been a proposal that alternation in the realization of morpheme is most approximately stated by positing a single underlying form from which its various alternates are derived by a rule – with the effect that any sound was allowed to change arbitrarily into any other sound at the whim of the analyst. Underlying representations were therefore observed to be abstract, that is, they were very far from the phonetic form which is what is uttered by speakers. In view of the above, phonologists who belong to the NGP school of thought argued that the phonological component need only deal with transparent, phonetically motivated, regular and productive processes (Katamba 1989).

This would ensure that rules that involve unpronounceable elements are not acceptable since it would be difficult to test the hypothesis using a corpus of linguistic data, a clear contrast with the abstract descriptions arrived at through earlier versions of the TGP which could describe many systems that are not possible in human languages. For Natural Generative Phonologists, underlying forms must bear a much more direct relationship to surface phonetic representations. NGP is much more constrained and less powerful analytical tool than the earlier theory. Hooper (1976) observes thus;

.....NGP makes very strong claims about the nature of language. Unlike the TGP this makes no clear distinctions between rules with phonetic conditioning verses rules with non-phonetic conditioning.

NGP was developed as a reaction to the perceived inadequacies of GP which was too powerful to capture what is considered possible in the sound system of natural languages. It is therefore not capable of representing what is natural about such systems. GP is abstract and can be used in describing many systems that are not possible in human languages. NGP rejects abstractness of GP though it makes similar claims about phonological rules. NGP is constrained and therefore less powerful than GP.

Hooper observes thus:

The long- range goal of theoretical linguistics is to formulate a theory that is just powerful enough to describe correctly all the facts of natural language, but at the same time, is not so powerful that it describes systems or predicts phenomena that never occurs in natural language.

Hooper (1976: 4-5)

The constraints lead to the correct predictions about sounds of a natural language. NGP does not only reject abstractness but also recognizes that language processes are complex and cannot be adequately analyzed without making use of the various levels of language. The theory recognizes the relationship between phonological and morphological levels of language. NGP works within certain principles in eliminating abstractness. The conditions are:

- (a) The true Generalization Condition
- (b) The No-ordering constraints.
- (c) A Strong Naturalness Condition.

**The True Generalization Condition** is a constraint on phonological rules in terms of how a rule should be formulated given the facts of a language. Phonological rules in a NGP theory and representations should bear a direct relation to surface linguistic forms, that is, rules express transparent generalizations – none would therefore express non-existent segment. It requires that a form that is posited as underlying should have a surface manifestation if it is to be acceptable as a correct underlying form. The condition states that not all changes have phonetic conditioning

Hooper (1976) states that”

...if the alternation fails to take place when the phonetic environment is present, or takes place when the phonetic condition is not present then; it cannot be

associated with a phonetic environment but must be associated with something else in the grammar.

The condition requires that all the rules express transparent surface realization. NGP posits that native speakers formulate rules about their languages that relate surface forms to other surface forms to eliminate abstractness. (Clark and Yallop, 1995). The rules should show the relationship between surface forms in most direct manner possible. The generalization constructed by the speakers of a language are surface true and transparent.

**The No-Ordering Constraint** is a constraint on the application of rules. The rules should not be forced onto a language but rather apply when the structural description of a rule is met. The rules should apply sequentially on the products of other rules so that they have their own intrinsic ordering. It restricts extrinsic rule ordering so that rules only apply after their structural description has been created by the output of other rules. The condition states that special rules always apply before the general ones. The speakers of a language do not make use of rule order because they choose the phonological analysis that associates phonological phenomena and morphological phenomena.

**A strong naturalness condition** is a constraint on the abstractness of the underlying representations. This condition limits the abstractness of the underlying forms. It requires that the forms be similar if not identical to the surface forms and should be expressed in intrinsic phonetic content. This condition (Postal 1968) posits facts about the relations between phonological and phonetic structure as capturing natural processes whose universality can be given. The assumption is that features posited for any one language must play a role in others as well. They should fit in a description of every language-testable far beyond the facts of any small group of languages which might have motivated it. The phonological features that appear in the lexical representation of a morpheme are those that occur in some surface representation of that morpheme. It requires transparency between underlying and surface forms. The direct correspondence between forms will show changes that are taking place thus avoiding abstractness in grammar.

The NGP theory assumes that rule systems do not form a monolithic block but should be divided into different types. It advocates for the incorporation in the model, a restrictive theory of rule interaction as the facts of a language allow. There are three rule types associated with Natural Generative Phonology.

**Phonetically Conditioned Rules (P-Rules)** describe the alternations that take place in environments that are specified in phonetic terms (Maroia 2012: 11). They are natural and are conditioned by the physical articulatory processes. They occur naturally and do not have any exceptions. They are conditioned by the physical articulatory processes and they describe the changes that are universal in that they always take place in given environments irrespective of the language. A causal relation between the phonetic environment and the structural change of the rule is postulated. In this type of rules, speakers construct phonetic generalizations only when these are regular and transparent. Iribe (2008: 23) the rules influence foreign language acquisition as they apply even in loan word adaptation. All the p-rules can be explained phonetically in reference to synchronic phonology. They are best looked at in terms of phonetic plausibility, that is, for what phonetic reason would an observed alternation be explained?

For example; in English, voiceless stops are aspirated when they occur in initial word position. That is  $p^h$ ,  $t^h$ ,  $k^h$  are phonetically conditioned. / $p^hin$ / is aspirated as opposed to / $spin$ / and / $t^hop$ / as opposed to / $stop$ /

**Morphophonemic Rules (Mp-Rules)** are rules that use morphological or syntactic categories. They are non-universal and contain both morphological and lexical information. These rules must refer to morphophonological or syntactic categories such as plurals, past tenses, nouns and verbs. They describe alternations which they are associated with for example a particular morpheme or syntactic category (Maroia2012: 12).

The application of this rule can best be understood by examining the words electricity and electric versus the words cool and key. In the former, / $k$ / of electric becomes / $s$ / in electricity thereby changing its shape completely and becoming an entirely new sound. In the latter case, the first sound for cool i.e. / $k$ / is similar to the first sound of key except that the realization has been fronted and the articulation is at the palate. i.e. / $kj$ / They are language specific and have exceptions. They take part in the sound meaning correspondence of a language and are of three types.

The first type consists of the morphophonemic rules which are the ones that capture the alternations of a morph in different morphemic environments. The second type is the morphological spell out and word formation rules, which show how morphs are strung together to form words and they also show the changes that they undergo in order to acquire

their surface forms. The third type consists of the syllabification rules which assign syllable boundaries to phonological strings. (Iribe 2008: 23)

**Via Rules** apply to cases that cannot be explained in phonetic or morpho-syntactic terms. They relate one lexical item to another without claiming that one is derived from the other. They express relations between lexical items. Katamba (1989) states that via rules are not productive and the few items linked by via-rule have to be individually marked and a particular via rule is not assumed to be part of every native speaker's linguistic competence. **Sandhi Rules** fall in between P-rules and MP-Rules in that they have characteristics of both. They are word boundary rules whose information apply to word boundaries thus making them behave like Mp-Rules. A word boundary has the potential to coincide with either a syllable boundary or a pause. When a word boundary coincides with either of the two, Sandhi rules behave like p-rules such that they sometimes appear to be regular, productive and insuppressible. NGP makes strong claim about natural processes of a language and it is more constrained than GP. It is less abstract in that it is capable of predicting natural language phenomena and this is why it has been chosen as the descriptive tool for this study. Using the P-rules the phonological processes of Kichonyi were identified.

### **1.10 Literature Review**

As we pointed out earlier in the statement of the problem that Kichonyi had not been researched enough, this study made reference to what had been done in other Mijikenda languages and Bantu languages in general. Other works that were relevant to this study were also a point of reference. The following works on genetically related languages touch on areas close to our study problem. These are Bantu languages and therefore not very different from the Kichonyi language which is itself a Bantu language. Some of these works have also employed the theory of NGP as a tool of analysis, also adopted in this study.

Ipu (1982) studies the sounds of lower Kipfokomo. Ipu investigates the consonant and vowel sounds of the lower Kipfokomo. He goes on to describe the processes that both the vowels and consonants undergo and formulate their rules. Our study had a lot to learn from Ipu's work because; in as much as Kipfokomo is not part of the Mijikenda languages, they

have some similarities and sometimes even share some utterances with Lower Kipfokomo being a Bantu language.

Kumbatha (1998) studied the Kigiryama morpho phonemics using the NGP theory. Kigiryama and Kichonyi are mutually intelligible being Mijikenda languages.

Our study had a lot to learn from Kumbatha's work given that she has used the NGP theory which is also our descriptive tool. Kumbatha has also described processes like palatalization, aspiration, and assimilation.

Munyaya (2009) conducted a study on noun derivations in Kigiryama and described the morphological and phonological processes that are in the derivation of Kigiryama nominals. This description was done within the theoretical framework of Aronoff's Word Formulation, Grammar and the Extended Level Ordering Hypothesis. Although the study did not employ the use of the NGP theory which is what we adopted in our study, the primary focus was to make an analysis of the phonological processes that aid in the derivation of Kigiryama nouns. Some of the processes she discussed include vowel deletion, assimilation, palatalization and glide formation which were very useful to our study given that Kichonyi and Kigiryama are both Mijikenda languages and are mutually intelligible.

Shume (2017) analyzed the phonology of Pokomo loan words borrowed from Orma and English using the Optimality Theory (OT) in her work she discussed the main vowel processes and consonantal processes that these loanwords undergo as they are adapted into the Pokomo language. Her work is very significant to our study since Pokomo is not just a Bantu language but also one of the Sabaki languages just like Kichonyi is and we are also describing the phonological processes though using a different theory, the NGP theory.

Mbwika, (2018) did a study on the phonological adaptation processes of Rabai loanwords from the English and Kiswahili languages. Although she used the optimality theory while we have used the NGP theory, our study has a lot to learn from her study given that Chonyi and Rabai are not only bantu languages but are also part of the Mijikenda tribes and are mutually intelligible for the better part.

Bakari (1982) Did a Study of the Morphophonology of the Kenyan Swahili Dialects. Using the Natural Generative Phonology Theory. Our Study will learn from Bakari's work because he has used the theory we will employ in our study, NGP.

Kichonyi happens to have borrowed heavily from Kiswahili utterances and the only difference would be in the intonation owing to the fact that Kichonyi is a highly tonal language. In his study, Bakari investigates the consonantal systems of the different Kenyan Swahili dialects and goes on to describe the phonological processes they undergo and formulate their rules and these are some of the objectives in our study. Some of the processes discussed in Bakari's study are palatalization, vowel deletion, vowel insertion and assimilation.

Iribe (2008) Morphophonology of Standard Kiswahili did a study on the phonological processes that vowels and consonants in standard Kiswahili undergo and the environments that occasion the sound changes in standard Kiswahili. This study is very vital to our work because Kiswahili is closely related to Kichonyi and the only difference is that Kichonyi is a highly tonal language whereas Kiswahili is not. They are both Bantu languages. Iribe has also used the NGP theory in describing some of the processes in his study which is the same theory employed in our study.

Mwaliwa (2014) employed the Generative CV- Phonology Theory in investigating syllable structures that Kiswahili loanwords drawn from Modern Standard Arabic exhibit. The findings reveal foreign syllable structures such as closed syllable that were copied and adopted into Kiswahili from Modern Standard Arabic. The study also analyzed the phonemic inventory of Kiswahili sounds, the phonological processes which occur as a result of borrowing and the syllable structure. His study is very significant to our study since Kiswahili is related genealogically to Kichonyi and we are studying the phonemic inventory and phonological processes hence we have a lot to learn from him.

Maundu (1980) studied the main consonantal changes in Kikamba using the NGP model as the main theory. In his work, Maundu compares four (4) Kamba dialects and uses the distinctive features developed by Chomsky and Halle (1968). His study was very important



to our study because both Kikamba and Kichonyi are Bantu languages and the main theory used in Maundu's work is the same as the one we are using in our study, NGP. Therefore, we had so much to learn from his study.

Maringa (1987) studies the sound changes in verbal extensions for two languages i.e. Kimbeere and Kiswahili. In his work, Maringa describes the various phonological processes in the two languages and uses the model of Natural Generative Phonology. Our study had a lot to learn from his work because the two languages; Kimbeere and Kiswahili are both Bantu languages just like Kichonyi. Apart from using the same theory just as he has, we also studied phonological processes just like he did.

Osinde (1988) deals with Ekegusii morphophonology. She analyses the major consonantal processes in Ekegusii which is a bantu language just as Kichonyi is. Our study had a lot to learn from Osinde's work given that some of the phonological processes she discussed are similar to the processes found in Kichonyi like homorganic nasal assimilation.

Sumba (1992) studied the major phonological processes of Logooli, Wanga and Lubukusu dialects of Luhyia. Sumba identified and described the major phonological processes involving vowels and consonants in the three Luhyia dialects using the Natural Generative Grammar Theory. She demonstrated that the major phonological processes of glide formulation, vowel assimilation, vowel deletion, palatalization and homorganic nasal assimilation take place in the three Luhyia dialects. This information assisted greatly our study because for one, Kichonyi is a Bantu language just like the three dialects of Luhyia discussed in the study. Sumba goes ahead to formulate rules for the phonological processes described in the study hence giving an insight into formulation of rules on the phonological processes that take place in Kichonyi.

Mberia (1993) studies Kitharaka segmental morphology using the Natural Generative Phonology theory. As part of the study, Mberia has presented Kitharaka Consonant inventory and discussed the consonant processes they undergo and the phonological rules that underlie them. He has also discussed the vowel processes and their rules. Mberia's discussion on the theory of NGP gave this study some important information because our study also employed the same theory. Our study had a lot to learn from Mberia's work

because he has discussed some processes like homorganic nasal assimilation, vowel deletion and vowel harmony.

There was a lot to learn from this study because the theory used is just like the one being used in this study and both Kitharaka and Kichonyi are Bantu languages.

Indimuli (2005) did a study on the absence of voiced stop and fricative sounds in Kabarasi. He used the generative phonology framework to account for the various phonological processes in Kabarasi. This work is very informative to our study given that Kichonyi and Kabarasi are both bantu languages and we are looking at phonological processes in Kichonyi some of which are similar to those in Kabarasi as discussed by Indimuli.

Kivuko (2005) took a Natural Generative perspective to investigate the vowel system of the Kitui Central dialect of Kikamba. He also discussed the adaptation that the dialect's loan words undergo to fit in its vowel system. Our study has a lot to learn from this work since we are also looking at the vowel system of Kichonyi as part of our study and Kikamba is also a Bantu language just like Kichonyi.

Ngugi (2008) used the claims of Natural Generative Phonology to study the morphological and phonological adaptation of English loan words into the Kikabete dialect of Gikuyu language. He discussed the phonological adaptation processes that the loan words undergo. Our study has a lot to learn from this study since we are also using the NGP theory to analyse the phonological processes involving Kichonyi sounds and both Gikuyu and Kichonyi are Bantu languages.

Anjiji (2008) did a study of Lutiriki noun morphology. In his study, Anjiji employs the NGP theory which is the same theory our study has employed. The study is important to this work because Anjiji has also looked at the sounds of Lutiriki and the phonological processes which form part of the objectives in our study.

Maroa, (2012) conducted a research on morphophonemic processes of Igikuria using the NGP theory. In her study Maroa discussed the phonemic inventory of the Igikuria and the vowel processes and the consonants processes that the phonemes undergo. Our study has

a lot to learn from this since Kichonyi and Igikuria are both Bantu languages and we are also discussing the vowel processes and consonant processes using the NGP theory just as she did.

There are some studies in Nilotic languages which were very vital to our study because they not only used the same theory, we used in our study of NGP, but also shared similar objectives as our study.

Adhiambo Odhiambo (1981) studied the major vowel processes in Dholuo using the Natural Generative Phonology as the theoretical model. Her work gave a lot of information to our study given that among other objectives, we also set out to describe the vowel processes in Kichonyi.

In her work, Adhiambo described the Dholuo phonetic inventory and looked at both the consonant system and vowel system of Dholuo. She went on to discuss the vowel processes such as vowel deletion, glide formation and vowel harmony. In her work, she also studied the Dholuo syllable structure. Although Adhiambo's work was on a Nilotic language, it gave great insight to our study because we had similar objectives and we also applied the same theory of Natural Generative Phonology just as she did.

Maiyo (2007) studied the Nandi phonology using an NGP framework. She looked at the Nandi phonemes and went ahead to study the vowel processes and the consonantal processes in Nandi. In as much as Nandi is a Nilotic language and Kichonyi is a Bantu language, our study still had a lot to learn from her study because she discussed phonological processes which is our statement of the problem and had also used the NGP theory which was the same theory we were using in our study.

Boen (2014) investigated the morphological and phonological adaptation of loan words of Nandi language that are borrowed from English and Kiswahili. The study used the Natural Generative Phonology and Generative CV-Phonology as its descriptive tools. The NGP theory was used to explain the phonological and morphological adaptation processes in borrowing while the Generative CV Phonology was used to analyze the syllable structure adaptation strategies. Our study has a lot to learn from this work since we are using the

NGP theory for our analysis of the phonological processes just as they did even though Nandi is a Nilotic language and Kichonyi is a Bantu language.

Schane (1972) was also very important to this study for information on theory. Schane's study gave information on different types of phonological processes which he organized into three categories. They include assimilation, syllable structure and dissimilation. This was very vital information to our study due to the fact that all these rule types manifested in the processes discussed also manifested in the major phonological processes of Kichonyi.

Hooper (1976) observed that the syllable is the smallest phonological unit. This information was very important in our study because the unit did help in expressing the phonological processes found in Kichonyi in a more general and explanatory way.

The syllable in this case is what was observed to be the basic motivation for the derivation of certain processes. The division of rules into different types helped us state the motivation for the phonological alternations in our study.

Chomsky and Halle (1968) was very vital to our study because it provided information on distinctive features which were used in writing the rules which were formulated on the phonological processes in Kichonyi. These features gave us a better understanding of how and why segments influence each other when they are next to each other.

## **1.11 Methodology**

### **1.11.1 Data Collection**

The methods of data collection in this study were Introspection and Elicitation.

Under introspection, the researcher's native speaker's knowledge and intuition was used in the analysis of the Kichonyi data. The researcher in this case, is a fluent native speaker of Kichonyi language and this knowledge was therefore used to make some judgments in the analysis of the data. This method may at times be subjective in generating data that favour the research hypotheses hence the need for an informant or other informants.

Elicitation involves the researcher getting informants who are native speakers of Kichonyi language to provide data during collection. There are some factors to be considered in the

choice of informants such as age, gender and the location. Concerning age, between 30 years and 70 years would be the most preferable age. This is because; getting very young informants might be detrimental due to some interference from Kiswahili.

This is a common feature among Kichonyi speakers in their 20's who consider it prestigious at times. Speakers above 70 years may also not have a very strong voice and it may not be clear also. In view of the above arguments on the choice of speakers, eight informants were used for the purposes of data collection four of whom were female and four male. This was to ensure a good variety on the type of data collected. There are no dialectal variations in Kichonyi language and informants were drawn from Chasimba, Mwarakaya and Dzitsoni areas because they cover the extreme ends of the area occupied by the Chonyi people. The type of data used included two recorded narratives one from a male and the other from a female informant. Two recorded conversations one from a man and another from a woman were also done. Two recorded speeches and two recorded sermons. These choices of the informants were for the purposes of variety and to be able to cover all the areas occupied by the Chonyi people. The informants were prepared in advance and given instruction on how the sessions would be conducted and an agreement reached on the topic and time.

### **1.11.2 Data Analysis**

After the data had been recorded from all the informants, they were transcribed using IPA symbols, individual words were observed in isolation and also when used in continuous speech to try and establish the alternations that the sounds went through using the model of Natural Generative Phonology. The phonological processes were then picked from the words in the raw data.

### **1.11 Conclusion**

This chapter provided the background information to the topic under study, the language being analyzed which is the Kichonyi language and the speakers of the language. There was further discussion within the chapter on the statement of the problem, its research questions and the objectives of study. In addition, the rationale of the investigation, the scope and limitations have also been discussed. The Natural Generative Phonology theory which is the tool that is used for the analysis in this investigation was also discussed. The chapter also provided highlights from the relevant literature on the problem in the current

study and the final section dealt with the methodology which was used in the collection of the data and the analysis.

## **CHAPTER TWO**

### **SEGMENTAL PHONOLOGY OF KICHONYI**

#### **2.1 Introduction**

In this chapter, we introduce the phonemes of Kichonyi. In this study, the Kichonyi sound system is discussed for the first time in this chapter. The chapter has two major sections and the first section is a study of the vowel system of Kichonyi. This is necessary as the information obtained is useful in our discussion of surface realization of glides and the syllable structure of Kichonyi language. The vowels, which are five, have been discussed according to the 2 features of articulation universally applied (Catford 1958) which are the vertical and horizontal tongue height.

The second major section of this chapter is on consonants. For purposes of a simple classification, the term consonant must be understood here to mean all [+consonantal] segments plus the glides which are strictly speaking neither consonants nor vowels. As is to be expected, the glides in Kichonyi alternate with both vowels and consonants. There is a description of all the consonants after being classified according to their manner of articulation as stops, fricatives, affricates, nasals, pre-nasalized stops, liquids and glides. In this chapter, we shall use the minimal pair test which has traditionally been used to identify the phonemes. The final section of this chapter provides a summary of the Kichonyi vowel system and consonant system.

#### **2.2 The Kichonyi Phonemic Inventory**

Kichonyi has 29 consonantal phonemes, 2 semivowels and 5 vowels. The consonants phonemes and the semivowels are found in either word initial or word medial position but not in word final position since the Kichonyi syllabic system does not allow for closed syllables. The vowels can occur in word initial, word medial or word final position.

#### **2.3 The Vowel System**

The phonetic inventory of Kichonyi contains five (5) vowels which are / i, u, e, ə, a/ and they are all oral.

These vowels may be represented diagrammatically as follows:

**Table 1: Kichonyi vowels**

	Front		Back
High	i		u
Mid high	ε		ɔ
Low		a	

The diagram representation of the Kichonyi vowel system above shows the vowels as they are according to the two articulatory features universally applied in the description of vowels (Catford 1958) which are: the vertical tongue height and the horizontal tongue position and lip position. The vertical tongue height is what gives us the high vowels /i/, /u/. Mid-high vowels /ε/, /ɔ/ and the low vowel /a/. A classification based on the horizontal tongue position gives us the two front vowels /i/ and /ε/ and the three back vowels /a/, /ɔ/, /u/. In terms of lip position, we have rounded and unrounded vowels. The front vowels /i/, /ε/ are unrounded with /i/ being the most unrounded and the back vowels /ɔ/, /u/ are rounded with /u/ being the most rounded. The vowel /a/ is articulated with a neutral lip position that is, it is neither rounded nor unrounded. This means that the more front and higher a vowel is, the more unrounded it is, and the higher a back vowel is, the greater the degree of lip rounding. Schematically, the frontness- backness configuration of the five (5) vowels in Kichonyi is represented in table 2 and the spreading and rounding is represented in table 3 below;

**Table 2: The frontness-backness of Kichonyi vowels**

	Front	Neutral	Back
High	i		u
Mid		ε	ɔ
Low		a	

Table 2 above represents how the vowels are positioned in terms of the horizontal tongue position. The vowel sound /a/ is at a neutral position while /i/ is more front than /ε/. At the same time, it shows that the vowel sound /u/ is more of a back vowel than /ɔ/.



**Table 3: The rounding of Kichonyi vowels**

	Front	Neutral	Back
High	i		u
Mid high		ɛ	ɔ
Low		a	

The above table illustrates the positioning of the vowels in terms of lip positioning where the vowel sound /i/ is more spread than /ɛ/ while the vowel sound /u/ is more rounded than /ɔ/ and the vowel sound /a/ is at a neutral position.

**Table 4 : Kichonyi vowels as used in some Kichonyi words**

Grapheme	Phoneme	Example	Gloss
i	<b>i</b>	iva/ <b>iva</b> /	Cooked
e	<b>ɛ</b>	ɛma/ <b>ɛma</b> /	Stand
a	<b>a</b>	hala/ <b>hala</b> /	Take
o	<b>ɔ</b>	zɔla/ <b>zɔla</b> /	Scoop
u	<b>u</b>	uzi/ <b>uzi</b> /	Thread

The data below illustrates the phonemic status of the vowels in Kichonyi.

(1) /i/ - High front vowel

/ira/	-	‘to boil’
/era/	-	‘become clean’
/ika/	-	‘put’
/ini/	-	‘liver’
/ila/	-	‘weakness’

The first pair of words in (1) above, /ɛra/ and /ira/ and also in 2. (a) below demonstrate that /i/ and /ɛ/ are phonemes. Katamba (1989) pg 21, A phoneme is a minimal sound unit which is capable of contrasting word meaning. The two words are a minimal pair because they are different in meaning as a result of a difference of one segment.

2. (a) /ɛ/ - Mid-high front vowel

/ɛra/	-	'become clean'
/ira/	-	'to boil'
/ɛha/	-	'call'
/ɛmba/	-	'sing'
/ɛnda/	-	'go'

(b) /a/ - Low neutral vowel

/ala/	-	'shine'
/ɛla/	-	'but'
/amba/	-	'weave a bed'
/anza/	-	'start'
/vala/	-	'dress up'

The two words /ala/ and /ɛla/ in 2. (b) above is a minimal pair in that they are similar except for one segment which brings about the change in meaning. Katamba (1989: 22) Sounds are classified as separate phonemes if they are responsible for a difference in meaning in a minimal pair. This is an indication that /a/ and /ɛ/ are phonemes.

(3) /ɔ/ - Mid-high back vowel

/ɔla/	-	'rot'
/ila/	-	'weakness'

/ɔga/	-	‘bathe’
/ɔna/	-	‘see’
/hɔza/	-	‘cool’

The two sounds /ɔ/ and /i/ are phonemes because they bring about the difference in meaning in the minimal pair /ɔla/ and /ila/ in (3) above.

(4) /u/- High back vowel

/umba/	-	‘create’
/ɛmba/	-	‘sing’
/usa/	-	‘remove’
/uza/	-	‘ask’
/uŋga/	-	‘flour’
/uzi/	-	‘thread’

The minimal pair /umba/ and /ɛmba/ in (4) above indicate that the two sounds /u/ and /ɛ/ are phonemes because they occasion the difference in meaning.

## 2.4 The Consonant System of Kichonyi

In this section, we discuss the phonemic inventory of Kichonyi which contains 31 consonant sounds which can be classified on the basis of the manner of articulation as either plosives, fricatives, affricates, nasals, liquids, approximants and dentals. They are classified according to the degree of constriction that is from the most constricted to the one with the least closure. The contrasting places of articulation in Kichonyi consonants are glottal, velar, labio-velar, palatal, palatal-alveolar, alveolar, dental, labio-dental and bilabial.

**Table 5: Kichonyi consonants as used in some kichonyi words**

No.	Grapheme	IPA Symbol	Example	Gloss
1	p	<b>p</b>	pesa / <b>p</b> esa/	Money
2	b	<b>b</b>	biga/ <b>b</b> iga/	beat up
3	t	<b>t</b>	tima/ <b>t</b> ima/	Alight
4	d	<b>d</b>	Dede / <b>d</b> edε/	Sibling
5	k	<b>k</b>	kare / <b>k</b> are/	long ago
6	g	<b>g</b>	gula / <b>g</b> ula/	Buy
7	j	<b>ɟ</b>	jeri/jeri/	True
8	f	<b>f</b>	fuga/ <b>f</b> uga/	Rare
9	v	<b>v</b>	vihi/ <b>v</b> ihi/	Chairs
10	s	<b>s</b>	suti/ <b>s</b> uti/	Trousers
11	z	<b>z</b>	zika/ <b>z</b> ika/	Burry
12	sh	<b>ʃ</b>	shida/ <b>ʃ</b> ida/	Problem
13	h	<b>h</b>	hala/ <b>h</b> ala/	Take
14	dh	<b>ð</b>	dhambi/ <b>ð</b> ambi/	Sin
15	ʒ	<b>ʒ</b>	ʒanda/ <b>ʒ</b> anda /	‘coconut pod’
16	dz	<b>dz</b>	dziza/ <b>dz</b> iza/	Darkness
17	ts	<b>ts</b>	tsungu/ <b>ts</b> ungu/	Ants
18	ch	<b>tʃ</b>	chulwa/ <b>tʃ</b> ulwa/	Frog
19	m	<b>m</b>	mahe/ <b>m</b> ahε/	Saliva
20	n	<b>n</b>	nane/ <b>n</b> anε/	Eight
21	ny	<b>ɲ</b>	nyala/ <b>ɲ</b> ala/	Plant
22	ng’	<b>ŋ</b>	ng’onzi/ <b>ŋ</b> onzi/	Sheep
23	mb	<b>mb</b>	mbazi/ <b>mb</b> azi	Pity
24	nd	<b>nd</b>	ndazi/ <b>nd</b> azi	Bedding
25	nz	<b>nz</b>	/nzugu/ <b>nz</b> ugu/	peanuts
26	ng	<b>ŋg</b>	/ ngama/ <b>ŋg</b> ama	clay
27	nj	<b>ɲɟ</b>	/njira/ <b>ɲɟ</b> ira/	path way

28	l	l	lungo/ <b>luŋɡɔ</b> /	winnowing tray
29	r	r	reha/ <b>rɛha</b> /	bring
30	y	j	mbeyu/ <b>mbɛju</b> /	seedlings
31	w	w	wawe / <b>wawɛ</b> /	grandmother

### 2.4.1 Stops

The Kichonyi language has two sets of stops: the voiceless series /p/, /t/, /k/ and the voiced series /b/, /d/, /g/, /j/ which are classified according to the place of articulation into bilabial, alveolar, velar and palatal. The data below illustrates the stops with the place of articulation and manner of articulation and examples of words in Kichonyi.

/p/ is a voiceless bilabial plosive whose voiced counterpart is /b/. The sounds /t/ and /d/ are the voiceless and voiced alveolar plosives respectively. /k/ is the voiceless velar plosive, whose voiced counterpart is /g/. j is the voiced palatal plosive. They can either appear at word initial or word medial position but never word final position because of the Kichonyi syllable structure.

#### (5) /p/ voiceless bilabial stop

/pula/	‘nose’
/bula/	‘germinate’
/paŋga/	‘arrange’
/pɔɾɛ /	‘sorry’
/papa/	‘shark’

The sounds /p/ and /b/ are phonemes since they are responsible for the difference in meaning between the minimal pair in the example above, /pula/ and /bula/.

#### (6) /t/ voiceless alveolar stop

/tamu/	‘sweet’
/damu/	‘blood’

/tuwa/	‘follow’
/tɔwa/	‘delay’
/tira/	‘post phone’

From the examples in the data above, we conclude that /t/ and /d/ are phonemes due to the difference in meaning which is in the minimal pair /tamu/ and /damu/.

(7) /k/ voiceless velar stop

/kula/	‘grow’
/gula/	‘buy’
/kɛŋga/	‘deceive’
/kure/	‘far’
/kahu/	‘big basket’

The minimal pair in the data above /kula/, /gula/ indicates that the two sounds /k/ and /g/ are phonemes since they are responsible for the difference in meaning in the two words.

(8) /b/ voiced bilabial stop

/bata/	‘duck’
/pata/	‘get’
/bulɛ /	‘free’
/baba/	‘father’
/bulu/	‘maggot’

The minimal pair in the data above /bata/, /pata/ indicates that the two sounds /b/ and /p/ are phonemes because they bring about the difference in meaning between the two words.

(9) /d/ voiced alveolar stop

/dini/	‘religion’
/tsini/	‘down’
/dɛtɛ/	‘valley’
/dangga/	‘unripe coconut’
/dula/	‘beat up’

The two sounds /ts/ and /d/ are phonemes since they are responsible for the difference in meaning in the minimal pair /dini/, /tsini/.

10. (a) /g/ voiced velar stop

/gɔsi/	‘all’ (mangoes)
/kɔsi/	‘everywhere’
/gula/	‘buy’
/galagala/	‘roll’
/gara/	‘those’ (bananas)

(b) /j/ voiced palatal plosive

/jema/	‘tap’ wine
/sema/	‘report’
/jita/	‘cook’
/jaqi/	‘jug’
/jeuri/	‘rude’

The minimal pair in 10. (b) above /jema/, /sema/ indicates that the two sounds j and /s/ are phonemes because they occasion a difference in meaning in the two words.

### 2.4.2 Fricatives

The Kichonyi language has seven fricatives which are categorized according to the place of articulation and are grouped into voiceless and voiced sounds. The fricatives in Kichonyi form the largest class when compared with the other consonant types. The voiceless fricatives in Kichonyi are /f/, /ʃ/, /s/, /h/ while the voiced fricatives are /v/, /z/ and /ð/. The data below shows the description of the Kichonyi fricatives in terms of the state of the glottis and the place of articulation.

(11) /f/ voiceless labiodental fricative

/fula/	‘wash clothes’
/vula/	‘undress’
/fuhi/	‘short’
/figa/	‘cooking stone’
/fimbɔ/	‘cane stick’

The minimal pair /fula/ and /vula/ in the data above show that /f/ and /v/ are phonemes because of the difference in meaning in the two words which is also the case for the minimal pair /vuka/, /fuka/ in the data below.

(12) /v/ voiced labiodental fricative

/vuka/	‘cross over’
/fuka/	‘fly’ paper
/vɔja/	‘pray’
/vuha/	‘pull’
/vika/	‘emerge’
/vunda/	‘become stale’



(13) /ʃ/ voiceless palate-alveolar fricative

/ʃuka/	‘bed sheet’
/suka/	‘shake’
/ʃaka/	‘doubt’
/ʃɔna/	‘sewing’
/ʃinda/	‘win’

The two sounds /ʃ/ and /s/ are phonemes because they are responsible for the difference in meaning in the minimal pair /ʃuka/ and /suka/ in the above data.

(14) /s/ voiceless alveolar fricative

/sika/	‘support’
/zika/	‘burry’
/saga/	‘grid’
/sɔŋga/	‘plait’
/sahani/	‘plate’
/simba/	‘lion’

From the data above, we conclude that the sounds /s/ and /z/ are phonemes because of the difference in meaning in the minimal pair /sika/ and /zika/.

(15) /z/ voiced alveolar fricative

/zama/	‘bend’
/hama/	‘beautiful’
/zulia/	‘block’
/zima/	‘put off’

/zɔsi/                      ‘all’ clothes

The minimal pair /zama/ and /hama/ in the above data indicate that the two sounds /z/ and /h/ are phonemes since they bring about the difference in meaning in the two words.

(16) /h/ voiceless glottal fricative

/hala/	‘take’
/mala/	‘fingers’
/hɔza/	‘cool’
/haŋga/	‘funeral’
/haha/	‘here’
/hɛɾɛ/	‘like’

From the data above, we can conclude that the two sounds /h/ and /m/ are phonemes because they are responsible for the difference in meaning in the minimal pair /hala/ and /mala/.

(17) /ð/ voiced dental fricative

/ðambi/	‘sin’
/kambi/	‘camp’
/ðarau/	‘contempt’
/ðania/	‘suspect’

The minimal pair in (17) above /ðambi/ and /kambi/ indicates that the two sounds /ð/ and /k/ are phonemes because they occasion a difference in meaning in the two words.

(18) /ʒ/ voiced palate-alveolar fricative

/ʒanda/	‘coconut pod’
/kanda/	‘knead’ dough

/ʒɛɛ/                      ‘elder’ aunt/uncle

In the data above, the minimal pair /ʒanda/ and /kanda/ indicates that the two sounds /ʒ/ and /k/ are phonemes since they are responsible for the difference in meaning.

### 2.4.3 Affricates

The Kichonyi language has three affricates /tʃ/, /dʒ/, /ts/ which are basically sounds formed from a combination of a stop and a fricative. /ts/ and /tʃ/ are voiceless while /dʒ/ is voiced. /dʒ/ and /ts/ are alveolar affricates whereas /tʃ/ is a palate-alveolar affricate.

The segment /tʃ/ is an affricate because does not aspirate like other voiceless stops. In this study, we posit that the affricates in Kichonyi are underlying because they are found at the phonemic level.

The following data gives examples of words where the affricates appear in Kichonyi

(19) /tʃ/ voiceless palatal affricate

/tʃira/	‘pass’
/sira/	‘finished’
/tʃemula/	‘sneeze’
/tʃai/	‘tea’
/tʃɔ: /	‘toilet’
/tʃija/	‘container’ (bucket)

The minimal pair in the data above /tʃira/, /sira/ indicates that the two sounds /tʃ/ and /s/ are phonemes because they bring about the difference in meaning in the two words.

(20) /ts/ voiceless alveolar affricate

/tsana/	‘comb’
/dzana/	‘yesterday’
/tsuma/	‘fend’

/tsuha/	‘throw’
/tsupa/	‘pass’
/tsannga/	‘split firewood’

From the data above, we conclude that /ts/ and /dz/ are phonemes because of the difference in meaning in the words in the minimal pair /tsana/ and /dzana/.

(21) /dz/ voiced alveolar affricate

/dzuwa/	‘sun’
/muwa/	‘sugarcane’
/dzulu/	‘up’
/dzina/	‘name’
/dzala/	‘dump site’

The minimal pair /dzuwa/ and /muwa/ in the data above indicates that the sounds /dz/ and /m/ are phonemes because they are responsible for the difference in meaning in the two words.

#### 2.4.4 The nasals

In this study, we show that there are four nasal sounds in Kichonyi language, namely /m/, /n/, /ɲ/ and /ŋ/. We posit that the five nasals in Kichonyi are underlying owing to the fact that they occur in morphemes in which they cannot be said to be derived from other segments.

Ipu (1982:31) observes that it may be argued however, that /ɲ/ is not underlying but is a phonetic reflex of /n/ followed by a vowel /i/. This argument can be disputed on the grounds that in Kichonyi, some occurrences of /ɲ/ and /ŋ/ cannot from a synchronic point of view, be said to be reflexes of underlying /n/.

This is so because there exists no surface alternation that would point to such a relationship in the synchronic grammar of Kichonyi. In such cases as [muɲu] ‘salt’ for example, is

intervocalic. The processes of homorganic nasal assimilation and palatalization could not possibly have taken place to produce /ɲ/. This is because homorganic nasal applies to sequences of a nasal and a consonant. Similarly, no alternation in the form of [muɲu] exists that would show that there might have been an /i/ in between /ɲ/ and /u/. We therefore conclude that /ɲ/ is underlying in the case of [muɲu].

The following data describes the nasals in Kichonyi in terms of the manner of articulation and the place of articulation with appropriate examples.

(22) /m/      bilabial nasal

/maŋga/	‘cassava’
/paŋga/	‘arrange’
/maji/	‘eggs’
/mazu/	‘bananas’
/madzi/	‘water’

From the above data, the two sounds /m/ and /p/ are phonemes since they are responsible for the difference in meaning in the minimal pair /maŋga/ and /paŋga/ .

(23) /n/ alveolar nasal

/nula/	‘lift up’
/ɲula/	‘rough up’
/nuka/	‘smell’
/nazi/	‘coconut’
/nɔla/	‘sharp’

From the above data, the minimal pair /nula/, /ɲula/ indicates that the two sounds /n/ and /ɲ/ are phonemes because they are responsible for the difference in meaning in the two words.

(24) /ɲ/ palatal nasal

/ɲama/	‘meat’
/zama/	‘bend’
/ɲɛɲɛzi/	‘stars’
/ɲɛɾɛ /	‘hair’
/ɲasi/	‘grass’
/ɲɔga/	‘feathers’

The minimal pair /ɲama/, /zama/ indicates that the two sounds /ɲ/ and /z/ are phonemes because they are responsible for the difference in meaning.

(25) /ŋ/ velar nasal

/ŋala/	‘shine’
/ɲala/	‘plant’
/ŋɔmbe/	‘cows’
/ŋɔla/	‘uproot’

From the minimal pair /ŋala/, /ɲala/ in the above data, we conclude that the two sounds /ŋ/ and /ɲ/ are phonemes since they occasion the difference in meaning in the two words.

#### 2.4.5 Prenasalized stops

There are five prenasalized stops in Kichonyi language. /mb/, /nd/, /nz/, /ŋg/ and /ɲɲ./ These sounds occur when a nasal is followed by another consonant during articulation and are realized as one sound. The following data gives example of words in Kichonyi where these sounds occur.

(26) /mb/ pre-nasalized bilabial stop

/mbira/	‘grave’
---------	---------

/sira/	‘fermented palm wine’
/mbuzi/	‘goats’
/mbazi/	‘sympathy’
/ɛmba/	‘sing’

The minimal pair /mbira/, /sira/ in the data above indicates that the two sounds /mb/ and /s/ are phonemes since they occasion the difference in meaning.

(27) /nd/ pre-nasalized alveolar stop

/ndija/	‘a fool’
/ɲija/	‘a container’
/rinda/	‘guard’
/nenda/	‘go’
/munda/	‘farm’

From the above data, we conclude that the two sounds /nd/ and /ɲ/ are phonemes since they occasion the difference in meaning in the minimal pair /ndija/, /ɲija/.

(28) /nz/ pre-nasalized alveolar fricative

/nzala/	‘hunger’
/kala/	‘charcoal’
/kunza/	‘fold’
/kɔnzɛ/	‘out’
/kanza/	‘coconut tree leaves’

The minimal pair /nzala/, /kala/ in (28) above indicates the two sounds /nz/ and /k/ are phonemes because they are responsible for the difference in meaning in the two words.

(29) /ŋg/ prenasalized velar stop

/ŋgano/	‘narrative’
/hano/	‘here’
/ŋguo/	‘clothes’
/maŋga/	‘cassava’
/haŋga/	‘funeral’

The minimal pair /ŋgano/, /hano/ in the example above indicates that the two sounds /ŋg/ and /h/ are phonemes because they are responsible for the difference in meaning in the two words.

(30) /ɲj/ prenasalized palatal stop

/ɲjama/	‘secret’
/ɲjira/	‘pathway’
/maɲji/	‘a lot’ (water)
/ɲjɔɔ/	‘tallness’

#### 2.4.6 The liquids

The Kichonyi language has two liquids which are both alveolar in terms of place of articulation /l/ and /r/. The following data gives examples of the liquids in Kichonyi language as they appear in various words.

(31) /l/ alveolar lateral

/lamba/	‘lick’
/pamba/	‘cotton wool’
/ɔla/	‘look’
/lijalija/	‘rinse’







**Table 6: The Kichonyi Consonants**

	Bilabial	Labio dental	Alveolar	Alveolar palatal	Palatal	Velar	Labio- Velar	Glottal
Plosive	p b		t d		tʃ	k g		
Fricative		f v	s z	ʃ				h
Affricates			ts dz	tʃ				
Nasal	m		n		ɲ	ŋ		
Trill liquid			r					
Lateral liquid			l					
Glides					j		w	

## 2.5 The Kichonyi Syllable Structure

The syllable structure of Kichonyi is a very important component of this study because some of the phonological processes occur within the syllable. The syllable is the smallest unit which can be pronounced in a language. Syllable structure varies from one language to another. A syllable is constructed when phonemes are combined together in neighboring environments and form a pattern that is articulated as one. Katamba (1989) states that the syllable is the basic unit in terms of which phonotactic rules are best stated. These are basically the rules that control the language users when it comes to the possible sound combinations of that particular language. The syllable is what dictates which sounds combine in a given language. Kisberth (1969) states that the universal syllable structure is made up of a consonant followed by a vowel -CV- which is what is called an open syllable. Closed syllables are the ones that end with a consonant. The smallest unit is a single vowel which are not very common especially in Bantu languages.

Hooper (1972) observes that the understanding of the syllable structure of any language is important in the analysis of phonological processes. The most common syllable structure

in Kichonyi is - CV- which is also referred to as the preferred syllable structure. This is the syllable structure that forms the bulk of syllables in Kichonyi just like it is in many Bantu languages.

The following data gives examples of the syllable structure - CV -

(35) /mazu/	bananas	CV - CV
/biga/	beat	CV - CV
/rira/	cry	CV - CV
/mukɔmu/	an elder	CV - CV - CV
/mujiti/	a cook	CV - CV - CV
/muhasɔ/	medicine	CV - CV - CV
//ʃitabu/	a book	CV - CV – CV

Another syllable structure used in Kichonyi is when a consonant is used at the word initial position then followed by a glide or semi-vowel. C1/2VV e.g

(36) /mwaka/	a year	CCV - CV
/mwanga/	a witch	CCV - CV

Kichonyi also has the vowel syllable structure (V) which is basically a single vowel and can take any position in the word. e.g.

(37) /usa/	remove	V - CV
/uka/	leave	V – CV
/lau/	manners	CV - V
/anza/	start	V - CV

## **2.6 Summary**

In this chapter, we have presented the sound systems of Kichonyi. We started by looking at the vowels which we found to be five where two are high vowels, we also looked at the consonants of Kichonyi and found out that they are thirty-one. There are; seven stops (four are voiced and three voiceless), seven fricatives (four are voiceless and three voiced), three affricates, four nasals, three pre-nasalized stops, two liquids and two glides. Also discussed in this chapter was the syllable structure of Kichonyi which as we saw does not allow closed syllables. The syllables types identified are CV, CCV and V. The most common type is CV. The insertion of vowels in loanwords is dictated by syllable structure rules, a strategy to avoid closed syllables.

## CHAPTER THREE

### PHONOLOGICAL PROCESSES INVOLVING CONSONANTS

#### 3.1 Introduction

In this chapter, we will analyze and describe the phonological processes involving consonants and the rules that govern the phonology of Kichonyi. We shall not just present the processes we have observed, but will attempt to formalize them into rules where possible. Our rules in this study will be based on the distinctive features of Chomsky and Halle (1968). However, before we discuss the various sound changes in Kichonyi alphabet, this study will look at the definition of phonological processes by some scholars and the reasons as to why we end up having phonological processes. A phonological process refers to a mental operation that applies in speech to substitute for a class of sounds or sound sequences presenting a specific common difficulty to the capacity of the individual (Stampe, 1979:43).

Sommerstein (1977:254) observes that;

*There are a great number of factors, which can contribute to precipitating a phonological change, and it is probably rare for a single change to result from a single factor.*

Sommerstein has given several factors which are important to this study. One of them is abstractness. When the phonology of a language is excessively abstract, the rule on re-ordering becomes necessary so as to reduce the abstractness and to increase both phonetic and semantic transparency. Another reason by Sommerstein is ease of articulation. As it will be demonstrated in this study, ease of articulation is one of the major reasons that trigger sound changes. Some of the phonological changes such as insertion and assimilation do ostensibly ease the manner in which various items are articulated (Iribe 2008). Some changes (e.g. insertion), allow the attainment of the preferred syllable structure in a given language and this case applies to Kichonyi language. Assimilation allows for the harmonization of place of articulation which is in essence easing articulation (Iribe 2008). Another factor that causes sound change is language contact. Where a language comes into contact with another (other) language(s), there is evidence that one language may occasion

some influence on the other (and vice versa) thereby triggering some sound changes. In Kichonyi such processes like insertion and deletion are usually associated with language contact and borrowing.

The environmental constraints imposed on each process are discussed and a formulation of rules needed to account for the phonological alternations is given in distinctive features. The consonants processes discussed include homorganic nasal assimilation, labialization and ganda law. Among the natural processes discussed in this section include assimilative rules which correspond to the various kinds of assimilation. Katamba (1989:80) defines assimilation as “..... the modification of a sound in order to make it more similar to some other sound in its neighborhood.” Abercrombie (1967) classifies these assimilation types into three, these are assimilation involving the state of glottis, those involving velic action and assimilation involving movements of the articulators, all being feature changing rules. In this study, we shall look at this in turn as the consonantal processes are discussed. In this chapter, we set out to analyze comprehensively the changes that consonants go through in Kichonyi language. Illustrations will be given for these changes and rules formulated for each of the processes where possible.

### **3.1.1 Homorganic Nasal Assimilation**

Homorganic nasal assimilation is a natural process whose accordance is dictated by the anatomy of the articulatory tract (Abercrombie 1967). It is a phonological assimilation process in which a nasal changes in anticipation of the place of articulation of the following consonant in order to agree in point of articulation. This process at times blurs the underlying segment which gives rise to the assimilation of the nasal to the following obstruent, especially in cases where a segment has been deleted (Iribe 2008:168) According to Katamba (1989) such deletion often leads to loss of ‘naturalness’. Research has revealed that homorganic nasal assimilation occurs in reference to voiced obstruents, and where a resonant occurs then through additional processes it is realized as an obstruent. As it is the case with most other phonological processes, homorganic nasal assimilation aims at among other factors simplifying articulation of various phonological items and doing away with complexities (Iribe 2008:168). NGP theory argues that these processes eliminate the less natural segments and replaces them with more natural ones (Katamba 1989). Homorganic nasal assimilation is one of the most natural processes (Bakari1982:125), consequently, it

is evidently phonetically motivated and thus broadly exceptionless (Iribe 2008). In the Kichonyi language this process mostly involves the archiphoneme [N] and falls in the category of regressive assimilation. [N] is realized differently under different environments. It is realized as [n, ŋ, ɲ] or [m] under different environments. Before giving a formal rule, Katamba's (1989: 84-85) explanations will be used in (38), (40a), (41) and (43) to show how this type of assimilation takes place for each of the nasals in Kichonyi.

(38) 'A nasal is realized as [n] before an alveolar consonant....' (Katamba 1989:85).

The Kichonyi words in (39) below explain (38) above.

(39)	/n+zala/	→	[nzala]	famine
	/n+zuga/	→	[nzuga]	jingle bells
	/n+dazɔ/	→	[ndazɔ]	bedding
	/n+dɔ:/	→	[ndɔ:]	bucket
	/n+zili/	→	[nzili]	secret

In the examples above, the deep structure is similar to the surface structure. This is because both /d/ and /z/ are alveolar nasals just like /n/. As a result, therefore, there is no phonological condition dictating the change of /n/ at the surface level. According to NGP, the articulation of these sounds vis-à-vis /n/ is natural.

(40a) A 'nasal is realized as /ŋ/ before a velar consonant....' (Katamba 1989: 85)

(b)	/n+gazi/	→	[ŋgazi]	stairs
	/n + gama/	→	[ŋgama]	clay
	/n+guɔ/	→	[ŋguɔ]	clothes
	/n+guzɔ/	→	[ŋguzɔ]	pillar
	/n+guvu/	→	[ŋguvu]	strength



The reasoning here is that the articulation of /n/, an alveolar nasal in the environment of a velar obstruent is complex, therefore, the alveolar is harmonized to the velar leading to a velar nasal, consequently,

(41) A ‘nasal is realized as ɲ/ before palata consonants.....’ (Katamba 1989: 85)

The Kichonyi words in (42) below, illustrate (41) above.

(42)	/n+jama/	→	[ɲjama]	conspiracy
	/n+jira/	→	[ɲjira]	way

/j/ is a palatal consonant just like /ɲ/ and thus is the nasal that appears more naturally in place of /n/ which is an alveolar in a palatal neighborhood. This can be shown as follows:

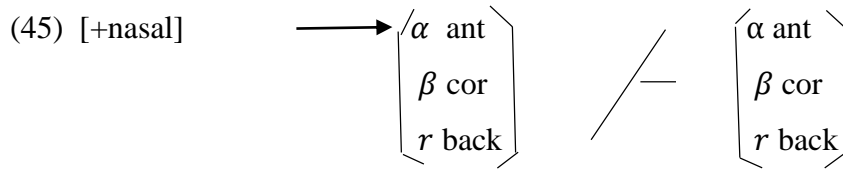
(43) A ‘nasal is realized as [m] before bilabial consonants.....’ (Katamba 1989: 84).

The Kichonyi words in (44) below illustrate (43) above.

(44)	/n + bari/	→	[mbari]	clan
	/n+buzi/	→	[mbuzi]	coconut grater
	/n+bara/	→	[mbara]	date
	/n+bazi/	→	[mbazi]	sympathy
	/n+bira/	→	[mbira]	grave

In the process of homorganic nasal assimilation, if a noun begins with a voiced consonant, the nasal class prefix adjusts to its place of articulation so that it is labial, alveolar or velar depending on whether the first consonant of the noun root is labial, alveolar or velar. The Greek letter variables  $\alpha$  (alpha),  $\beta$  (beta) and  $\gamma$  (gamma) are used to indicate plus or minus values of a given feature. (Katamba 1989: 126)

The processes of homorganic nasal assimilation can thus be represented in a rule as follows:



(Katamba 1989: 126)

The above rule indicates that the nasal and the consonant after it are either both [+ant] or both [-ant], they can also be both [+cor] or both [-cor] and can be either both [+back] or both [-back].

### 3.1.2 Labialization

Labialization is an assimilatory process that has to do with lip rounding or lip protrusion to any sound which is normally articulated with the lips in a neutral or spread position. (Clark and Yallop, 1955:64). Labialization modifies the basic articulation by extending the length of the vocal tract and altering its cross section (Munyaya 2009:44). According to Hyman (1988), Labialization is a secondary consonant modification in that in addition to the primary constriction, the lips are rounded and during pronunciation the consonant acquires /u/ or /w/ colouring (Munyaya 2009:44). In Kichonyi, the process occurs before rounded segments i.e. whenever is preceded by a rounded segment. Example:

(46)	kuera	/k <sup>w</sup> era/	‘to become clean’
	kuaɔ	/k <sup>w</sup> aɔ/	‘their place’
	kuiva	/k <sup>w</sup> iva/	‘ripen’
	kuira	/k <sup>w</sup> ira/	‘to boil’

From the above data, it is observed that consonants in Kichonyi are labialized when they precede a round vowel either /ɔ/ or /u/ but not when they precede a non-round vowel. The motivation in this process is the presence of the round vowel /u/. The labialization process only requires that a consonant precedes a round vowel for it to acquire [+round] features.

There is also glide formation in the above data as labialization takes place which will be discussed under the phonological processes involving vowels in chapter four.

The rule stating labialization is as follows:

$$(47) \quad C \longrightarrow [+round] \ / \_ [+round]$$

According to NGP theory, the process of labialization is natural hence phonetically motivated and has no exceptions. This is to say that it will always occur whenever a consonant is preceded by a round vowel.

### 3.1.3 Ganda Law

Ganda law is a process denoting consonant deletion (Iribe 2008:180) and is also referred to as “Meinhof law” (Herbert: 1977). Iribe (2008) goes on to give the reason for this name being that it was formulated by Carl Meinhof, the Bantu languages linguist when he was analyzing the Luganda language. In the law, Meinhof postulates that a stem-initial consonant is usually deleted when it follows a nasal consonant and is itself followed by a sequence of a vowel and a nasal consonant. This same scenario is also present in Kichonyi language e.g.

(48)	/n + gɔmbɛ/	[ŋɔmbɛ]	cow
	/n + gɔnda/	[ŋɔnda]	dried fish
	/n + gɔnda/	[ŋɔnda]	dried fish

The rule may be written as follows;

$$(49) \quad C \longrightarrow [\phi] \ / \_ [nasal] \_ \_ V[nasal]$$

In all the examples in (48) above, the nasal /n/ is followed by the consonant /g/ (which is – [nasal]) and the consonant ends up being deleted. However, before the deletion occurs, /g/ is harmonized with /n/ through the process of homorganic nasal assimilation and consequently, /n/ is realized phonetically as /ŋ/. This therefore, is a case that denotes the feeding rule where homorganic nasal assimilation “feeds” the deletion process (Iribe 2008:181). Katamba 1989 notes that in Luganda the implications for rule ordering are obvious. For this surface realization to occur, homorganic nasal assimilation must precede

deletion. This is the only way that both rules may occur. This process is phonetically motivated according to NGP. The process will take place once the conditions are met.

### 3.1.4 Aspiration

Aspiration is the process of adding an extra puff of air to a sound. In English, all voiceless stops at the beginning of a word are aspirated. Similarly, this is a phonological process that affects the voiceless stops in Kichonyi when they occur at word initial position. That is /p, t, k/ become /p<sup>h</sup>, t<sup>h</sup>, k<sup>h</sup>. /

(50)	pula	p <sup>h</sup> ula	‘nose’
	paka	p <sup>h</sup> aka.	‘cat’
	tindi	t <sup>h</sup> indi	‘tomatoes’
	tima	t <sup>h</sup> ima	‘alight’
	kula	k <sup>h</sup> ula	‘grow up’
	kala	k <sup>h</sup> ala	‘stay’

The test for it is to have a piece of paper in front of the lips as the sound is being articulated and the paper vibrates to indicate that indeed the sound is aspirated.

### 3.2 Summary

The consonantal processes that have been discussed in this chapter include Homorganic nasal assimilation, labialization and Ganda law and aspiration. Homorganic nasal assimilation in Kichonyi involves the archiphoneme [N] which is realized under different environments as [n, ŋ, ɲ] or [m]. Labialization in Kichonyi occurs whenever a consonant is preceded by a rounded segment in a word where the consonant acquires the feature [+round] in anticipation. Ganda law in Kichonyi occurs when a stem-initial consonant is usually deleted when it follows a nasal consonant and is itself followed by a sequence of a vowel and a nasal consonant. All voiceless stops in Kichonyi are aspirated at word initial position.

## CHAPTER FOUR

### PHONOLOGICAL PROCESSES INVOLVING VOWELS

#### 4.1 Introduction

This chapter discusses the phonological processes involving vowels in Kichonyi. These are vowel insertion, vowel lengthening, vowel nasalization and glide formation. In this section, we will attempt to explain the nature and domain of the rules that govern these processes. The rules will be formally presented in distinctive features. This will clarify the relationship that exists between the Kichonyi surface forms and their underlying counterparts.

#### 4.2.1 Vowel Nasalization

A vowel may be “distinctively nasalized” when the velum (soft palate) is deliberately lowered to ensure substantial airflow through the nasal cavity (Clark and Yallop: 1995:32). The nasal cavity is used together with oral and pharyngeal cavities leading to the realization of an audible nasalized quality (Iribe 2008:221). Consequently, vowel nasalization is a process whereby a non-nasal vowel acquires the feature [+nasal] from a neighboring segment. To produce an oral sound, it is imperative that the access to the nasal cavity be blocked. When an oral vowel follows a nasal in quick succession, it is almost impossible to achieve the blockage; consequently, the velum is not fully raised, some air escapes through the nasal cavity thereby nasalizing the vowel. (Maroa 2012:45)

Massamba (1961:92) observes that vowel nasalization is the most common type of assimilation and goes on to state that the process is usually simply referred to as nasalization. Katamba (1989:93) states that historically, nasalization “is almost always a consonant feature” that is assimilated by vowels. He further states that in a synchronic description of a language, it is possible to find vowels that are always nasalized and which are presumed to be underlying nasals. The only justification for such occurrences, it appears, is that at one time, historically, there would have been a nasal consonant which then conditioned the vowel nasalization but which has since disappeared. Katamba (1989:102) goes on to advance an argument on the naturalness of vowel nasalization in the environment of neighbouring a nasal, he observes:

Nasal vowels..... are marked. Indeed, we would

Extremely be surprised if we found a language  
 Which had only nasal vowel and no oral ones.  
 However, between two nasal consonants, or before  
 A nasal plus consonant cluster like [nd], nasalized  
 Vowels would be unmarked. It would be somewhat  
 Unusual for vowel occurring in those contexts to have  
 no nasalization.

Vowel nasalization appears in different instances in Kichonyi. For example, when a vowel immediately follows a nasal consonant, the vowel acquires the feature [+nasal] i.e. it is nasalized e.g.

- (51)
- |        |   |         |          |
|--------|---|---------|----------|
| /mame/ | → | [māmẽ]  | mother   |
| /muɲu/ | → | [mũɲũ]  | salt     |
| /mutu/ | → | [mũtu]  | person   |
| /nusu/ | → | [nũsu]  | half     |
| /ɲɔga/ | → | [ɲɔ̃ga] | feathers |
| /ɲɛɛ/  | → | [ɲɛ̃ɛ]  | hair     |

We observe from the above examples that the nasal consonant preceding the vowel has a direct effect on it. The nasal after a vowel may also nasalize the vowel hence the effect of a nasal on a vowel may come from either side. We can therefore state the following rule;

(52a) V → [+nasal] / [+nasal] —

(52b) V → [+nasal] / [+nasal] — [+nasal]

Under the same process we have cases in Kichonyi where a word has a vowel at the word initial position and it is immediately before a nasal consonant. In such a case, the vowel is nasalized as in the examples below

- (53)
- |         |   |         |           |
|---------|---|---------|-----------|
| /anza/  | → | [ãnzã]  | start     |
| /uɲama/ | → | [ũɲãmã] | brutality |
| /uɲga/  | → | [ũɲgã]  | flour     |

/umba/ → [ũmbã]      create  
 /ɔna/ → [ɔnã]      see

The rule that summarizes this process is stated in (54) below.

(54) V → [+nasal] / \_\_\_\_\_ [+nasal]

From the above form of vowel nasalization, we observe that the process is as a result of anticipation and early adjustment. In anticipation of the articulation of a nasal consonant appearing immediately after a vowel, the articulators (mainly the velum, again) adjust themselves early thus nasalizing the vowel preceding the nasal. The process takes place when a vowel comes before a nasal, when it comes after a nasal or when it is between two nasals. This is an assimilation process which occurs naturally and according to NGP theory, it is phonetically conditioned in that it always takes place when the phonetic motivation is present and in this case, the motivation is the condition of a vowel being next to a nasal consonant.

#### 4.2.2 Vowel Harmony

Hyman (1975:233) defines vowel harmony as an assimilatory process by which vowels and some phonetic features agree. In cases where vowel harmony is phonetically determined, all front vowels go together, back vowels go together while round vowels go together (Maroa 2012:38). Vowel harmony according to Iribe (2008:208) is a process where the influence of one vowel is reflected on another to the extent that the two vowels exhibit similar articulatory features. According to Kenstowics (1994) it is a phonological state in which the vowels in a given domain share or harmonize for a given feature. He goes on to state that unlike in other processes, all vowels of a particular language participate in the harmonic constraints. Kenstowics further explains that if a certain word contains more than one suffix, then the harmonic effect propagates from the root through the suffixes to the end of the word. In other words, the process of vowel harmony is realized when vowels of a given domain (mostly the word) share a phonological property or properties (Katamba 1989:211). In Kichonyi language the process of vowel harmony is very common with demonstratives. Consider the examples below.

(55) mutu    juju                      this person

vihi	vivi	these chairs
mazu	gaga	these bananas
mala	gaga	these fingers

From the above examples, it is clear that in Kichonyi language demonstratives of proximity exhibit morph copying. Hyman (1975) refers to this process as “complete harmony”. Consequently, the vowel used in the subject prefix is reduplicated or copied in the demonstrative marker. We can also observe from the above examples that, the same subject prefix vowel that has been reduplicated in the demonstrative marker is also used as a final prefix vowel that has been reduplicated in the demonstrative marker is also used as a final prefix;

(56)	zizi	these
	riri	this
	mumu	here

(57)	haha	here
	gaga	these

In all the above examples we observe that the harmonizing vowels are similar to one another and this is a clear form of vowel harmony in Kichonyi. Mgullu (1999) states that vowel harmony does not necessarily occasion change in phonemes. It is merely a phenomenon where certain phonemes appear together in specific environments.

#### 4.2.3 Vowel insertion

Vowel insertion is the most common phonological process in Kichonyi that involves vowels. This mostly happens whenever words are borrowed into the Kichonyi language from either English or Kiswahili. The syllable structure of these words is altered so as to take the most preferred structure which is in this case the open syllable CVCV structure.

Consider the examples below;

#### (58) Words borrowed from Kiswahili

Borrowed word	Source word	Gloss
---------------	-------------	-------



/dakitari/	/dakitari/	‘daktari’
/furiqi/	/friqi/	‘friqi’
/sikuli/	/skuli/	‘skuli’
/gilasi/	/glasi/	‘glasi’
/mukaɛ/	/mkate/	‘mkate’
/munazi/	/mnazi/	‘mnazi’
/muzungu/	/mzungu/	‘mzungu’

From the above data, the process of vowel insertion happens when a vowel is inserted where a consonant cluster occurs. The borrowed words above have vowels inserted both in the middle of the word, (anytime a consonant cluster occurs) and also at the end of a word. The insertion of vowels in the above examples in Kichonyi is purely phonologically motivated. The motivation in this process is to maintain the Kichonyi syllable structure which has no consonant clusters.

The vowel is inserted (medially or finally) into these borrowed lexical items so as to create a phonologically accepted sound sequence in accordance with Kichonyi phonology. The rule for this process can be written as follows;

$$(59) \quad \emptyset \longrightarrow [+syllabic] \quad / \quad [+cons] - [+cons]$$

This is an example of a vowel process occurring within the syllable. This process takes place to preserve the syllable structure of Kichonyi which is CVCV.

#### 4.2.4 Vowel Deletion

Vowel deletion refers to a situation where two vowels come together and one of them ends up being deleted (Mberia 1993) In Kichonyi, vowel deletion occurs when two vowels which have the same phonological features are in contact in the same word. According to Schane (1973), deletion caused by a vowel cluster causes simplicity in articulation and also enables the attainment of the preferred syllable structure. In Kichonyi, the low vowel /a/ is the most affected by deletion as illustrated in the example below:

(60)	/wa + aɔ/	[waɔ]	-	their (person)
	/a + εma/	[εma]	-	nice (people)
	/ma + εmbε/	[mεmbε]	-	mangoes
	/ha + aŋgu/	[haŋgu]	-	my (farm)
	/a + ɔga/	[ɔga]	-	timid

(61) V  $\longrightarrow$   $\phi$  /  $\_\_\_\_\_\_$  V

From the above examples, the sequence /a + ε/ is realized as [ε] whereas /a + ɔ/ is realized as [ɔ] i.e. /a/ is eliminated from the phonetic realization of an utterance. This is a vowel process occurring within the syllable and the motivation is to maintain the preferred syllable structure in Kichonyi, the open syllable.

#### 4.2.5 Glide Formation

Munyaya (2009:33) states that glides are consonants which have vowel like articulation features which are produced with the body of the tongue raised to take the position for production of high vowels in the mouth with the tongue closer to the palate. (Iribe 2008:203) describes glide formation as a process that is aimed at reducing the occurrence of vowel clusters. He goes on to explain that glide formation is a form of fortition in that, going by the phonological strength hierarchy, glides are at a higher level of strength in comparison to vowels and therefore, the process of a vowel changing to a semi-vowel is evidently hardening.

According to Abdulmajid (2000), Glide formation process takes two forms namely:

- i. Glides formed on the stem.
- ii. Glides formed on the root.

##### 4.2.5.1 Glides Formed on the Stem

Glides formed on the stem occur in the environment where the prefix has the high-back vowel /u/ followed by the front vowels /i/, /e/ or /a/. Abdulmajid (2000) states that, such a

form of glide formation requires that, ‘the noun root vowel as well as the prefix vowel assimilates to give rise to the glide /w/ which is bilabial, without any change in the meaning of the word. In Kichonyi the glide formation for /w/ is prominent in the class prefix /mu/ for nouns. The /u/ in the noun class prefix changes to a glide when it precedes a vowel especially if the root /mu/ is added to a word which begins with a vowel.

Consider the examples below:

(62)	/mu + ara/ (advise)	mwari	- adviser
	/mu + ana/ (children)	mwana	- a child
	/mu + anɣa/ (nightrun)	mwanɣa	- a night runner
	/mu + ɔkɔla/ (save)	mwɔkɔli	- a savior
	/mu + asha/ (to light)	mwashi	- a person who lights fire

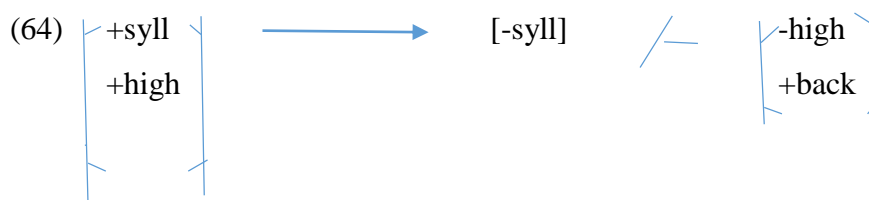
#### 4.2.5.2 Glide Formed on the Root

This type of glide formation occurs inside the root where the glide is formed internally at word medial position. When the plural noun prefix /vi/ is added to a root beginning with the mid-front vowel /ɛ/ or the low vowel /a/, they are deleted and replaced with the glide /j/

(63)	/vi + ɛma/	vjɛma	- good
	/vi + akwɛ/	vjakwɛ	- hers' (shoes)

From the above examples, we can conclude that high vowels /i/ and /u/ glide into semi-vowels when followed immediately by another vowel. This process according to NGP is natural and phonetically motivated.

The rule for this process can thus be presented as;



### 4.3 Vowel Length

Apart from the differences of tongue height, tongue position and lip shape, vowel length also increased the number of distinctions which can be made at the vowel place in the syllable. It is done by the reduplication of the vowel symbol. Vowel length in Kichonyi is realized through phonological processes such as vowel assimilation to end up with the lengthening of the vowel which are contiguous and may influence each other partially or completely leading to the shedding of its own features and this sometimes results into a different vowel. Vowel length in Kichonyi is grammatical in that it can take the semantic value of endearment, applied to words used in an exclamatory as illustrated in the data below.

(65)	/mwana/	-	[mwa: na]	‘child’
	/hijε/	-	[hi: jε]	‘who’
	/gɔsi/	-	[gɔ: si]	‘everything’ (milk)
	/mimi/	-	[mi: mi]	‘me’

Vowel length in Kichonyi is also used to give emphasis as illustrated in the data below.

(66)	/kukɔ /	-	[ku:kɔ]	‘there’
	/vivi/	-	[vi: vi]	‘right now’
	/mutitε/	-	[muti:tε]	‘small’ (cow)
	/mubɔmu/	-	[mubɔ:mu]	‘big’ (person)

### 4.4 Summary

In this chapter, we have identified and described the major vowel processes of the Kichonyi linguistic systems. The conditions under which these processes take place have been discussed and the rules that account for the phonological alternations formulated using distinctive features. The vowel processes we have discussed include vowel nasalization, vowel harmony, vowel insertion, vowel deletion and glide formation. Vowel nasalization in Kichonyi occurs when a vowel immediately follows a nasal consonant and also when a

vowel appears at word initial position and is immediately before a nasal consonant. Vowel harmony is common with demonstratives of proximity in Kichonyi where the vowel used in the subject prefix is reduplicated in the demonstrative marker. Vowel insertion occurs when words are borrowed from either English or Kiswahili so as to alter the syllable structure to the most preferred one in Kichonyi which is CVCV. Vowel deletion in Kichonyi affects mostly the low vowel /a/ where it is realized as either [ɛ] or [ɔ] when it appears in a word together with these vowels. Glide formation in Kichonyi occurs when vowels harden into two glides; /w/ and /j/. in this chapter we have also discussed vowel length in Kichonyi which is grammatical

## CHAPTER FIVE

### Summary, Conclusion and Recommendations

#### 5.1 Introduction

This chapter presents a conclusion to our study in which we attempted a phonological description of Kichonyi language which was done using the tools of the Natural Generative Phonology. A number of sections each dealing with a different aspect of conclusion based on the discussion in chapter two, three and four are presented and it is in the light of these findings that we determine whether the findings provide answers to the research questions and whether they tally with the objectives.

#### 5.2 Summary

In this study, we began by outlining the phonetic inventory of the language under study and the data revealed that Kichonyi has twenty-nine consonants which comprise of seven stops, six fricatives, three affricates, four nasals, five prenasalized stops, two liquids and two glides. We found out in our study that Kichonyi has five vowel phonemes, two high, two mid-high and one low. We also discussed the syllabic structures and we described the fact that Kichonyi adopts the universal syllable structure which is made up of a consonant followed by a vowel (CV) i.e. an open syllable which is what forms the bulk of syllables in Kichonyi just like it is in many Bantu languages.

The findings here emanate from the first objective of this study which is; to identify and describe the phonological processes involving consonants in Kichonyi. We did a description of the major phonological processes involving consonants in Kichonyi using NGP framework. The processes that we identified for the consonants are Homorganic nasal assimilation, Labialization, Ganda law and aspiration. We established that in order for these phonological alterations to occur, there must be a conditioning environment. The phonological processes that involve consonants are influenced by other consonants in some cases and vowels in others.

Homorganic nasal assimilation is when a nasal changes in anticipation of the place of articulation of the following consonant in order to agree in point of articulation and it aims at simplifying articulation of various phonological items. This process mostly involves the

archiphoneme [N] which makes it be realized differently under different environments as [n, ŋ, ɲ, m]. This is a natural process according to NGP theory and it is phonetically motivated.

The other process is Labialization which involves the rounding of the lip on a sound that is normally articulated with lips in a spread position. This process happens when a consonant sound precedes a rounded vowel where the consonant is rounded in anticipation. According to NGP, this is a natural process that is phonetically motivated.

Ganda law is also a process involving the consonants in Kichonyi which takes place when a consonant appearing at stem-initial position is deleted when it is preceded by a nasal and preceded by a sequence of a vowel and a nasal consonant. According to NGP, this process is natural in that it is phonetically motivated.

Aspiration occurs when voiceless stops appear at word initial position in the Kichonyi language.

We discuss the findings from the second objective of this study; to identify and describe the phonological processes involving vowels in Kichonyi. The NGP theory was used as the descriptive tool for this analysis. The processes that we identified for the vowels are; vowel nasalization, vowel harmony, vowel insertion, vowel deletion and glide formation.

Vowel nasalization takes place when a non-nasal vowel sound is nasalized when it neighbours a nasal consonant. This happens as a result of the articulation of the nasal sound which affects the vowels which are all oral in Kichonyi. This is a natural process according to NGP which is phonetically motivated.

Vowel harmony occurs when vowels of a word for example share a phonological property(s) and it is reduplicated in all the syllables of the word.

Vowel insertion occurs when a vowel is inserted inbetween a consonant cluster so as to maintain the most preferred syllable structure which is the closed syllable structure. This mostly affects borrowed lexical items from mostly Kiswahili language and it can be either in the middle of a word or at the end. This process is phonetically motivated according.

Vowel deletion occurs when two vowels which have the same phonological features are in contact in the same word. This is a natural process that causes simplicity in articulation and also enables the attainment of the preferred syllable.

Glide formation occurs when a vowel changes to a glide in the process of articulation of a word.

In this study, we have established that the phonological alterations take place in order to simplify the syllabic structure or ease articulation. The changes are geared towards making the articulations of segments more natural and avoiding clusters that are not acceptable in the language. The study sought to describe the phonological processes that the vowel sounds undergo in Kichonyi and those that the consonant sounds undergo and which are the conditions favourable for the phonological processes to take place. These were the research questions of this study and we have been able to demonstrate these processes and the conditions favourable for their occurrences in chapter three of this study.

The study adopted NGP framework as its tool for description and analysis of data and it has shown that the changes in Kichonyi can adequately be accounted for by the theory. The theory claims that the speakers of a language formulate rules about their languages that relate surface to other surface forms. This claim has been observed in this study because the phonetic environment led to realization of phonological processes. The NGP theory also posits that what is believed to be the underlying form should have a surface manifestation and this is attested in the data in chapter three and four. The direct relationship between the underlying forms and the surface forms shows the changes that are taking place. The NGP theory works within certain principles in eliminating abstractness which are:

- (i) The True Generalization Condition
- (ii) The No-ordering Constraints
- (iii) A strong Naturalness Condition

The NGP theory is associated with three types of rules which are:

- a) Phonetically Conditioned Rules (P- Rules)
- b) Morphophonemic Rules (Mp- Rules)



c) Via Rules

### **5.3 Conclusion**

This study has established that Kichonyi phonemic inventory and has found out that the language has 29 consonant phonemes and 5 vowel phonemes. The processes that the consonant phonemes undergo were identified and described. The processes that were identified were Homorganic Nasal Assimilation, Labialization, Ganda law and Aspiration. The processes that vowels undergo were identified and described; vowel nasalization, vowel harmony, vowel deletion, vowel insertion and glide formation.

The findings in this study will contribute to the study of the phonology of Kichonyi and to the understanding of bantu linguistics. It will also give the scholars who are interested in studying the Kichonyi language more insights about its phonology.

### **5.4 Recommendations for Further Research**

This study has focused on NGP theory to study phonological processes in Kichonyi. It limited itself to consonants, vowels and the syllable. The study has provided a platform for the study of other language phenomena in Kichonyi. We therefore recommend that an intensive research should be carried out on the supra-segmental features and morphological changes of the Kichonyi language. More research can be carried out on loanwords from Kiswahili and the adaptation processes that these words undergo since Kichonyi has borrowed heavily from Kiswahili.

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## APPENDICES

### APPENDIX 1

My name is Esther Mbagi, am doing my post-graduate studies at the University of Nairobi and am doing a research on The Phonological Processes in Kichonyi. I would like you to give me a sermon on any topic of your choice so that I can use it for my research. Start by telling me your name, age and your level of education.

Dzina rangu ndimi Samuel Rimba, nesoma hata nichifika chilasi cha kumi na mbiri na nina miaka mirongo mine na nane. Mimi nemuhochera Jesu masihi here mwokoli wa maisha ga kwangu na ndio hata namu humikira iye hacheye.

**MUDZIZA WA JESU MASIHI WA KURISA ATU MAGANO MATSANO (LUKE 9:10 -20)** Dzina ra Jesu masihi narilikwe. Siku ya rero namala ninene kuhusu mudziza wa Jesu masihi ario uhenda arihokala na anafunzi va kwakwe. Jesu masihi were yuna mazowera ga kukala chila andiho kwenda makundi ga atu ganamutua na achona atu, yuna anza kare kuvafundisha neno ra mulungu. Siku iyo, jesu masihi weanza kuhubiri na anafunzi va kwakwe vachikala vahaho nao. Ariho enderera kuva fundisha neno ra mulungu atu vava, anafunzie vemutua vachimwambira kukala, nibaha avariche vo atu vende mudzini kwao kwa maana vana nzala na kuna enderere kukala na dziza. Jesu masihi ariho sikira vivyo, achivambira vo anafunzie, vasiuse atu na nzala hata kwa vivyo, ni vavape chakurya varye. Anafunzi vachijeza kutafuta chakurya hata mwisho vachipata muhoho arekala yuna samaki airi na mikahe mitsano. Variho murehera jesu masihi wehala yo mikahe navo samaki achilola dzulu mulunguni, achivoya mulungu avibariki kisha achivapa vo anafunzi achivamba vagavire vo atu vosi vario kala haho. Be anafunzi veshangaa sana kwa maana chakurya cheenderera konjezeka here varivyokala vanaganva hata chila mutu achipata. Atu vosi varihomari giza kurya, anafunzi vetsolatsola zo tsembetsembe za mikate zirizokala zidzegwa na vachodzaza vikahana kumi na viri. Varihotala atu vadziorya cho chakurya chicho, vekala ni ana alume elifu tsano. Desituri ya ayahudi ni kukala kavatala ana ache na ahoho atite. Dzina ra jesu masihi narilikwe. Mulungu wehu ni mubomu sana na Bibilia rinamba kukala, kakuna rimushindaro mulungu uchimuvoya yunasikira na yunajibu dza here mahenzo ga kwakwe. Wakati munji sana, fifi binadamu ni kulala huna shida za chidunia na kahwenzi kumugalukira mulungu ili ahupe jibu. Anafunzi variho ona kunakala dziza na atu vana nzala, vemwamba Jesu masihi avariche va atu vende midzini kwao vakarye lakini jesu masihi achivalola achona ni ahoho sana kahi za imani yao Jesu masihi wevalola anafunzie achona kukala, imani yao yere idzihunguka ndo hata achimala kuvonyesa kukala mulungu yunaweza na kakuna ririro rinaweza kumushinda. Dzina ra Jesu masihi narilikwe. Somo riri ra rero, rinahufundisha kukala hata chikala unaona shida ya kwako ni bomu sana hedu ni tite sana, ni sutu umurire mulungu kwa maana mulungu kana asiroriweza. Wakati munji sasa fifi binadamu ni kukala huna bwirwa ni woga na hunakosa amani huchifikiria kukala shida hurizo nazo ni bomu sana hata mulungu kandaziweza hata nib aha mutu ende kare kwa muganga. Uchifika ko kwa muganga unenda ukalavye pesa nyinji zenye nayo shida uriyo nayo kaindagoma. Gosi goga ni sababu ya imani chache anadamu huriyo nayo. Hata vo anafunzi wa Jesu masihi enye, vekala na imani chache hata baada ya kukala naye muda mure sana. Lola mufano wa petero arihomona Jesu masihi yunanenda dzulu ya madzi naye achimala kumutuwa. Jesu masihi arihokubali kukali amutuwe, Petero weshindwa na achanza kuzama mo madzini kwa sababu ya imani

chache ariyo kala nayo. Ndugu zangu namala nivaambire kukala, jesu masihi ariho ikwa harau dzulu ya musalaba, wetamuka achamba kukala gosi gasira maanaye ni kukala, kuteseka kosi kwa aina yoyosi kwesira harau musalabani. Makongo gosini haha dunuani gesira harau dzulu musalabani. Jesu masihi kahenzere huteseke chivyovyosi virau. Mara nyinji ni kukala hunaemba huchamba kaho jesu musalabani. Chamba weweza hata kumufufula lazaro ariyekala yudzefa zifika siku ine, ni hiro rindiro mushinda kutengeza. Ndugu zangu ahenzwi ra kahenda ni kumwamini Jesu masihi na gosi yundakutengezera. Hata nyumbani uchikala kuna chakurya, uwe ni ukale na imani tu ya kukala mulungu yunaweza na gosi yundakutengezera. Nahumukubalini yuyu jesu masihi ili chila humaloro aweze kuritengeza. Na si kukala na imani bomu sana iriyo inaweza hata kusumbisa mirima, hata bule. Imani chidogo tu inatosha. Namushukuru mulungu kwa kukala hangu nimukubali Jesu masihi, sina nironaro ni bomu ra kutatiza roho yangu. Si kukala be sina matatizo maana pia mimi ni binadamu lakini majaribu gosi negapa mongo na ninakaza kwenda mbere kwa maana namanya ninaye ariye yunanibiganira ariye ni Jesu masihi. Njira ya kumutua jesu masihi si rahisi, ina miya ina madete, ina mirima na majaribu manji sana lakini zaidi ya gosi gago ni umulole Jesu masihi na ukale na imani ya kukala yunagaweza gosi. Jesu masihi ndiye jibu ra maisha ga kwako. Nendani na amani na mulungu avabariki. Dzina ra jesu masihi narilikwe.

## APPENDIX 2

My name is Esther Mbagi, am doing my post-graduate studies at the University of Nairobi and am doing a research on The Phonological Processes in Kichonyi. I would like you to give me a sermon on any topic of your choice so that I can use it for my research. Start by telling me your name, age and your level of education.

Dzina rangu ndimi Vunzu Kai. Nesoma hata nichenda somera walimu na nina miaka mirongo mihahu na mifungahe. Dzina ra Jesu masihi rarilikwe. Siku ya rero namala ninene kuhusu imani. Imani ni noni imani na kwamini bila kona. Here Akirisito hedu okofu va siku zizi kuweza kuishi haha duniani bila kukala na Jesu masihi ariye yunaweza kuhushindira majaribu gosi. Kahi za bibilia, chitabu cha takatifu muryango wa 17 chifungu cha tsano hadi cha kumi naona kukala nihukale na imani here tembe ya haradani. Tembe ii be ni tite sana hata usiho ibwira chitoto ta, inaweza kukutsuluka ikagwa. Ela Jesu masihi yunamba kukala kala hungekala na imani here tembe ya haradani, hunde ambira muyu uka haha wende ukadziyale muhoni na ungekwenda. Maneno gaga ni dalili ya kukala imani yehu ni chidogo sana kushinda iyo tembe ya haradani. Be ulole uwe wo uchache wa imani yehu. Okofu va siku zizi ni okofu va kwiri kwiri. Kugomba vivi nikukala, vanamala vakale kuko wokofuni, na pia vakale kuko kwa chidunia. Siku zizi kuna makongo manji sana mutu yundenda sipitali siku mbiri tahu chikala kadzahola yanatafuta muganga na yunamba kukala wo ukongo ariwo nawo si wa sipitali ra kutsekesho ni kukala achifika kuko kwa muganga iye muganga naye yuna mwamba nahuvoye Mulungu. Uchimulola iye muganga naye, be kaonyesa kala ni mutu mwenye raha bule. Unaweza kwenda kwa muganga uwe na uchifika kuko ukenda ona yo nyumbaye hata ni kagojo kenye kisha kanabwa. Be kala yuna uwezo jeri here vyo vanenanvyo anji vao, kavandekala vanaishi maisha madzo ga kuhama undenda ko kwa muganga ukalavye pesa nyinji zenye na vivyo kisha kundahola. Kwa noni asena husimu kuluhire yuyu mulungu kwa maana ndiye mwenye uwezo wosi. Arihofa harau musalabani weamba gasira. Makongo gosi gesira, kuteseka kosi kwesira haho musalabani. Dzina ra jesu masihi narilikwe. Muda munji sana fifi okofu hunakosa Baraka za mulungu kwa kukosa imani. Hunamala humutumikire mulungu, kisha pia humutumikire mwanadamu. Kwenda kwa muganga ni kumutumikira mwanadamu kwa maana ni here vadamu wamini iye kukala yundakuhoza. Ndugu zangu kakuna rimushindaro Jesu masihi mwana wa mulungu ujeri ni kwamba yunagaweza gosini chikala undamu kuluhira iye hachere. Mulungu wehu ni mulungu wa wivu bibilia rina amba kukala usivoye milungu minjine yoyose. Ni akale ni iye hacheye maishani mwako.

Kava vivyo ahenzwi na hukale na imani ya kukala mulungu yunagaweza gosi. Dzina ra Jesu masihi narilikwe.



### **APPENDIX 3**

My name is Esther Mbagi, and am doing my post-graduate studies at the University of Nairobi. Am doing a research on The Phonological Processes in Kichonyi and I would like you to give me a speech on the subject of the dress code for the young generation from your personal opinion. Tell us your name, your age and your level of education.

#### **MAVAZI GA CHISIKU ZIZI**

Dzina rangi naehewa Mbuche Rijani, nina miaka mirongo mitsano na handahu na kusoma nehaka chilasi cha fungahe baba achinamba kukala kana pesa za kunifundisha.

Mimi chivyangu mimi be nichilola go mavavi ga siku zizi, be kagani hamira kamare. Tabia ya ahoho achiche kuvala masuti here ana alume kavihendwa kamare. Mauta gaga ndo gadzigoricha knadza mambo manji sana hata makongo gasigo kala na muhaso. Muhoho wa chiche kawaida ni asitanane na lesu chununi. Ni ho andihokala, chila ahendaro akale yuna lesu chununi. Chicho ndo chitamaduni na ndo chiheshima. Siku zizi gaga mavazi kagana heshima kamare. Haya be uriche vyo vya kukala ana ache vanavala masuti, vo ana alume nao vanavala visuti vidzivabwira ngwaa, hata kavasoha. Sevyo! Kavihama kamare uwe uchikala mukaza mutu ni sutu udziheshimu na pia uheshimu vo ata uri nao. Habari ya kuzama zama mbere ya babayo vyala na mameyo vyala na udzivala kasuti bila kudzifunga lesu kaifaa. Uchivala vyo unamala ye mutumia wachilume akulole dze. Nasikira ni kwambwa kukala ndo chisiku zizi ela namala nambe hunakosera avyere. Gaga majoho ndo nguo za heshima sana na hata uchivala kuna wasiwasi. Kuna anjine nao, go magoho vavalago nago hata ni baha vavale zo suti maana kavina tofauti. Unaweza kumona muhoho wa chiche yuvala kajoho kafuti kisha kadzimu bwira ngwaa. Hata ni here kana nguo yoyosi. Haya be angaa adzifunge lesu. Kana ta lesu. Haya go ga kajoho kafuti nahugariche, kunambwa kuna rangi za milomo siku zizi. Vadzihake hata vakale doo here chironda. Utu uwo be unagwiza nyenye hata jeri. Mutu be omulomowe mudzo wenye be uhendwe utu wa chinyanga chenye. Zo kumbi nazo kumba be ni kuhakwa rangi hata zikakala here za chiku nguyu. Mbona asena munatsupa muhaka? Vino yuna mulungu akale ni mujinga vyo alivyo hu umba hata hudzuya hunamomboza makosa. Haya hukarichirwa fifi binadamu yo kazi ya kumu umba mwanadamu munzehu hundaweza kasha. Asenangu, nguo za siku zizi zisihuhende hukose heshima mbere za atumiya ehu, lesu kwa muhoho wa chiche, na risirichike kamare na ahoho va chilume navo vadziheshimu. Nguo mbidzo za kuhama valani ela heshima ni muhimu sana.

#### **APPENDIX 4**

My name is Esther Mbagi, and am doing my post-graduate studies at the University of Nairobi. Am doing a research on The Phonological Processes in Kichonyi and I would like you to give me a speech on the subject of the dress code for the young generation from your personal opinion. Tell us your name, your age and your level of education.

Dzina rangu ndimi Geji wa Kai na nesoma hata nichenda dzifundisha mambo ga kujita.

#### **Kusomesha muhoho wa chiche.**

Masomo gadziuya ni muhimu sana kahi za maisha ga siku zizi. Muhoho muhe naye asomeswe. Anziyehu kuko bara be va mbere chimaisha kwa maana vanasomesha hata ahoho va chiche. Kuno kwehu ko huchere kwamba muhicho wa chiche kana haja ya kusoma kwa maana achisoma achipata kazi mbidzo, yundahalwa na yundenda tajirisha kwani mulumewe. Gaga be ni maneno ga kapindi sana na hata kagana vata kamare. Siku zizi ahoho a kwao. Ni vamanaye avyazi wa kwao vandaryani, vachikala akanyo vahirikwe sipitali, na hata kuvata ni vavo. Siku zizi ahoho va chiche ndio vadzengerao avyazi va kwao mudzumba ga bati kasha mabomu mabomu sana. Haha laloni hehu kare hana ahoho halwa va kwa alume ao kasha ndio madzumba na vana varisa tototo sana. Ahoho alume siku zizi vana ila muhoho undasirima naye achikala yechere mutate. Urimire vipande uchimu somesa hata apate kazi kwa unamala adze akokole nawe achidza achipata kazi yunatafuta muhe ahale. Vyosi vivi kavina ta nautu amba mala vo dzukula mino. Be amba uchikala na muheo, mumanye naye mameyo? Akaza ana anjine vana maroho mai hata kavenzi mame zao.

Iye kare achifika ho mudzini yunamba kare yumala akale iwakwe. Haya ko kukala lwakwe be nikukala hata achijita kaweza kumupa wari mameye vyala. Kwa riro renye mimi ninda amba kukala, kusomesa muhoho wa chiche pia ni muhimu. Husimwambe atfaute mulume ahalwe hedu humutafutire mulume ahalwo ili hunda richirehewa nduguye wa chiluwe afundishirwa sevyo na ndo vinahenda huna endereva kubaki nyumba. Elimu ya muhoho muhe asana ni muhimu.

## APPENDIX 5

My name is Esther Mbagi, and am doing my post-graduate studies at the University of Nairobi. Am doing a research on The Phonological Processes in Kichonyi and I would like you to give me an oral narrative of your choice so that I can use it for my analysis. Tell us your name, your age and your level of education.

Dzina rangu ndimi Kadii Nguma. Nesoma hata chilasi cha kumi na mbiri na nina miaka mirongo mine na tsano. Nindava tsuhira ngano ya chausa cha Tsungula na Fisi kukosana. Haha kapindi, kwekala na mukurima be wa bidii sana. Mukurima yuyu wekala yuna bidii sana na munda wa kwake hata kuriho kala na nzuwa ra kwangalaza. Iye wekala kwakwe mundani mimera yakwakwe bado ina vyala tototo sana. Wenyala viyogwe virivyo vyala sana hata majirani va kwake vachikala vanadza kwakwe kumuza mashauri ili nao vakarime dza vivyo ko kwao mindani nao here iye mutu wao arimavyo ndo hata kuchikala na dzuwa kali kisha mimera yao ivyale tototo. Atumiya veamba mudzo kakosa ila. Mukurima yuyu wekala na shida bomu sana kwa kukala kakuna munda munjine wowosi uriokala na chakurya hata were ni hao hakwe tu hacheye. Yemubidi mukurima yuyu aanze kurinda mundawe ili evi vasidze mweyera. Wekala na chibarua cha kurausha adamu va kwake ili vakarinde munda. Ven ung'unika sana haswa vo anae kwa maana ko mundani kwelala kuna miya miinji sana hata peho nayo yere ni nyingi sana ela yebidi vakarindire matunda gao gasihalwe na gaseyewe ni atu kwani hata anjine were ni atu wao waliokala na chidzitso. Urinzi uu wa munda uuu vere ni va usiku na mutsana. Utu wa kushangaza ni kukala, vyo vyosi varivyo jeza kurinda, kisha mara zinjine ta ni atu vao enye. Maneno gaga be gevabanda moyo sana kwani vere vanatsoka na vo evi kavatsoka. Mukurima yuyu be weaza, achiaza vivi hata mwisho achipata jibu. Achivambira anae kukala, yundenda ika ridzogofya ko mundani ili ya kukala hata vachikala vya mudzini, iye mwevi achenda aone here hana mutu ho mundane kwa vivyo kandaweza kweya. Anae vehenda raha sana kwa kukala vemaanya kala kuteseka sasa kundagoma na vandapata usinzizi mudzo kwa maana ro ridzogofya rindarinda munda wao usiku na mutsana. Mukurima yuyu weawizwa ni anae achiritengeza kisha achenda naro achenda rika kahi kati yao munda kisha achirihaka mukadamu ndo chila angekudza riguta asale haha hata ye mwenye adze pore akachimbira. Siku za hirize, tsungula na musenawe fisi vachirauka here vahendavyo chila madzacha. Kawaida yao were ni varauke vakatarize ye murinzi achinyekererwa chidogo waeye vyo vamaalavyo halafu vachimbire. Variho fika haha. Vachitsungurira vachona hana murinzi ela vachambirana kala yundalala sasa yenye vivi kwa maana ni kukala ndo kazi yao. Tsungula wemugalukira fisi achimwamba kukala were ni hisa ra kwakwe ra kutsimba viyogwe na ye tsungula akale murinzi wa kwakwe pore wakadza gwirwa. Variho mlola tototo ye murinzi ariye ho mundani, veona kukala ni mwanamuche. Tsungula wehamirwa sana hata achimwamba fisi asikale na wasiwasi aenderere kutsimba viyogwe kwa maana wenda mugombesha ng'anzi ye mwanamuche hata asahau kukala yudzikala ni murinzi ho mundani. Tsungula wekwenda hata achifika haha henye ye murinzi achimulamusa. Murinzi arihokala kadzikidzia, Tsungula weanza kumubembeleza ili amulamuse na hata amupe mukono. Aliho ona murinzi yuyu kenzi kunena tsungula wemulazimisha kumupa mukono na mukonowe uchisakama ha ro ridzogofya kwa sababu yawo mukadamu ariokala yudzihakwa. Aliho ona mukonowe udzisakama achi tsukirwa sana achimu tsuha kofi. Uwo mukono munjine nawo pia uchikwama haha tsavuni. Tsungula wezidi, kutsukirwa na achitsuha teke chigulu chichi kwama haha pia. Fisi wekala hata go ga kutsimba viyogwe yudziga sahadu hata yunatuwa kutseka munziwe kwa kukala kaweza kuka kaheri sana. Fisi

na tsungula veshangaa sana variho ona ye mukurima mwenye munda yufika ho mundani. Mukurima yuyu wetsukirwa achihala fimbo achimuchapa tsungula hata achivaa. Fisi wefwa na chitseko musenawe ariho kala yunamutseka wesikira utsungu zaidi hata kushinda wo utsungu wa kuchapwa ni ye mwenye munda. Mukurima ariho marigiza kumuchapa tsungula, wemwamba yundamuricha haho dzulu ya ro ridzogofya hata madzacha alewelewe haho ndo akili zindiho mwenjira. Mukurima ariho uka kwenda mudzini, fisi wedzihenda yuna mbazi sana achidza musaidia musenawe kumuvuha arichwe ni ro ridzogofya. Tsungula arihoona yuhuru sasa achimwamba fisi vatsimbe viyogwe vya kuwatosha miezi mihahu kwa maana ye mwenye munda yudzenda mudzini na kandauya kaheri. Vetsimba viyogwe vyao na variho marigiza, tsungula achimwamba fisi vari vunzevunze ro ridzogofya ili risivayuge keheri. Fisi hata kakahalire achenda kare ili aanze kuri vunzavunza. Wemaka sana ariho ona kukala mikono na magulu ga kwakwe naye gakwama. Tsungula weona raha sana hata achimwamba Fisi ndo dawa ya kumutseka arihoka yunachapwa niye mwenye munda. Tsungula wehala ro rigunia ra viyogwe achenda mudzini achimu richa fisi achere haho dzulu ya ro ridzogofya hata madzacha mwenye munda adze amupate haho ndo naye achapwe dza vyo munziwe na usena wa fisi na tsungula uchigomera haho.

## APPENDIX 6

My name is Esther Mbagi, and am doing my post-graduate studies at the University of Nairobi. Am doing a research on The Phonological Processes in Kichonyi and I would like you to give me an oral narrative of your choice so that I can use it for my analysis. Tell us your name, your age and your level of education.

Dzina rangu ndimi Charo Mwalungo na nina miaka hamusini na mihahu. Nesoma hata nichenda somera ukarani. Rero namala nivatsuhire ngano kuhusu Kobe kuvunzika chikakaya. Kapindi kwekala anyama vosi va kuhuruka vanakala hamwenga na ni asena abomu sana. siku dza ira kwekala na harusi ko dzulu mulunguni na vachalikwa. Habe vachanza kudzi tayarisha ili vende harusini mulunguni. kobe naye were yudzalikwa harusini kuko ela were kana raha bule. Kukosa raha kwa kwake were ni sababu ya kukala kobe kana mavava na hata kuhuruka kaweza. Weona baha atuwe vava anziye vario na mavava ili vamusaidie naye. Tsongo vosi veika mukutano na vachamba kukala vandamupa mutumiya kobe lunyoga lumwenga lumwenga chila muta ndo naye apate mavava ga kuhuruka. Kobe wehamiriwa ni gaga maneno hata naye achikala yuna dzotsanya ili ende harusini naye here vo anziye. Siku ya kwenda harusini irihofika, tsongo vosi vemupa kobe nyoga here varivyo kala vadzelewana. Kobe naye wekala charoni na tsongo vosi. Varihofika kuko vehocherwa tototo sana na vachonyeswa hatu vachisagala. Wakati wa kumanyana uriho fika, chila tsongo weambwa agombe dzinare na vosi vachigomba. Irihofika wakati wa kobe, weamba ndiye mwimwi mosi. Anziye vachishangaa sana ela vachinyamala. Harusi ye enderera hata ichifika wakati wa chakurya. Chakurya chirihohewa, tsongo vachambwa chichi chakurya ni cha mwimwi mosi. Tsongo be veshangaa sana ela vachikala kavana ra kuhenda maana va mudzini kwani atu. Kobe wehala cho chakurya achanza kurya kuno tsongo vosi vana mulola. Vetsukirwa sana anziye ela vachinyamala tu. Kobe ariho marigiza kurya wari, tsongo vachimwamba kobe adzivyo shiba, avambire vo vadzio mupa wari vamupe mavava sasa. Hunamala uhudzirye mavava gehu. Kobe be weshangaa sana achivamba vamurichire hata afike mudzini kwake ela achikahala. Achanza kuvaudzirya nyoga zao hata zichigoma. Varihokala tsongo vanauka mulunguni sasa vanauya kwao midzini, kobe wevamba vaka mwambire muchewe ahandike magodoro ho muhalani ndo asilumire kwa maana yendahenda kubwa kula dzulu mulunguni. Tsongo varihofika mudzini kwa kobe, vachenda mwamba muchewe aike mapanga na mawe na matsoka ho muhalani. Kobe alihodzirichira webwa ho maweni na ndo chikakaye cha kwake chichi vunzika vunzika hata rero ndivo arivyo.

## APPENDIX 7

**Interviewer:** My name is Esther Mbagi, am doing my post-graduate studies at the University of Nairobi and am doing a research on The Phonological Processes in Kichonyi. I would like us to have a conversation on love and marriage as it is today from your personal perspective so that I can use it for my research. Start by telling me your name, age and your level of education.

**Respondent:** Dzina rangu ndimi Salame Mulewa, nina miaka mirongo mine na miri na nesoma hata nichifika yunivaziti. Kuhalana kwa siku zizi nina konadze? Siku zizi mino naona here ko kuhalana be kakuna vata kaheri. Undasikira mutu yudzihala, hata uchivituwa tuwa kaheri vivi baada ya miezi ya kutala unasikira hata verichana. Kavina vata kamare kurichana kwa muche na mulume kuzidi. Kavihama kamare ta mulunguni.

**Interviewer:** Nayo sababu ya kuno kurichana unaona ni noni we chivyako uchilola vino?

**Respondent:** Mimi naona sababu ni kukala vava ahoho va siku zizi kavenzi kutua chitamadani kaheri dza haho kapindi varivyo kala vachihenda vo atumiya va kapindi.

**Interviewer:** Chitamaduni cha kapindi ndo hicho varicho ni vachituwe vo ahoho va sasa?

**Respondent:** Kapindi were muhoho muche na muhoho mulume kavaweza konana kare tu na vaambirane nakuhenza na ndo vahalane kare be vivyo. Were uchona musichana udziye muhenza uwe mutana, mundagomba mwelewane. Ela kazi bado muchidza elewana, undenda kwenu ukamwambire babayo na mameyo kukala udzona musichana na udzimuhenza. Undauzwa kwao ni hiko na ni mwana wa ani. Halafu kundahumwa atumiya vende mpaka mudzi urio hehi na haho hani ye musichana vauzire tabia za ye musichana zi namna yani, nayo family ya kwao idze na vanakala dze ho hao mudzini. Kisha vauye vadze vaseme go vadzigo kwenda gapata kuko.

**Interviewer:** Hasa vano atumiya vadhiohumwa Vachiuuya ndo vadze vaseme, ndo ye musichana wendahalwa adze akale muche sasa hedu vindakwenda dze?

**Respondent:** Hata bule, wakati wa kwenda halwa bado. Vava atumiya vachipata go maneno gachivahamira kundaikwa mbara ya kukala sasa vadze kuko mudzini kwani ye musichana kaheri vaka onane na avyazi va kwake na kisha vamwambire kukala mwana wao yumala muche na niye mwana wa haho hao. Vandauza ni musichana hiye na vachambirwa, vandaamba vapewe muda chidogo vavape mbara ya kukala vauye ndo vadze vahale majibu kula kwa vo atumiya chikala vakala radi hedu ni chidze.

**Interviewer:** Hasa kwa noni vaambwe vauye siku injine kaheri ndo vadze vahale majibu na ye mwana wao yu haho kare. Si vamwehe ye musichana tu kare vamuze chikala ye mutana yanamumanya, na yunamuhenza na chikala yu tayari kuhalwa?

**Respondent:** Hata bule kavihendwa vivyo sababu ya kuvapa mbara ni kukala navo vapate muda wa ku uzira uzira vamanye mambo ga uwo mudzi urio mwana wao yundanenda. Kuna midzi minjine ina atsai ta jeri, vasinda dii kuzika. Kunjine kuna milimo milimo here majine ga uko wosi hata ahoho atite enye.

**Interviewer:** Na hasa vachiuzira uzira vachambwa kukala mudzi uwo una atsai ama hana majine, vandahendadze naye mwana wao yudzivambiriza kare kukala iye mutana yunamumanya, yunamuhenza, na yutayari kukala amuhale?

**Respondent:** Hewaa!! Udzuza chitototo sana. Sasa ndio chichi chitamaduni nidzichokala nakwambira hangu ho mwanzo. Muhoho wa chiche achambirizwa ni avyazi va kwake kukala mudzi uwo kaufaa na kaweza kuhalwa ni iye mutana iye, were kaweza kuuza maswali kaheri. Yundasagala haho hoo mudzini ahurire, atarizire mutana munjine. Na kuchidza mutana munjine, taratibu ni zizo nidzizonena ndizo zindizo hendwa kaheri.

**Interviewer:** Sasa uwe udzinambiriza kuhusu chikala avyazi va musichana vadziukahala wo mudzi. Haya na chikala avyazi va musichana vadziuhenda uchunguzi wao na mudzi vakaukubali, vinda kwendadze?

**Respondent:** Haya vachidzakala mudzi vadziuzira uzira na vahamirwa ni go ga haho. Vava ahumwa va iye mutana vachidza vanda ambirwa kukala kakuna pingamizi yoyosi na kuandaikwa mbara ya kukala hunda ridze rilaviwe na baba ya mutu yundagomba yunamala hunda ririrodze na kisha areherwe. Hunda richidza richilaviwa haya mutana yunahala muchewe ende naye kwao na babaye musichana yanawahasa vaka kale na maisha madzo go vendako anza mudzi wao na kuvavoyera Mulungu ava bariki.

**Interviewer:** Na sasa unaona zizo taratibu zizo ni nyire sana hata ndosa vava ahoho va siku zizi kavazenzi. Maana undaonana na mutana mugombe mwelewane kisha achifika kwa avyazi va kwako vamukahale. Ni jeri yo?

**Respondent:** Na ndio maana zo ndoa za siku zizi kazitoa kwa maana kavatuwa chitaratibu cho chikare. Haho kapindi be uchidza ombozerwa hunda, hata muka kosana naye mutana, Kisha kuna ruhusa ya ku uya kwenu kwa sababu ya kuheshimu avyazi va kwako. Kwaza mulumeo kukubiga si kwamba yudzikumena! Ni kukala yuna kwerekeza kwa kosa ra kwako mwenye. Kwa vivyo ni utuwe kusagala haho ufuge anao. Na hata muchikosana uchuya ko kwenu undenda ukaambwe wuye ukafuga adzukulungwa. Kwa vivyo mimi naona baha huyire cho chitamaduni chehu.

**Interviewer:** Haya na muvera sana dede kwa wakati wa kwako, Mulungu akuhase.

## APPENDIX 8

**Interviewer:** My name is Esther Mbagi, am doing my post-graduate studies at the University of Nairobi and am doing a research on The Phonological Processes in Kichonyi. I would like us to have a conversation on love and marriage as it is today from your personal perspective so that I can use it for my research. Start by telling me your name, age and your level of education.

**Respondent:** Dzina rang ndimi Masha Kalume na nesoma hata nichenda somera ufundi wa mbao.

**Interviewer :** siku zino mbona naona atu kavahenzana vino, chila siku kukosa kusikira mutu yudzolaga munziwe, munjine yukata munziwe na panga, kunani kwani?

**Respondent:** Mimi naona maroho gadzi galuka. Adamu siku zizi kava henzana kamare hata ndo maana kuna kuku kwamba maroho gesha na chai navyo be ni jeri. Maroho gesha hata gakala meru. Na vavo vagahendao gago ni ahoho atite sana ahoho va dzuzi enye hata unashangaa.

**Interviewer:** Hasa we uchilola vano ahoho atite udzio amba, vana shida yani hata maroho gao gadzigaluka maroho ni kugalukadze?

**Respondent:** Riri tumbaku riri, ahoho va sisi zizi ni arevi bila saababu yoyosi. Vadzombolera kunwa na kuvuha tumbaku, dii choo! dii choo! Kavenda mindani kwenda rima kava enjira mavigani vakagita vakaehula, si ache si alume. Kapindi were atu vakanyala tumbaku ela were si dza vivi siku zizi hata rina ehewa bangi. Nasikira kuna hata madawa ga atu vawire here unga hata varee. Anjine navo nivo vanwao munazi hata vakale kavadzimanya. Vachidza rea sasa ndo vahalao mapanga vaka olaga atu bila kosa.

**Interviewer:** Hasa vano ahoho atite hunda vasaidia chidze hata variche matumbaku na uchi?

**Respondent:** kusaidia vava ahoho atite ni kukala atumiya vasitoke kuva ara. Haha kapindi kwekala na atu va kwara tu kare, were ahoho vakahirikwa kwenda arwa mambo ga chitamaduni na kudzitsunza. Vino siku zino atu vakala amisheni hata kavasikiza keheri atumiya. Mwanzo hata uwe mutumiya uchonewa unambwa umutsai. Ndo hata mambo ga kolagana gadzizidi. Sasa ra kuhenda ni avyazi vasagaze anao na vava are ili vakale adamu adzo.



## APPENDIX 9

KICHONYI WORD	IPA	GLOSS
ira	/ira/	‘to boil’
ika	/ika/	‘put’
ini	/ini/	‘liver’
ila	/ila/	‘weakness’
era	/era/	‘become clean’
eha	ɛha/	‘call’
emba	ɛmba/	‘sing’
ema	/ɛma/	‘stand’
enda	/ɛnda/	‘go’
ala	/ala/	‘shine’
amba	/amba/	‘weave a bed’
anza	/anza/	‘start’
vala	/vala/	‘dress’
hala	/hala/	‘take’ola
/ɔla/	‘rot’	
oga	/ɔga/	‘bathe’
ona	/ɔna/	‘see’
hoza	/hɔza/	‘cool’
zola	/zɔla/	‘scoop’
usa	/usa/	‘remove’
uza	/uza/	‘ask’
umba	/umba/	‘create’
unga	/uŋga/	‘flour’
uzi	/uzi/	‘thread’
pula	/pula/	‘nose’
panga	/paŋga/	‘arrange’

pesa	/pɛsa/	‘money’
pore	/pɔre/	‘sorry’
papa	/papa/	‘shark’
tamu	/tamu/	‘sweet’
tuwa	/tuwa/	‘follow’
towa	/tɔwa/	‘delay’
tira	/tira/	‘post phone’
tima	/tima/	‘alight’
kenga	/kɛŋga/	‘deceive’
kala	/kala/	‘stay’
kure	/kure/	‘far’
kahu	/kahu/	‘big basket’
kare	/kare/	‘long age’
bata	/bata/	‘duck’
bule	/bule/	‘free’
baba	/baba/	‘father’
bulu	/bulu/	‘maggot’
biga	/biga/	‘beat’
dete	/dɛtɛ/	‘valley’
danga	/daŋga/	‘unripe coconut’
dula	/dula/	‘beat up’
dede	/dɛdɛ/	‘sibling’
dini	/dini/	‘religion’
gula	/gula/	‘buy’
galagala	/galagala/	‘roll’
gosi	/gosi/	‘all’ (mangoes)
gara	/gara/	‘those’ (bananas)

guza	/guza/	‘sell’
fuhi	/fuhi/	‘short’
fuga	/fuga/	‘rare’
fula	/fula/	‘wash clothes’
figa	/figa/	‘cooking stone’
fimbo	/fimbɔ/	‘cane stick’
voya	/vɔja/	‘pray’
vuha	/vuha/	‘pull’
vuka	/vuka/	‘cross over’
vika	/vika/	‘emerge’
vunda	/vunda/	‘become stale’
shida	/ʃida/	‘problem’
shaka	/ʃaka/	‘doubt’
shuka	/ʃuka/	‘bed sheet’
shona	/ʃɔna/	‘sewing’
shida	/ʃinda/	‘problem’
saga	/saga/	‘grid’
suka	/suka/	‘shake’
songa	/sɔŋga/	‘plait’
sahani	/sahani/	‘plate’
simba	/simba/	‘lion’
zulia	/zulia/	‘block’
zama	/zama/	‘bend’
zika	/zika/	‘burry’
zima	/zima/	‘put off’
zosi	/zɔsi/	‘all’ clothes
hoza	/hɔza/	‘cool’

hala	/hala/	‘take’
hanga	/hanɣa/	‘funeral’
haha	/haha/	‘here’
here	/herɛ/	‘like’
dhambi	/ɖambi/	‘sin’
dharau	/ɖarau/	‘contempt’
zhanda	/ʒanda/	‘coconut pod’
zhanda	/ʒɛɛ/	‘elder’ aunt/uncle
chira	/tʃira/	‘pass’
chemula	/tʃemula/	‘sneeze’
chai	/tʃai/	‘tea’
choo	/tʃo:/	‘toilet’
chiya	/tʃija/	‘container’ (bucket)
tsana	/tsana/	‘comb’
tsuma	/tsuma/	‘fend’
tsuha	/tsuha/	‘throw’
tsupa	/tsupa/	‘pass’
tsanga	/tsaŋga/	‘split firewood’
dzuwa	/dzuwa/	‘sun’
dzana	/dzana/	‘yesterday’
dzulu	/dzulu/	‘up’
dzina	/dzina/	‘name’
dzala	/dzala/	‘dump site’
maji	/maji/	‘eggs’
mahe	/mahe/	‘saliva’
mazu	/mazu/	‘bananas’
madzi	/madzi/	‘water’

manga	/maŋga/	‘cassava’
nazi	/nazi/	‘coconut’
nula	/nula/	‘lift up’
nuka	/nuka/	‘smell’
nola	/nɔla/	‘sharpen’
nusu	/nusu/	‘half/
nyama	/ɲama/	‘meat’
nyenzezi	/ɲɛɲɛzi/	‘stars’
nyere	/ɲɛɾɛ/	‘hair’
nyasi	/ɲasi/	‘grass’
nyoga	/ɲoga/	‘feathers’
ng’ombe	/ŋombɛ/	‘cows’
ng’ola	/ŋola/	‘uproot’
ng’ala	/ŋala/	‘shine’
mbuzi	/mbuzi/	‘goats’
mbazi	/mbazi/	‘sympathy’
mbira	/mbira/	‘grave’
emba	/ɛmba/	‘sing’
pamba	/pamba/	‘cotton’
ndoo	/ndoo/	‘bucket’
ndiya	/ndija/	‘a fool’
rinda	/rinda/	‘guard’
nenda	/nɛnda/	‘go’
munda	/munda/	‘farm’
nzala	/nzala/	‘hunger’
nzoo	/nzoo/	‘come’
kunza	/kunza/	‘fold’

konze	/konzɛ/	‘out’
kanza	/kanza/	‘coconut tree leaves’
lala	/lala/	‘sleep’
lola	/lɔla/	‘look’
liyaliya	/lijalija/	‘rinse’
lamba	/lamba/	‘lick’
lungo	/luŋɡɔ/	‘tray’
rira	/rira/	‘cry’
rero	/rɛro/	‘today’
reha	/rɛha/	‘bring’
richa	/richa/	‘leave’
reza	/rɛza/	‘cool water’
yuga	/juga/	‘disturb’
yosi	/jɔsi/	‘whole’(coconut)
yuse	/juse/	‘remove’(coconut)
yangu	/janɡu/	‘mine’
yuyu	/juju/	‘this’ cow
wazi	/wazi/	‘open’
wari	/wari/	‘food’
wuse	/wuse/	‘remove’