SOME ASPECTS OF THE ILCHAMUS PHONOLOGY

BY

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DECLARATION

This research project is my original work and has not been submitted for examination in any other university.

…… DATE……..……

LENTETE, SAITEWUA SAMUEL

This research project has been submitted for examination with our approval as the university supervisors

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DR. ODUOR, JANE AKINYI NGALA

…… DATE……..……

DR. JERONO PRISCA

DEDICATION

TO

GOD ALMIGHTY,

NIPANOI, LELITE

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May the Almighty God bless you ALL.

LIST OF SYMBOLS AND ABBREVIATIONS

(.)	syllable boundary
#	word boundary
[-]	shows a negative value for a feature or rather a feature is missing (e.g. [-back])
[+]	shows a positive value when placed before a feature (e.g. [+voice])
+	shows that two words have come together when placed between words
[+ATR]	advance tongue root
[-ATR]	retracted tongue root
C	consonant
Cont	continuous
DFM	distinctive feature matrix
GP	generative phonology
NPG	natural generative phonology
Per	person
Pl	plural
Pres	present
Sing	singular
SPE	sound pattern of English
V	vowel

ABSTRACT

This work of research aims at studying the Ilchamus Phonology. Ilchamus people are among the minority groups in Kenya and therefore it has over the years been viewed as one of the clans of either Samburu or Maasai communities. It is for this reason that not much work has been done in the language. There is really very little done in the study of Ilchamus phonology. The study therefore explores the language of Ilchamus and generates her vowel and consonants inventories and this will open a way for deeper studies into the language. The language being a grey area we hold a few that studying the phonology of the language would be ideal. The study's objective include: a detailed describe the vowel and consonant phonemes in the Ilchamus language. The study also intends to find out the phonological processes involving the Ilchamus vowels and finally this work has the obligation to find out the phonological processes involving the Ilchamus Consonants.

The methodology used as a tool of data collection for this research was introspection and naturalistic observation. Introspection majorly relies on the researcher's knowledge of intuition. The research employed the naturalistic observation where data was gathered from local barazas presided over by council of elders and the area chiefs from Kiserian and Ilng'arua locations. Church sermons were also of significance help since data was also collected here. It is worth noting that permission was obtained from the relevant autihities before recording was done. The data collected was from the native speakers of the Ilchamus language and before analysis the data was crosschecked by four native who are believed to have the mastery of the sound system of the language. This data was handled within the confines of the Natural Generative Phonology so as to analyse the various phonological processes that exists in the language.

In Chapters Two and Three we generated the Ilchamus vowel and consonant inventories respectively. We also used the distinctive features to show the features of each of these segments. The occurrences of both vowels and consonants have been illustrated. This then prepares us for a discussion on the phonological processes in the subsequent chapter.

Chapter Four is handy with the analysis of the phonological processes involving vowels as well as the phonological processes involving consonants. Some of the processes that we discussed include vowel, consonant and syllable deletion, vowel harmony, prenasalization, velarization and glide formation with specifics to the formation of the palatal glides. This work has laboured to show the relationship between this processes and how they in some

instances cut across so as to apply on both vowels and consonants. Various rules to account for various phonological processes in the language of study have been generated.

Lastly, this research found out that the phonology of the Ilchamus language is quite a wide field though little attention has been given in the recent past. It was evident that most of the sounds are similar to those of Maa except the existence of the distinction between a a clear /l/ and a dark /l/. In Ilchamus both dark and clear /l/ sound exists whereas in Maa there is only clear /l/. The other sound variation was that Ilchamus language has no voiceless post-alveolar fricative as opposed to Maa language. This research too established that vowels can influence vowel changes in a sound segment and consonants can too influence the change in other consonants.

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Ilchamus like Samburu and Maasai languages are all Maa languages. Eglin (1989) consider Ilchamus as a dialect of the Maasai language whereas Lewis (2013) consider it as a dialect of the Samburu language. It is worth noting that different writers vary on the status of the Ilchamus language, that is, whether it is a language on its own or as a dialect of one of the larger Maa language which could be closely related to either Maasai or Samburu languages. The researcher being a native speaker of the language of study holds the position that Ilchamus is one of the languages within the entire Maa group of languages.

Generally, Maa language belongs to the Nilotic group of languages and most specifically the Eastern Nilotic cluster of languages. The following chart partly adapted from Vossen (1988) illustrates the family of Nilotic languages. It was partly adapted since the extension under the North Maa was done to illustrate the place of the Ilchamus language within the Eastern Nilotic family of languages.

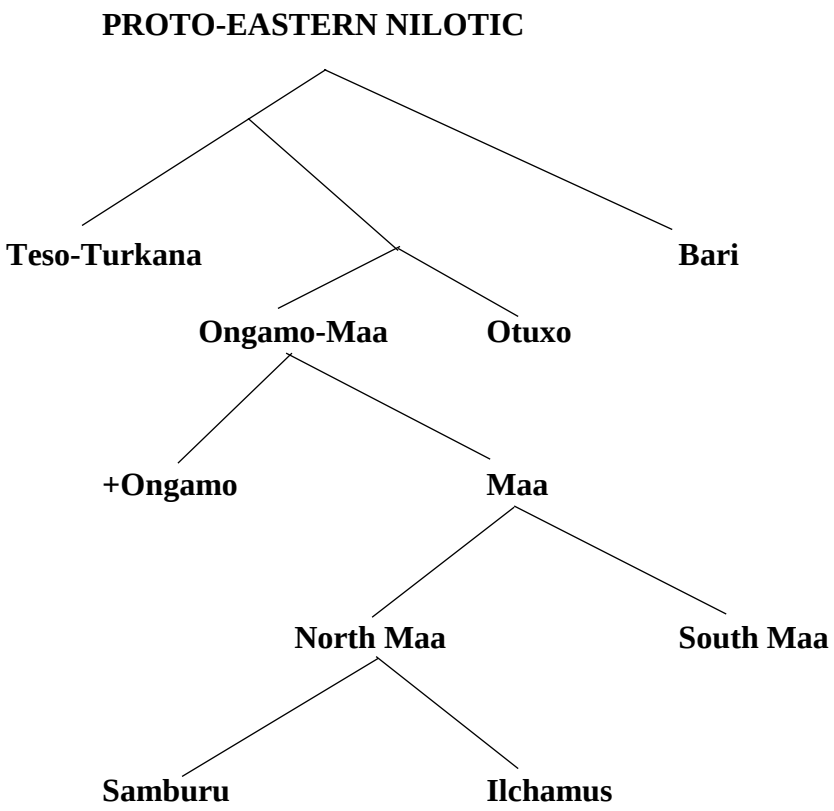

Figure 1: Eastern Nilotic family of languages

As seen in *Figure 1* above, the Maa language has internal sub-divisions. At this level, the sub-divisions are referred to as dialects, because while Maa speakers themselves are aware of, and react to, the differences as marking speakers from different houses (very large clan groupings) or areas, the speech varieties are mutually intelligible. North Maa is said to include the speech varieties of the IlSampur (Samburu) and IlCamus (Ilchamus) houses. South Maa is said to include the varieties spoken by the rest of the other Maa speakers. These South maa also encompasses of those living in Kenya and Tanzania.

According to Mol (1978:142), Maa language has eighteen dialects. They include Sampurr (Samburu), Siria, Ilaitayiok, Iltiamus (Ilchamus), Wuasin Kishu, Matapato, Loodokilani, Dalalekutuk, Lkeekonyokie, Ldamat, Kaputei, Ilarusa, Purko, Ilmoitanik, Loitai, Ilkisongo, Ilaitoktok. Alexander et al. (2014) recently found out that there are twenty-two dialects in Maa language adding to the list Lparakuo, Sikirrani, Baraguyu and Serenket. They are grouped as clans and thus tend to have similar characteristics especially in the way they speak making each slightly different from the others. These therefore shows that Maa consists of small language groups that constitute different dialects.

Maa is perceived to be the parent language where these other dialects say Samburu, and Ilchamus are hewn from. It is paramount to note that Maa is considered to be the standard dialect. All Maa speakers; that is Maasai, Samburu and Ilchamus at one point used one local bible written in the Maa language. There are now efforts to have the bible written in Samburu and the Ilchamus dialects.

According to the Speech Variety Network, Ilchamus is globally recognized as a language. It has Speech Variety Code: #3026 and Registry of Dialects Code 03026. The researcher holds the position that Ilchamus is a dialect of the larger Maa language.

Ilchamus as a tribe is one of the minorities in Kenya. The Ilchamus are situated south of Marigat district in Baringo County, specifically along the shores of Lake Baringo. They are surrounded by the Tugen and Pokot communities and a section of Turkanas on the Northern side. They practice majorly animal rearing and thus most of their vocabulary concerns animal husbandry. There is a bit of mixed farming especially to those that neighbour Perkera Irrigation Scheme.

According to the 2009 census report the Ilchamus has a population of thirty two thousand five hundred and sixteen (32, 516) people. This constitutes those living in their known

homeland and those that have settled in the urban areas due to occupations. These major towns and cities include Nairobi, Mombasa, Kisumu, Nakuru just to mention but a few.

It is worth mentioning at this point that Ilchamus is also known as Njemps. This is the corrupted form of their name by Tugen who happen to be their neighbours from the larger Kalenjin family. This format arose from the fact that Kalenjin has no voiceless affricate [ʧ] in their phonetic inventory. It is unfortunate that this corrupted form (Njemps) is the one that is more popular than the name Ilchamus. Njemps is the one commonly used in books of history for example.

According to a report by Korir (2012), Ilchamus community is recognised as a minority group. The community is surrounded by the aforementioned groups who outnumber them and thus influence them majorly in a number of ways in their interaction. Such influences are sociocultural as well as political in nature and have direct relation to linguistic influences. Due to cultural contacts some words are borrowed from the neighbouring communities into the phonology of Ilchamus. The language of Ilchamus has too received very little attention since there is no much linguistics research carried in the language. Most linguistic researchers accorded much attention to both Maasai and Samburu languages compared to the Ilchamus language whose speakers seemed to be less popular and unidentified than the Maasai and Samburu speakers. It is therefore worth pursuing a study of the Ilchamus phonology so as to clearly define her phonetic inventory and the phonological processes that occur in the language.

1.2 Statement of the Research Problem

There are numerous studies carried out in Maa language which is closely related to the language of study though little has been done in the Ilchamus language. As will be shown in the literature review, most of the documented work touches on Maa language except for the Bible Translation and Literacy (BTL) Kenya that directly deals with the Ilchamus language. BTL is in the process of translating the Maasai bible into the Ilchamus language. The researcher herein was once the co-opted secretary in the committee meeting and orthography being one of the procedures in the translation process was quite a hotly contested issue. BTL have however managed to go through a process of elicitation of all possible Ilchamus words and came up with an alphabetical A-Z of the Ilchamus language and side examples. It is worth noting too that BTL has managed to come up with a few stories in the native language of Ilchamus for the purposes of literacy in their course of

translation. An example here is the Kande story in the Ilchamus language. This is a story depicting the effects of HIV/AIDS in a family set up.

The Ilchamus being a minority group probably owes to the fact that not much work covered in this language to express their orientation and display the structure of the language of study. It is therefore worth delving into this seemingly grey area specifically to study the phonology and developing the phonetic inventory of this language before any linguistic study is carried out.

This study therefore provides a descriptive analysis of the Phonology of the Ilchamus language within the confines of the Natural Generative Phonology framework. The study focuses on developing the Ilchamus consonants and vowel inventory as well as the phonology of the Ilchamus words.

No elaborate study on the Ilchamus Phonology has been carried out so far. This then begs the following questions:

i. What are the vowel and consonant phonemes in the Ilchamus language?
ii. What are the phonological processes involving the Ilchamus Vowels?
iii. What are the phonological processes involving the Ilchamus Consonants?

The study therefore intends to develop the phonological framework as well as identifying and describing the phonological processes in the Ilchamus language. It further seeks to fill the existing gap. It targets to contribute on the documentation and future reference to the language of study. This study will be of much essence to the students of linguistics, language researchers and a scholarly contribution in general.

1.3 Objectives of the Study

The objectives of this study are:

1. To describe the vowel and consonant phonemes in the Ilchamus language.
2. To find out the phonological processes involving the Ilchamus Vowels.
3. To find out the phonological processes involving the Ilchamus Consonants.

1.4 Research Hypotheses

This study will test the following hypotheses:

1. The Ilchamus vowel and consonant phonemes are not same as that of Maa
2. Vowel changes that occur in the Ilchamus language are caused by other vowels.
3. Consonant changes that occur in the Ilchamus language are caused by other consonants.

1.5 Justification of the Study

To the best of my knowledge, there is no study carried out on the Ilchamus phonology and most specifically within the Natural Generative Phonology. Therefore this is a virgin area. It is worth noting that before delving into other linguistics studies into the Ilchamus language this study aims at developing both the vowel and consonant inventories. This will be vital for future linguistic studies to the Ilchamus language. The study will by no means be a helpful scholarly contribution for other scholars, linguists, researchers and language students for it being the first work of study in this area. As stated in the general background of the study, Ilchamus language being closely related to Maa has a slight variation and this study will endeavour to develop the consonant and the vowel inventories of the Ilchamus language to discover if they are really different. The study aims also to develop language charts for future studies. The study will as well be perceived to contribute a lot in enriching studies in the Nilotic languages.

The Natural Generative Phonology framework as the analytical and the descriptive tool make various propositions which are supposed to account for various phonological processes that explains how a language works. As a phonological framework, it is perceived to bore the phonological universals in a natural language. Hooper (1976:4), one of the main proponents of (NGP) contends that "speakers construct generalization that is surface true and transparent." This statement implies that generalizations that are not surface true and transparent are but artificial and that since surface true and transparent generalization are more natural, they provide a sound basis for the formulation of universal substantive principles of morphology and phonology. This study is thus geared to examine the usefulness of such statements in the Ilchamus language.

1.6 Scope and Limitation of the Study

This is a study of the basic phonology of the Ilchamus language. The consonants and vowels are first identified using the minimal pair test. The phonological processes involving various segments are investigated and the theory adopted is the Natural Generative Phonology (NGP) approach.

The phonological processes in the Ilchamus language cover a large area. It includes both synchronic and diachronic studies in a language of study. Synchronic and diachronic aspects of sound alternations cannot be rigidly separated but this study only deal with the synchronic aspects of the phonological processes to be evaluated. It would be impossible to effectively carry out a synchronic study and at the same time the historical bit of the Ilchamus language.

To effectively study the phonological processes of the Ilchamus language this study will only handle the segmental aspects of this language renegading the sound features. The suprasegmental aspects which include tone, stress and pitch was not be part of the investigation. Although this is purely a phonological study, other features of the grammar of the Ilchamus might be mentioned to clarify the investigation.

1.7 Definition of Concepts and Terms

The operational definition of terms in this study is given below:

Ilchamus: This is the language of study. Comprise a language spoken by the Ilchamus people commonly referred to as Njemps situated in Baringo South Sub County.

Maa: It is a Maasai language and usually considered as the standard dialect of all the other dialects.

Samburu: It is a one of the dialects of the Maa langauges.

Dialect: This is a regional variety of a language that is characterized by specific vocabulary and pronunciation distinguished from other dialects.

Phonology: understood to be concerned with sound systems of language that is how sounds function in relation to each other in a language.

1.8 Literature Review

In this section this work undertakes to review or survey literature on the Ilchamus and generally on other related dialects. It also reviews literature on other Nilotic languages like Dholuo, Kalenjin and other non-Nilotic languages like Bantu languages. These works are expected to guide the analysis of the Ilchamus phonological processes.

The researcher has found out that there is pretty less work done on the Ilchamus language, more specifically the documented works do not discuss the phonology of the dialect in question. A survey of the related works to this study includes first Tucker & Mpaayie (1955) who did an extensive work on Maasai grammar. This is a valuable work since it deals on language structure of Maasai which is a dialect to the language of study.

Mol (1972), wrote a Dictionary of the Maasai Language and Folklore. Herein the writer gives meaning to Maasai words and their English equivalents. Such a work forms a good basis in aiding this research in formulation of data. The data is derived from wordlist by Kipury where the researcher being a competent speaker of the language will compare these with that of the language of study.

Doris Payne has carried out research and written scholarly articles that touch on the Maasai language; especially the Maa Syntax and Semantics. Such contributions are like looking into voice and inverse (with Hamaya and Jacobs 1994), Possesor raising (1997), gender (1998) and lexicography (2001). It is worth noting that Payne being a significant contributor of elaborate studies on the Maasai language which is one of the sister dialects to the language of study that she has not dealt with the analysis of the Ilchamus language in her works.

Kipury (1983) also wrote a lot on Maasai culture and general literature though not a research on phonology but the information gathered will be useful to this study in that most constructions helps in identifying and testing phonological processes in such constructions and doing comparison to the language of study.

It is worth noting that most of the above cited work was only found in a sister language which is Maa that is closely related to the language of study. Very little work touches directly on the Ilchamus language.

Okombo (1982) investigates what motivates morphophonemic alternations in Dholuo. The work is based on the natural generative phonology framework and is therefore important to

review. He developed a consonant and vowel inventory for the Dholuo language. Most of his findings will be of help in comparison since Ilchamus and Dholuo are both Nilotic languages.

Oduol (1990), discusses the phonological processes in the Dholuo language. This being a Nilotic language most of the strategies used to draw data will be relevant to this study and its subsequent analysis.

Besides works on Nilotic languages, works in other languages forms a valuable source of information for this study. Mwaniki (2014) discusses the Kiembu phonology and morphology. It is worth noting that the researcher discusses at length the phonological processes in the Kiembu language. It being a non-Nilotic language it would still provide a basis for analysis and comparison to this research. Mbeeria (1993) employs NGP in discussing Kitharaka segmental morphophonology with special reference to the noun and the verb. The analysis employed in this study will be of great help since it offers a comparison and a bearing to the present study. Mbeeria (1981) also discusses the various phonological processes in the Kitharaka language. This too will be a guide in data collection for this study that will be used to analyse the study's findings.

1.9 Theoretical Framework

This study adopts the Natural Generative Phonology (NGP) as its theoretical framework. This is an approach to phonological description of language as proposed by scholars such as Venneman (1971), Hooper (1976), Hudson (1975), and Rudes (1976). NGP is documented to have first emerged from a number of papers by Venneman in the early 1970s and is most comprehensively expounded by Hooper (1976). The major claims and characteristic common to the different versions of NGP are better summarised by Hooper (1979). This theory is a modification of the Transformation Generative Phonology that is regarded as the Standard Generative Phonology Theory. Generative Phonology owes its development to Chomsky and Halle's work on the Sound Pattern of English (SPE) in 1968. NGP is however quite radical in its attack on abstractness. The primary arguments of NGP are true generalization condition and the no ordering condition. Venneman had proposed to rule out any underlying form that was not identical to a surface form and prohibit rule ordering. However, Hooper herself assesses this proposal and states that it goes too far (Hooper, 1976)

NGP was then developed as a reaction to the perceived inadequacies of Generative Phonology (GP). GP was too powerful to capture what is considered possible in the 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 many systems that are not possible in human languages. NGP rejects abstractness of the GP though it makes similar claims about the phonological rule.

NGP is constrained and therefore less powerful than the GP. These 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 analysed without making use of various levels of language. This theory recognizes the relationship between phonological and morphological levels of language.

NGP works within certain principles in eliminating abstractness. These principles include:

i) True Generalization Condition

This is a constraint on phonological rules. It requires that a form that is posited as underlying should have a surface manifestation if it is to be accepted as a correct underlying form. The condition states that not all changes have phonetic conditioning (Hooper 1976:16).

The conditioning requires that all the rules express transparent surface realization. NGP posits that native speakers formulate rules about their language that relate surface forms that eliminate abstractness (Clark, Yallop 1995:403). The rules should show the relationship between surface forms in the most direct manner possible. The generalisations constructed by the speaker of a language are surface true and transparent.

ii) The No-Ordering Constraint

This is a constraint on the application of rules. The rules should not be forced onto the language but rather it is applied when the structural description of a rule is met. The rule should apply sequentially on the product 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. This 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 phenomenon and morphological phenomenon.

iii) A Strong Natural Condition

This 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. It postulates the transparency between underlying and surface forms. This direct correspondence between forms would reveal changes that are taking place thus avoiding abstractness in grammar.

There are three rule types that work within the NGP. They are phonetically conditioned rules (P-rules), morphophonemic rules (MP-rules) and via rules. They are elaborated as follows:

A. Phonetically Conditioned Rules (P-rules)

They are rules that are specified in purely phonetic terms, that is, phonological features and phonological boundaries (syllable boundaries and pause boundaries). P-rules are automatic and have no exceptions (e.g. the rule aspirating syllable - initial voiceless stops in English). These rules correspond to the natural process of natural phonology. In Ilchamus language for example, the phonological process of syllable deletion can be observed in sound segments such as;

Example 1

Word	**deleted segment**	**Realized**	**gloss**
/entiakiti/	/-ti/	[entiaki]	‘tell them’
/ente:niki/	/-ti/	[ente:niki]	[tie for]

Such rules have no exceptions too. They are variable and are responsible for specifying the shape of the phonetic representation. Here, the variation is seen as the extent to which a feature is adhered to and not as to a factor of whether a rule applies or not. Hooper (1974) notes that P-rules contrastive features will be manifested in a phonetic environment and there is a casual relationship between the phonetic environment and the structural change of the rule.

B. Morphophonemic Rules (MP-rules)

This refers to the morphological or syntactic categories to arbitrary lexical categories or to word or morpheme boundaries. The rule voicing fricatives in certain English plurals (wife, wives) is an example of an MP-rule, which contain both lexical and phonological information. It applies only to a small class of nouns (wife, house but not safe, face) and it applies only in the plural.

The application of this rule can be best understood by examining the words **electric** and **electricity** versus the words **cool** and **kite**. In the former, the /**k**/ of electric becomes /**s**/ in electricity thereby changing its shape and becoming an entirely new sound.

In the latter case, the first sound in **cool** /**k**/ is similar to the first sound in **kite** /**k**/ except that its realization has moved upward the palate. The difference between P-rules and MP-rules is one of the most significant innovations of NGP. It makes very strong claims about the nature of the language and clearly distinguishes between phonetic and non-phonetic conditioned rules. An example here in the Ilchamus language is by examining the stop /**t**/ in:

Example 2

/n**t**oria/ (rein)

/ao**t**/ (to scoop)

The voiceless alveolar plosive, /**t**/, occurs in two positions though similar sound but the second one tends to be realized towards the back of the palate as opposed to the second /t/.

C. Via Rules

Via rules are used in NGP to relate pairs of words without deriving them from the same underlying form. They apply to cases that cannot be explained in phonetic or

morphosyntactic terms. Venneman (1974) suggests that a correct account of the synchronic residue of the Great Vowel Shift of English, for example, is a via rule. To exemplify this we consider ser[i:]ne and ser[ɛ]nity would not be derived from the same underlying form as proposed in SPE; rather the underlying forms would be essentially identical to the phonetic forms, and the lexical entries for both items would be marked to indicate that they are related to each other by a via rule:

i: <— —> ɛ

An example in the language of study is as follows:

Example 3

Nkerai ang /nkɛrajaŋ/ → [nkiryaŋ] – our child

This comes about by speech overlap when speakers of the language speak faster in their daily interaction. The [i] changes to [y].

From the above also we can say that NGP as a theory can provide rules that reflect the motivation for phonetically conditioned and phonologically conditioned rules. It postulates a strong claim about the natural process of a language and it is more constrained than G.P. It is less abstract in that it is capable of accounting for the phonological processes of a language and that is why it is chosen as the descriptive tool for this study.

1.10 Methodology

Two methodologies of data collection were employed in this study. They include introspection and naturalistic observation. Introspection presupposes that data collection entirely relies on the researcher's intuitive knowledge and mastery of the language of study. The introspection methodology further takes the advantage or the usefulness of the researcher who is a native speaker of the language of study and through his competence can generate data for the study. This method is however viewed to be subjective in that it can generate data that favours the research hypothesis. To ensure the objectivity of the study, the data collected was counter-checked with other native speakers of the language. The most helpful team herein are the dedicated members of staff who are the native speakers working on the translation process of the Ilchamus Bible. As mentioned earlier

the researcher worked as the co-opted secretary to this team and enjoyed the privilege of incumbency.

The other technique is naturalistic observation. It entails listening objectively to the native speakers as they converse without being prompted. This technique calls for a number of uninterrupted observation sessions like local meetings chaired by the council of elders, church sermons among others to gather the relevant data for the study.

1.10.1 Data Collection

Data collection was effected by gathering data from the local barazas at Kiserian and Ilng'arua locations within Ilchamus community that were presided over by the local chiefs from the two locations and council of elders. Three local churches from which sermons were recorded were randomly selected from the three other remaining locations. It is worth noting that permission was sought from the two area chiefs before recording was done. This was also introduced to those who attended the baraza since the respondents to the proceedings at the baraza formed part of the data used thus integral. The three pastors also from AIC Loropili, AIC Lamalok and AIC Eldume, the randomly selected churches were as well notified on the intentions of the researcher before recording was done. Library research also provided the written information on general Maa and the vernacular bible translated to the secondary data for this study. It is worth noting that the data collected was crosschecked by five native speakers of the language for purposes of ascertaining the viability of the data collected.

1.10.2 Data Analysis

The data collected was analysed within the natural generative phonology framework. The analysis involved classification of the various type of changes that are involved in Ilchamus language. Such changes were to find out whether the changes realized occurred at the consonant or vowel levels and accounting them appropriately. The analysis also included the transcription of the raw data to show the Phonological processes involved in the language of study. Some of the processes that were discussed later in this study include, glide formation, vowel harmony, vowel lengthening, deletion, velarization, prenaslization, palatalization and assimilation. The phonological rules to account for these changes were then formulated with a data and examples to support this.

1.11 Summary

This chapter was more of a sneak preview of the hints the researcher wished to test to contribute to a field of knowledge. It offers an oversight of the major work to be undertaken by the researcher. First it contains the general background to the work of study. This is not limited to the target language but rather circumvents on other related dialects so as to illuminate on the language of study and thus lay the knowledge bare.

The statement of the problem lays clearly the gap that warrants an investigation into the topic chosen. Such genuine concerns of the researcher are intertwined with the research objectives, research questions and hypothesis that ought to guide the study. This research adopted the proponents of the natural generative phonology as a viable theory to deliver through the concerns of the researcher. The literature survey forms the backing of the concerns or rather the postulations of the researcher. This area illuminates the works of research done and any other related pieces of work in this area. Lastly there is a concise methodology that acts between the ideals of a researcher and the eventual outcome of the research so as to prove the propositions of the researcher either way.

CHAPTER TWO

THE ILCHAMUS VOWELS

2.1 INTRODUCTION

This chapter deals with the vowels found in the Ilchamus language. It seeks to develop the vowels phoneme which exist in the Ilchamus language. The data is generated using a minimal pair test and these vowels were discussed in detail as regards their features and qualities for each and cast on a Distinctive Feature Matrix (DFM). Minimal pair test is a concept where two similar sounds are contrasted by a one single factor, for instance in English the following words 'kill' and 'gill' are minimal pairs and are differentiated by the difference brought about by /k/ and /g/ sounds. We have pursued the use of a minimal pair test so as to unravel the relational ties between words and word segments.

2.2 Short and Long Vowels

Below are the Ilchamus vowels: both long and short vowels displayed using a near minimal pair test since tone is prevalent in the language.

Example 4

/a/	**Gloss**	**/a/**	**Gloss**
/l**a**p**a**/	the one	/lapa/	moon
/atu**a**/	1st per (dead)	/atu**a**/	in
/**a**lo/	which one	/**a**lo/	to go

From the above examples it is observable that the first set of vowel /a/ is no different from the second set. This research found out that the difference in this low front vowel is brought about by tone but this aspects of tone is beyond the scope of this paper. It can further be noted that the vowel /a/ occurs word initial, word medial and word final.

Example 5

/o/	**Gloss**	**/ɔ/**	**Gloss**
/mb**oo**/	hold	/mb**ɔɔ**/	herd
/^{n}ʧ**oo**/	heard	/^{n}ʧ**ɔɔ**/	give
/**o**ro/	thud/depression	/**ɔ**ro/	looping

These examples on a minimal pair test bring about the difference in both **/o/** and **/ɔ/** the open-mid vowel and the close-mid vowel respectively. These vowels can occur word initial and word final.

Example 6

/e/	**Gloss**	**/ɛ/**	**Gloss**
/k**e**rikiʧo/	leads	/k**ɛ**rikiʧo/	nauseates
/lal**e**/	is here	/lal**ɛ**/	enclosure mostly for calves/lambs/kids
/sɛr**e**/	stick	/sɛr**ɛ**/	wish
/t**er****e**/	reach	/t**ɛr****ɛ**/	doubt

Example 6 above displays the minimal pair test for half-close front vowel **/e/** and half-open front vowel **/ɛ/**. This data exemplifies that both vowels can occur at word medially and word final. At some instances as noted from this study, the vowel /e/ can occur word initial and the differentiating factor is tone.

Example 7

/i/	**Gloss**	**/ɪ/**	**Gloss**
/**i**ŋa/	3rd per pres. eat	/**ɪ**ŋa/	beat
/**i**mu/	3rd per pres. pass by	/**ɪ**mu/	question
/**i**ra/	are you?	/**ɪ**ra/	bewitched

From the above examples, this research observed that Ilchamus has both the long and short front vowels. These vowels can only occur word initial. They precedes consonant sounds and thus brings about the difference when mapped on a minimal pair test.

Example 8

/u/	**Gloss**	**/ʊ/**	**Gloss**
/s**u**ʤi/	useless person	/s**ʊ**ʤi/	weapon carrier
/nk**u**me/	nose	/nk**ʊ**me/	derogatory term
/kew**u**a/	past (fence)	/kew**ʊ**a/	size

This work of research has found out that the vowels /u/ and /ʊ/ can be distinguished through a minimal pair test. These vowels as observed from above can only occur final.

2.2.1 Long Vowels

A long vowel can be described as that vowels that is capable of says its name Long vowels are so if it repeats its name. English examples can be **/i:/** in seal and **/e:/** in sell. This work of research identified that long vowels exist in Ilchamus language and they occur as shown in the following examples.

Example 9

/a:/	**Gloss**
/t**a:**ta/	now
/t**a:**pu/	raise/support
/t**a:**ɲu/	wait

In Ilchamus language, we found out that there exists a long vowel **/a:/** and this long vowel can occur word medially. As will be discussed in chapter four it is found that this vowel comes only after the stops **/t/**, **/k/** and the nasals **/m/**, **/n/**.

Example 10

/o:/	**Gloss**
/t**o:**ko/	drink
/t**o:**ɲo/	bite
/t**o:**mono/	pray

From examples above, it is observable that Ilchamus language has a long **/o:/** vowel. This long vowel occurs at the word medial position. It is noteworthy that Ilchamus /o:/ vowel occurs usually after the voiced alveolar plosive.

Example 11

/ɔ:/	**Gloss**
/**ɔ:**tu/	3rd per pl come
/nʤ**ɔ:**ki/	give me
/t**ɔ:**ro/	sweep
/nt**ɔ:**mono/	invite
/s**ɔ:**soto/	sip hurriedly

From Example 11 above we note that Ilchamus language has a long vowel /ɔ:/ and occurs both word initial and word medial position.

Example 12

/e:/	**Gloss**
/t**e:**na/	tie
/mbet**e:**ri/	boastful
/t**e:**kɑ/	disturb

The set of examples shown above explains the existence of the long vowel **/e:/** in the language of study. This vowel can occur word medially and at times as word initially as in additional examples as shown below.

/e:/	**Gloss**
/**e:**wuo/	he past (come)
/**e:**na/	imprisoned
/**e:**tio/	they came

Example 13

/ɛ:/	**Gloss**
/nk**ɛ:**ne/	rope
/s**ɛ:**ŋkei/	wire
/ak**ɛ:**l/	fry
/s**ɛ:**nɪ/	speck

From above, it is exemplified that Ilchamus has a long vowel **/ɛ:/**. Its occurrence is usually word medial only though her counterpart sound can occur both medially and word initial as shown in data bearing Example 13.

Example 14

/i:/	**Gloss**
/l**i**ɲi/	pl. yours
/**i**ɳɑ/	3rd sing. + will + eat
/p**i:**/	exclamation of truth

As noted from the examples above, Ilchamus possesses a long vowel **/i:/**. The vowel can occur word initial, word medial and word final.

Example 15

/ɪ:/	**Gloss**
/ap**ɪ:**t/	leaven
/k**ɪ:**rem/	3rd pl. prick
/as**ɪ:**mari/	extremely slow
/mp**ɪ:**rɑ/	make hollow

Example 15 shows the long vowel **/ɪ:/**. This vowel contrasts the long vowel /i:/ as discussed in Example 14. These vowel can only occur word medially as exemplified above. Further discussions are explained on the analysis chapter.

Example 16

In Ilchamus, the high, back long vowel **/u:/** can only occur word medially. These can be exemplified as shown in the data below.

/u:/	**Gloss**
/ent**u:**n/	pl.3rd cause to stand upright/stop
/t**u:**pa/	upside down
/t**u:**ta/	point
/t**u:**tu/	direct
/nt**u:**sa/	complicated

Example 17

This research has found out that Ilchamus has a long vowel **/ʊ:/** and it does occur at the word medial position. The illustrations under this are as follows.

/ʊ:/	**Gloss**
/ait**ʊ:**t/	grind
/ak**ʊ:**t/	bend
/aŋ**ʊ:**r/	cut across

For classification purposes the Ilchamus language as observed from Example 4 to Example 17 above comprises of both long and short vowels. Their classification can be summarized as shown in the following table.

	Front				Back			
	+ATR		-ATR		+ATR		-ATR	
	short	long	short	long	short	long	short	long
High	i	i:	ɪ	ɪ:	u	u:	ʊ	ʊ:
Mid	e	e:	ɛ	ɛ:	o	o:	ɔ	ɔ:
Low			a	a:				

Table 1: Summary of the Ilchamus vowels

2.3 The fully specified Distinctive Feature Matrix of the vowels in Ilchamus language

The Ilchamus vowels can be mapped into the Distinctive Feature Matrix so as to ascertain their qualities. These features are as follows:

	VOWELS								
FEATURES	i	ɪ	u	ʊ	o	ɔ	a	e	ɛ:
High	+	+	+	+	-	-	-	-	-
Low	-	-	-	-	-	-	+	-	-
Back	-	-	+	+	+	+	-	-	-

Table 2: Distinctive Features of Ilchamus vowels

2.4 V_1V_2 Vowel Sequence versus Monophthongs

The Ilchamus vowels can as well be divided into V_1 versus V_1V_2 due to the combination of more than one vowel in a sound segment. Monophthong segments are those vowels that have the same quality throughout their production, for instance **bid** in English language and on the other hand V_1V_2 are those vowels that change quality during their production, for example in the word **boy**. Ilchamus examples can be realized as:

Example 18

	Word	**Gloss**
a)	/ripo/	'watchful'
	/k**e**jo/	'he/she says'
b)	/**ae**ŋ/	'to breath'
	/**ai**m/	'to pass'

Example 18 a) shows Ilchamus monophthongs part b) of the examples shows the V_1V_2.

As postulated by Roach (1998:20) V_1V_2 are vowel sequence are like long vowels. He reiterates that the most important thing to remember about all the V_1V_2 is that the first part is much longer than the second part, for example most of the V_1V_2 sequence /**aɪ**/ (as in word **'eye'**, /**ɪ**/) consists of the /**a**/vowel, and only in about the last quarter of the V_1V_2 does the glide to /**ɪ**/ become noticeable. As the glide to /**ɪ**/happens, the loudness of the sound decreases. As a result, the /**ɪ**/ part is shorter and quieter. Ilchamus examples here include the following:

Example 19

Ilchamus Orthography	**transcription**	**gloss**
mpaai	[mpa:i]	send
nchooi	[nʧoi]	give out

The Ilchamus language has a total number of twenty four V_1V_2 vowel sequence. These V_1V_2 sequences can be categorised in terms of pairs within which they appear and most specifically according to the format in which they end in. The Ilchamus V_1V_2 can end in the following formats and can EITHER be /i/, /e/, /a/, /ɔ/, /ʊ/ OR /u/.

The following chart shows clearly the occurrence of these vowel sequences:

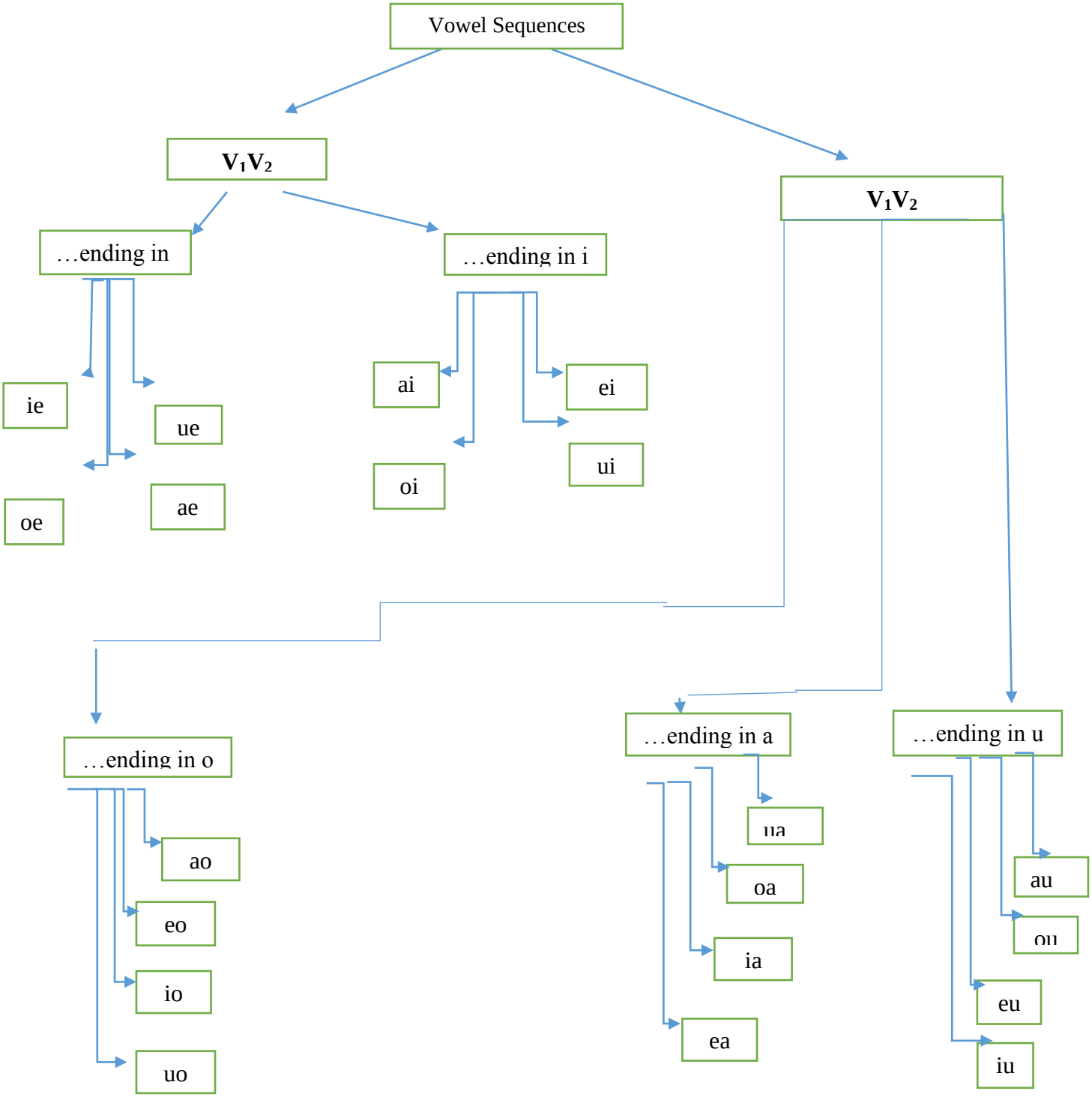

Figure 2: Ilchamus V1V2 Vowel Sequence

As mentioned earlier, the Ilchamus V_1V_2 vowel sequence can appear in different realizations depending with the many the type of vowels that come together. These different forms can be as follow:

2.4.1 V_1 V_2 Vowels sequence Ending in /e/ and /i/

a) Ending in /-e/

V_1 V_2	**Gloss**
/ae/ /ntae/, /ŋae/, /mbae/	you, who, issue
/ie/ /sulie/, /nkulie/, /seyie/	fight for, others, touch
/ue/ /nkuenia/, /ruet/, /akuet/	laughter, bed, to run
/ɔe/ /lkidoŋoe/, /lmoeki/,	tail, calf,

Table 3 V_1 V_2 Vowels Ending in /-e/

b) Ending in /-i/

V_1 V_2	**Gloss**
/ei/ /terei/, /kemei/, /keʧei/	go after, inflict pain, learn
/ai/ /ntai/, /nkai/, /mbai/	remove, God, hate
/ɔi/ /ntaboi/, /luboi/, /iʧoi/	taboo, greed, lineage
/ui/ /nkiʧui/, /aŋui/, /asuisui/	life, odour smell, inflict pain

Table 4 V_1 V_2 Ending in /-i/

2.4.2 V_1 V_2 Vowel Sequences Ending in /u/, /o/ and /a/

a) Ending in /-u/

V_1 V_2	**Gloss**
/eu/ /peneu/, /peʧeu/, /areu/	a bit, nothing, drive
/iu/ /ntiɲiu/, /mpiriu/, /mpidiu/	blow own nose, woke up suddenly, straighten
/ou/ /todou/, /wou/, /ouko/	come down, fetch, bath
/au/ /ltau/, /lkauk/, /aupa/	heart, vulture, bend

Table 5 V_1 V_2 Ending in /-u/

b) Ending in /-o/

V_1 V_2	Gloss
/eo/ /keor/, /meoŋ/, /keodo/	will sweep, not clear, long/lengthy
/io/ /jio/, /nkiok/, /bioto/	us, ear, healthy
/ao/ /ntao/, /kaok/, /aoʧ/	ripen, drink(v), cane(v)
/uo/ /nkawuo/, /awuon/, /aiwuot/	bow, to sit, trek

Table 6 V_1 V_2 Vowels Ending in /-o/

c) Ending in /-a/

V_1 V_2	Gloss
/ea/ /^{n}tae/, /ŋae/, /^{m}bae/	you, who, issue
/ia/ /tiaki/, /siapa/, /inia/	tell, cover(v), that one
/oa/ /oata/, /loaku/, /loaŋu/	has, to be, who waits
/ua/ /wuata/, /wuara/, /wuapa/	heart, vulture, bend

Table 7 V_1 V_2 Vowels Ending in /-a/

2.5 The Ilchamus $V_1V_2V_3$ Vowel Sequences

It is worth noting that the Ilchamus language has five $V_1V_2V_3$ vowel sequences although they are not so commonly present in terms of usage. They include the following.

VOWEL	ILCHAMUS ORTHOGRAPHY	PHONETIC TRANSCRIPTION	GLOSS
ieu	keyieu	[key**ieu**]	3rd sing. pres. cont want
aei	aei	[aei]	wean
iei	teyiei	[teyiei]	3rd sing seek
iai	siai	[siɑi]	work
ɔiu	oiu	[ɔiu]	3rd sing. past bear

Table 8: Ilchamus $V_1V_2V_3$.

The vowels in the Ilchamus language vary in length. There are both short and long vowels that can occur congruently. The language permits either short vowels followed by another

short vowel or short vowel followed by long vowels. A typology could be $\mathbf{V_1V_1}$ and $\mathbf{V_1V_2}$ where short vowels are preceded by another short vowel and a short vowel by a long vowel as well.

2.6 Summary

In this chapter this research began with basic introduction and slowly build up to the exploration of the Ilchamus vowels. There exist both long and short vowels in this language of study. This study also contrasted the two appearances of both long and short vowels using a minimal pair test. Through this examination this work laboured to show clear differentiation on these vowels using the minimal pairs. We also noted that there were cases where the differentiating factor among a minimal pair of segments was tone. The boundaries of this research however did not allow the discussion of autosegmental features and thus this area was not delved into. Through a dense data and sufficient example the research has developed the Ilchamus vowel inventory and have found that there are seven cardinal vowels and are as follows: /a/, /o/, /ɔ/, /e/, /ɛ/, /i/ and /ɪ/. These vowels have their long counterparts which include /a:/, /o:/, /ɔ:/, /e:/, /ɛ:/, /i:/ and /ɪ:/. This paper also discussed the monophthongs and V_1V_2 vowel sequences as a section on its own. Ilchamus was found to have many V_1V_2 perhaps due to her verbal art. There were twenty-four V_1V_2 and were each classified according to the manner in which they end. As shown above these vowel sequences can either end in /e/, /i/, /ɔ/, /ʊ/, /a/ or /u/. Ilchamus also has five $V_1V_2V_3$. These vowels differ in quantity and quality.

The other most important aspect that this chapter dealt was that Ilchamus vowels can either be short or high as already highlighted. The sequence therein can either be in $\mathbf{V_1\ V_1}$. This $\mathbf{V_1V_1}$ distribution was seen as a case where two high vowels occur in the same position or followed each in a segment. This concept was duly discusses and exemplified in Section 2.6. On the other hand this research found out that there can be a case where a high vowel is preceded by a low vowel and this scenario was described as $\mathbf{V_1\ V_2}$ format. Much of this was explored as dipthongization. Lastly, this research mapped all the vowels onto a distinctive feature matrix so as to examine the qualities of each vowel sound in the language of study.

CHAPTER THREE

THE ILCHAMUS CONSONANTS

3.1 INTRODUCTION

In articulatory phonetics, a **consonant** is a speech sound that is articulated with complete or partial closure of the vocal tract or air stream by a constriction of the speech organs. The following constitutes an inventory of the Ilchamus consonants. These consonants can occur word initially, word medially and word finally.

3.2 Plosives on a Minimal Pair Test

Plosives are consonant sounds that are produced when there is a complete stoppage of airflow within the vocal tract. These stops can be either voiceless or voiced. A minimal pair is a pair of words that differ in a single phoneme. Minimal pairs are often used to show that two sounds contrast in a language. For example, we can demonstrate that [p] and [b] contrast in English by adducing minimal pairs such as *pee* and *bee*, or *pill* and *bill*. Since the only difference in these words is the [p] versus [z], we conclude that they belong to distinct phonemes.

In the Ilchamus language therefore, these consonants can be displayed on a minimal pair test as shown below.

Example 20

/p/	**gloss**	**/b/**	**gloss**
/a**p**ik/	to put	/a**b**ik/	delay
/ai**p**ok/	paint	/ai**b**ok/	hold
/aru**p**/	decorate	/aru**b**/	join

This example displays bilabial plosives on a minimal pair test. This helps with marking the differentiating factor in every sound segment.

Example 21

/t/	**gloss**	**/d/**	**gloss**
/au**t**/	point	/au**d**/	bore
/ai**t**ik/	trail	/ai**d**ik/	ache
/**t**ama/	eat	/**d**ama/	day

These examples displays the velar plosives that are found in Ilchamus and how they occur when mapped on a minimal pair test.

Example 22

The data below shows Ilchamus velar plosives on a minimal pair test. The sound segments are contrasted by a single unit of sound and thus clear differentiation.

/k/	**gloss**	**/g/**	**gloss**
/ai**k**/	store	/ai**g**/	scourge
/ru**k**/	whirl wind	/ru**g**/	hump
/a**k**ir/	scratch	/a**g**ir/	repeatedly

From the above it can generally be observed that the Ilchamus language has six stops. It is good to note further that these consonants occurs word initially, word medially and word finally as displayed above. The Ilchamus consonants also bear voiceless /p/, /t/, /k/ plosives as is the case with the English language.

3.2.1 Consonants Distribution

Voiceless Plosives also occurs word initially as shown below:

Example 23

	/p/	**gloss**
a)	/**p**o:ki/	all
	/**p**ae/	indeed

b) **/t/** **gloss**

/**t**ama/ eat

/**t**ere/ reach

c) **/k/** **gloss**

/**k**eılıo/ visible

/**k**eme/ painful

The articulation of these sounds is more of aspirated as compared to those that occur word medially or word finally.

The voiceless plosives occurring intervocalically include the following:

Example 24

a) **/p/** **gloss**

/sa**p**are/ lie

/teı**p**a/ evening

b) **/t/** **gloss**

/la**t**a/ oil/fat

/ba**t**a/ aside

c) **/k/** **gloss**

/tia**k**i/ tell

/n**k**ena/ count

Plosives too can occur word-finally as shown below:

Example 25

a)	**/p/**	**gloss**
	/ana**p**/	carry
	/ara**p**/	plant
b)	**/t/**	**gloss**
	/aʧe**t**/	construct
	/aje**t**/	pull
c)	**/k/**	**gloss**
	/anunu**k**/	fold
	/aiju**k**/	fan air/swing

3.3 Ilchamus Nasals

Nasal stops are sounds produced when the velum is lowered to allow air to freely escape through the nasal or oral cavity. The Ilchamus vowels are as follows:

CONSONANT	ILCHAMUS ORTHOGRAPHY	PHONETIC TRANSCRIPTION	GLOSS
m	muny mowuo ainyam	[muɲ] [mɔwʊɔ] [aiɲam]	rhino horn to destroy
n	noto aing'un anak	[nɔtɔ] [aiŋʊn] [anak]	meet to glide to suck
ɲ	nyamu nyoo aony	[ɲamu] [ɲɔ:] [aɔɲ]	stolen meat what to bite
ŋ	eiting'o ng'amata anang'aa	[eitiŋɔ] [ŋamata] [anaŋa:]	over relation throw

Table 9: Ilchamus Nasals

From the table above, it is clear that Ilchamus has a total number of four nasals. These are **/m/, /n/, /ŋ/** and **/ɲ/**

3.4 The Ilchamus Fricatives

Fricatives are sounds produced by letting air out through a narrow channel made by placing two articulators close to each other. The following is an inventory of the Ilchamus fricatives as they occur in the language. It is worth noting that Ilchamus language has only one fricative sound **/s/**.

Example 26

/s/	**gloss**
/**s**apa/	seven
/**s**a**s**/	lean
/a**s**uj/	to follow/arrange
/**s**i**s**a/	praise
/**s**otua/	relative

From the data above, Ilchamus voiceless alveolar fricative can occur word final, word medial and word initial positions.

3.5 Affricates

Affricates are consonantal sound produced when there is some degree of turbulence (and hence friction) at the release of the stop. Affricates usually display such a short duration that it counts as part of the release burst of the stop itself. The Ilchamus affricates are**/ʧ/** and **/ʤ/** and appear as illustrated below on a minimal pair test.

Example 27

/ʧ/	**gloss**	**/ʤ/**	**gloss**
/ɑ**ʧ**ur/	to shield	/a**ʤ**ur/	ascertain
/ɑ**ʧ**ut/	jump	/a**ʤ**ut/	wipe
/ɑ**ʧ**ar/	belching/burping	/a**ʤ**ar/	expand

The Ilchamus affricates as noted above occurs only word medially and word finally. It is worth noting that affricates can be veralized and nasalized depending on the place and

manner of articulation. The aspect of nasalization has been enumerated in ***section 3.4*** above while velarization of the Ilchamus affricates will be explored in ***section 3.8***.

Further illustrations for the occurrence of these affricates are as follows:

Affricates occurring word medially:

Example 28 a)

/ʧ/	**gloss**
/aʧɔr/	massage
/aʧɔd/	sparse
/aiʧɔp/	wear

/ʤ/	**gloss**
/aʤɪ/	sieve
/aʤi/	where
/aʤɛp/	hold closely

Affricates occurring word finally:

Example 28 b)

/ʧ/	**gloss**
/airaʧ/	caught unaware
/arɪʧ/	hard/small in size
/areʧ/	lay ambush

/ʤ/	**gloss**
/aiʤ/	bask

/midʒ/ all

/amedʒ/ to lick

3.6 The Ilchamus Liquids

Liquids in phonology are consonant sounds in which the tongue produces a partial closure in the oral cavity resulting in a resonant, vowel-like consonant. Liquids can be syllabic or non-syllabic. Below is an illustration of the Ilchamus liquids

CONSONANT	**ILCHAMUS ORTHOGRAPHY**	**PHONETIC TRANSCRIPTION**	**GLOSS**
r	rachie parkiji nkiri	[raʧie] [parkɪdʒi] [nkiri]	proverb day time meat
l	lapa ael lutoro	[lapa] [ael] [lutɔrɔ]	Moon to smear Omen

Table 10 Ilchamus liquids

The table above illustrates the liquids found in the language of study. It is observable that Ilchamus liquids can occur at word initial, word medial and word final position.

3.6.1 The Geminate Consonants

The term geminate in phonology normally refers to a long or doubled consonant that contrasts phonemically with its shorter counterpart commonly referred to as singleton. The Ilchamus language has this very important feature in its consonant inventory. The language possesses the germinate consonants in that the articulation of some sound segment seem more prominent than others thus displaying the difference. The following illustration explains further:

Example 28

/rr/	**gloss**	**/r/**	**gloss**
/**rr**uet/	bed	/**r**uet/	fencing stick
/nke**rr**a/	sheep (pl)	/nkera/	children
/ɔ**rr**ɔ/	dual	/ɔrɔ/	separation

The geminates as exemplified above occurs either word initial or word medial.

3.7 The Ilchamus Glides

Glides are considered as semivowels. They are similar to vowel sounds but function as the syllable boundary rather than a nucleus of a boundary. Glides are produced with a narrow constriction in the vocal tract. They are shorter than vowels and are non-syllabic. The Ilchamus glides are illustrated below.

CONSONANT	**ILCHAMUS ORTHOGRAPHY**	**PHONETIC TRANSCRIPTION**	**GLOSS**
w	wuanata keirewua entewueni	[wʊɑnɑtɑ] [keirewʊa] [entewʊeni]	sitting it is hot sit
j	keyieu yarunot yieuna	[kejieu] [jɑrunɔt] [jieunɑ]	he/she wants captive will

Table 11: The Ilchamus Glides

As can be deduced from the table above, Ilchamus glides are two and can occur both word final and word medial positions.

3.8 The Ilchamus Velarized Consonants

Velarization is a secondary articulation of consonants by which the back of the tongue is raised towards the velum during articulation of the consonant.

CONSONANT	**ILCHAMUS ORTHOGRAPHY**	**PHONETIC TRANSCRIPTION**	**GLOSS**
lp	lpang'a lporoto lponoto	[lpɑŋa] [lpɔrɔtɔ] [lpɔnɔtɔ]	ostrich (male) bare land earmark
lb	lbukoi lbarnoti lbae	[lboroi] [lbarnɔti] [lbae]	Mould youth wound
lk	lkuti lkumok	[lkuti] [lkumɔk]	a few many

	lkuruk	[lkuruk]	crow
lg	lgori lgosoi lgiita	[lgɔri] [lgɔsɔi] [lgi:ta]	honey burger rope strand
lm	lmeita lmang'antita lmoti lmacheri	[lmeita] [lmaŋantita] [lmɔti] [lmaʧeri]	plagues enemy pot tick
lŋ	lng'anayioi lng'arsie lng'ach	[lŋanajiɔi] [lŋarsie] [lŋaʧ]	fruit gaps doubt
lʧ	lchekut lchoni lchore	[lʧekut] [lʧɔni] [lʧɔre]	herder skin friend

Tables 12: The Velarized Consonants

As noted from the table above, velarization occurs in Ilchamus when the lateral **/l/** is followed by a consonant sound segment thus changing its quality. This process is common in the Ilchamus language as was also seen that it could be used as a marker for the masculine gender. In other cases however the lateral **/l/** is used in borrowed terms although borrowing is slightly beyond the scope of this work of research.

3.9 Nasalised consonants

Nasalization can be described as 'inherent' when speakers do not exert strong control over the raising of the velum, allowing nasalization to become 'unintended' characteristic of all their vowels, even when not adjacent to nasal consonants. The Ilchamus consonants are then nasalized when either plosives or affricates are preceded by nasals. This can be illustrated as follows:

CONSONANT	ILCHAMUS ORTHOGRAPHY	PHONETIC TRANSCRIPTION	GLOSS
mp	mpara mpoto mpira	[mpara] [mpɔtɔ] [mpira]	ask call make bore
mb	mboo mbene mbuluna	/mbɔ:/ [mbene] [mbuluna]	flock leaves growth
nt	enteret ntuko ntacho	[enteret] [ntukɔ] [ntaʧɔ]	3rd pl. help wash stand
nd	ndurra nderret ndimie	[ndura] [nderet] [ndimie]	migrate joke enable
ng	ngara ngutai ngero	[ŋgara] [ngutai] [ŋgerɔ]	to shield move away write
nʧ	nchira nchopo ncharu	[nʧɪra] [nʧɔpɔ] [nʧaru]	cry put on to demand
ŋg	ninko ninkar ninkod	[niŋgɔ] [niŋgar] [niŋgɔd]	how/what to do clear decorate
nj	njoto njan njurro	[nɟɔto] [nɟan] [nɟurɔ]	saying swelling familiarity

Table13: Nasalised Consonants.

From the above, this work found out that Ilchamus has eight prenasalized consonants. Prenasalization can only occur word initially where consonants are preceded by a nasal sounds.

3.10 The Ilchamus consonants cluster

A cluster can be understood to be a group of segments occurring together. It is therefore worth noting that Ilchamus consonants can occur in such clusters. This is common in the day to day speech of the Ilchamus speakers.

As observed from ***Table14: Nasalised consonants*** and ***Table 13: The Velarized Consonants*** above, consonants in Ilchamus language occur in clusters of either two or more consonants. This occurrence of consonants in a clustered manner can be mapped on to a distinctive feature matrix to explain them further and better so as to expound the statuses of each of these consonants.

From the above tables therefore, the Ilchamus consonants can occur in a cluster and the features involved are as follows:

	p	b	t	d	k	ɡ	m	n	ɲ	ŋ
Cons	+	+	+	+	+	+	+	+	+	+
Syll	-	-	-	-	-	-	-	-	-	-
Ant	+	+	+	+	-	-	-	+	+	-
Cor	-	-	+	+	-	-	-	+	+	-
Nas	-	-	-	-	-	-	+	+	+	+
Voi	-	+	-	+	-	+	+	+	+	+
Cont	-	-	-	-	-	-	-	-	-	-
Back	-	-	-	-	+	+	-	-	-	+
High	-	-	-	-	+	+	-	-	+	+
Son	-	-	-	-	-	-	+	+	+	+
Str	-	-	-	-	-	-	-	-	-	-
Lat	-	-	-	-	-	-	-	-	-	-

Cont…

	r	s	w	l	j	mp	mb	nt	nd	ŋg
Cons	+	+	+	+	+	+	+	+	+	+
Syll	-	-	-	-	-	-	-	-	-	-
Ant	+	+	-	-	-	+	+	+	+	-
Cor	+	+	-	+	+	-	-	-	-	-
Nas	-	-	-	-	-	+	+	+	+	+
Vce	+	-	+	+	+	-	+	-	+	+
Cont	+	+	+	+	+	-	-	-	-	-
Back	-	-	+	-	-	-	-	-	-	+
High	-	-	-	-	-	-	-	-	-	-
Son	+	-	+	+	+	-	-	-	-	-
Str	-	+	-	-	-	-	-	-	-	-
Lat	-	-	-	+	-	-	-	-	-	-

Cont…

	ʧ	ʤ	nʧ	nʤ	ŋk	nJ	lp	lb	lk	lg
Cons	+	+	+	+	+	+	+	+	+	+
Syll	-	-	-	-	-	-	-	-	-	-
Ant	-	-	-	-	-	-	+	+	+	+
Cor	+	+	+	+	-	-	-	-	-	-
Nas	-	-	+	+	+	+	-	-	-	-
Voi	-	+	-	+	-	+	-	+	-	+
Cont	-	-	-	-	-	-	-	-	-	-
Back	-	-	-	-	+	-	-	-	+	+
High	+	+	+	+	+	+	-	-	+	+
Son	-	-	-	-	-	-	-	-	-	-
Str	+	+	+	+	-	-	-	-	-	-
Lat	-	-	-	-	-	-	+	+	+	+

Cont…

	lm	lʧ	lw
Cons	+	+	+
Syll	-	-	-
Ant	+	-	-
Cor	-	+	+
Nas	+	-	+
Voi	+	-	-
Cont	-	-	-
Back	-	-	+
High	-	+	-
Son	+	-	+
Str	-	+	-
Lat	+	+	+

Table 14: The Distinctive Feature Matrix of the Ilchamus Consonants

3.11 Summary

This chapter began with an introduction on the definition of a consonant and gradually developed into full discussion of the various consonantal sounds that are found in the Ilchamus language. The examples were described using a minimal pair test to really show the differentiating factors in each sound segment where applicable. This paper elaborated on Ilchamus stops and revealed that there are seven plosives and they include: /p/, /b/, /t/, /d/, /k/, /g/, and /ɟ/. This work illustrated the various positions with which these plosives occurred which constituted word initial, word medial and word final positions and were laced with sufficient examples to elaborate them. The paper also discussed the Ilchamus nasals beginning with how they are produced to the various positions of occurrence in the day-to-day speaking of the Ilchamus language. The nasals discovered in this chapter were: /m/, /n/, /ɲ/, and /ŋ/. The also extended to cover prenasalization of non-nasal consonants in Ilchamus language. The paper unravelled that non-nasal sounds when they occur after a nasal consonant takes on a nasal feature, this affects the sound directly in terms of its place of articulation as illustrated in the examples provided on Section 3.9 above. These prenasalized sounds were found to be /mp/, /mb/, /nt/, /nd/, /ŋg/, and /nɟ/. The chapter too developed to discuss the fricatives that exist in the language of study. It was discovered that unlike other Maa dialects that is Samburu and Maasai that had post alveolar fricatives /ʃ/, Ilchamus had only one fricatives sound in their phonology which is the voiceless alveolar fricative /s/. The different positions of occurrence of this sound were elaborated. Ilchamus affricate was the other class of consonants that this paper explored. The affricate sounds discovered include /ʧ/ and /ʤ/ these sounds were exemplified as illustrated in Section 3.5 above.

This paper also explored the Ilchamus glides which include /w/ and /j/ and sufficient examples were used to illustrate their existence and positions of occurrence in the Ilchamus phonology. The liquids /l/, /r/ were extensively discussed and fully exemplified together with their various positions of occurrence in Ilchamus phonology. A more significant concept in Ilchamus consonants was the unravelling of the existence of geminates consonants. This work established that there was a distinction between a light and a dark /r/ sound. There seem to be a more prominence in alveolar trill that brought differences in some sound segments when contrasted with a less prominent alveolar trill as discussed in Section 3.6.1. The geminate was expressed as /rr/. This chapter finally discussed velarized consonants in the language of study. Velarized sound segments were found to be the non-

velar consonants sounds when a velar occurs before them and the resultant consonant takes on a velar feature, this affects the sound directly in terms of its place of articulation. The chapter found out that there exists /lp/, /lb/, /lt/, /ld/, /lk/, /lg/, /lm/, /ln/, /lŋ/, and /lʧ/ in the Ilchamus velarized consonants. It is key to mark that these consonants can appear in pairs this means it can either have both voiced and the voiceless counterpart or one form of consonants in a particular word or syllable. Lastly, this chapter successfully developed the Ilchamus consonant inventory and these consonants were mapped onto the Ilchamus Distinctive Feature Matrix to describe the various qualities of each sound.

CHAPTER FOUR

PHONOLOGICAL PROCESSES

4.1 INTRODUCTION

This chapter looks into the various phonological processes that are involved in the Ilchamus language. It is noteworthy that in both generative and natural phonology, phonological representations and alternations have been described in terms of categorical feature values. Linguists such as Roman Jakobson, Chomsky and Halle have contributed much to this field. According to Stampe (1979) a phonological process is often a mental theorization that applies to speech to substitute for a class of sounds or sound sequences representing specific common difficulties to speech capacity of a particular people. It is noteworthy that the various phonological processes that this work of research has discussed in this chapter touch not only on the phonology of the Ilchamus language but other levels of language analysis like morphology for example. The discussion that follows relates to the processes involving both the consonants and vowels of the language of study. We will as well using the distinctive features matrix generate the phonological rules involved where applicable so as to account for these processes.

4.2 The Phonological Processes Involving Vowels

In phonology there are specifics that characterise the analysis of vowels. This entails the tongue's position that attributes to the properties that are associated with the height, backness, lip rounding and tenseness to express features for each vowel. From the analysis, this research observed the following phonological processes, namely vowel deletion, vowel lengthening and vowel harmony that affect Ilchamus vowels.

4.2.1 Vowel Deletion

Deletion phonologically can be understood to be a process where a sound segment or segments are deleted or lost and yet the remaining part of the word or segment will still make sense. Deletion do not apply to vowels only but also on consonants and syllables. The segment near the stressed vowel is usually the one deleted. Examples in Ilchamus language to illustrate this are as follows:

Example 30

Word		**Realization**	**Gloss**
/nkaina + ai/	→	[nkainai]	‘my hand’
/nkina+ai/	→	[nkinai]	‘my breast’
/mala +ai/	→	[malai]	‘my gourd’
/niapu + ai/	→	[niapai]	‘reach them’
/raʧu + ai/	→	[raʧai]	‘get them’
/ta:pu + ai/	→	[ta:pai]	‘support them’

From the above illustration, this research notes that the last vowel that is attached to the consonant is deleted through a rapid speech and the segment **/-ai/** is added to the remaining segment to form the new sound segment. This research found out that **/-ai/** can appear as a possessive marker ‘my’ and in some cases as a pronoun marker ‘them’. It is also evident that there exists a morpheme boundary on the resultant word. For instance this will appear as follows:

[nkain - ai] ‘my hand’

[mal - ai] ‘my gourd’

Therefore, it is clear that when **/-ai/** syllable is added to a consonant ending with a vowel then the deletion process occur. A rule to account for this phonological process can then be generated and it will occur as follows:

Rule 1

$$\begin{bmatrix} V \end{bmatrix} \rightarrow \emptyset \,/\, \underline{\quad} \begin{bmatrix} V \\ +\text{syllable} \end{bmatrix}$$

This rule states that a vowel is deleted when it precedes another vowel.

4.2.2 Vowel Assimilation

Assimilation entails that one of the sounds becomes more like the other one occurring in the same linguistic environment or utterance. It can also be taken to represent the absorption of a feature from an adjacent segment. In English language for example there can be both anticipatory assimilation commonly referred to as regressive where a sound segment assimilate to the following sound and progressive assimilation where a sound assimilates to the preceding sound. Vowel assimilation in Ilchamus language is prevalent and can be seen in the following examples:

Example 31

Word	**Realization**	**Gloss**
/tiaki/ →	/ta:ki/	'tell him/her'
/teadʒɪ/ →	/ta:dʒɪ/	'where'
/taeku/ →	/te:ku/	'come early'
/kiata/ →	/ki:ta/	we have'
/tesieku/→	/teseku/	'come quickly'

From the above examples, the sound segments typically assimilate to a following sound. The second sound segment in vowels in all the words are assimilated to the initial segment that forms the vowel stem of the word of the realized resultant. It is worth noting that the meaning of the word does not change in both states. A close study to these examples can reveal that in some cases the first vowel sound is deleted while the preceding one is lengthened and on the other examples the first vowel is lengthened whereas the second vowel is deleted. Therefore we can make assumptions that in Ilchamus language a phonological process assimilation occurs when two vowels follow one another and the manifestation can either deletion ten followed by lengthening or lengthening then followed by deletion. From the analysis the trigger to assimilation was not clear. This was so because at some instance the environment of the low vowels influence other vowels and thus low vowels assimilate those high vowels. In some other instance the high vowels are the ones assimilating the other vowels. The last example in the set of examples from the above data acts as a rule of exception. Assimilation can be noted but then the high front

vowel **/i/** in **/tesieku/→/teseku/** is deleted during an assimilatory process. In Ilchamus therefore assimilation occurs when there is deletion of some vowels and lengthening in other instances. It is therefore not so clear to generate a rule to account for assimilation due to the occurrence of both deletion and lengthening within assimilation.

It is worth noting that this study adopted NGP as its theory for analysis and whether it is in agreement with some basic principles of NGP. All rules are obligatory and not extrinsically ordered thus assimilation is well within NGP.

4.2.3 Vowel Lengthening

The length we take to pronounce vowels differ from one to another, therefore vowel length can be understood to be the phonological feature detailing the differences between durations of sounds in a given segment. The segment in question can either long or short. As enumerated in sections 2.2, 2.3 and 2.4 the Ilchamus vowel lengthening can be seen as follows:

Example 32 a)

Word	**Realization**	**Gloss**
/teʧeta+ki/	[teʧecheta:ki]	‘make for me’
/timira+ki/	[timira:ki]	‘chase for me’
/tejiaŋa+ki/	[tejiaŋa:ki]	‘skin for me’
/tuʧuta+ki/	[tuʧuta:ki]	‘jump for me’
/topona+ki/	[topona:ki]	‘add for me
/tigila+ki/	[tigila:ki]	‘brake for me’

The following set of example are necessary to bring out the required differences so as to illuminate vowel lengthening in the language of study.

Example 32 b)

Word	**Realization**	**Gloss**
/teʧeta/	[teʧechetu]	‘make it’
/timira/	[timiru]	‘chase it’
/tejiaŋa/	[tejiaŋu]	‘skin it
/tuʧuta/	[tuʧutu]	‘jump it’
/topona/	[toponu]	‘add it’
/tigilu/	[tigilu]	‘brake it’

In Ilchamus, vowel lengthening occurs mostly before the suffix **/-ki/** when it appears in the word final position. From the two set of examples above, this research found out that the syllable **/-ki/** is realized as a marker for a preposition ‘for’ whereas the vowel /-a/ is a marker for subjective pronoun ‘me’ and /-u/ is a marker for pronoun ‘it’. It is evident from the data that vowel lengthening does not occur in Example 32 b). This data, however similar to the corresponding data, there is no lengthening since the trigger is on the suffix **/–ki/.** This suffix triggers the lengthening of the preceding vowel. It is noteworthy that the occasioned change is not a morphological process since the trigger is the presence of the vowel. The morphological boundary however exists as demonstrated below:

[mpara:- + -ki] *‘ask me’*

[timira:- + -ki] *‘chase me’*

The rule to account for this process of lengthening can be realized as follows:

Rule 2

$$V \rightarrow [+length] \; / \; \rightarrow C$$

4.2.4 Vowel Harmony

Vowel harmony is an assimilatory process through which all vowels in a morpheme or word agree on a specific feature. According to Goldsmith (1990), vowel harmony is a system where all vowels of a language are divided into two subsets with a condition that all vowels in a given word must come from a single subset. In this case therefore vowel harmony entails that the phonological properties of vowels in a given word or domain ought to have a similar features. The common features in focus involving these vowels are like tongue roundness, backness, frontness and advance tongue root. Vowels of a given language with these features harmonise. It is noteworthy that vowels with opposite values cannot occur together with those that have same values for example the advance tongue root feature where all vowels with advance tongue root occur together.

The feature [ATR] is described as a phenomenon in which all the vowels in a given domain must agree or harmonise for their value of [ATR]. In any given language the vowels therein are divided into either [+ATR] or [-ATR]. We observed that in Ilchamus in most cases the [+ATR] vowels are dominant and cause the [-ATR] vowels in the same word to become [+ATR]. The [-ATR] rarely changes the [+ATR] vowels to adopt its features. All vowels except /a/ undergo the vowel harmony process, that is, /ɪ/ changes to /i/, /ɛ/ changes to /e/, /ɔ/ changes to /o/ and /ʊ/ changes to /u/. A rule to account for this is as follows: Open vowel changes to close vowel in the environment of a syllable that contains the feature [+ATR]

The examples of vowel harmony in Ilchamus language are as follows:

Example 33

[+ATR]	**[+ATR]**	**GLOSS**
/kɛŋakɪ + ni/	[keŋakini]	‘he/she will be taught’
/kɛlɪkɪ + ni/	[kelikini]	‘he/she will be told’
/kɛrɛkɪ + ni/	[kerekini]	‘he/she will be found’
/kɛbakɪ +ni/	[kebakini]	‘he/she will be reached’
/kɛpalɪkɪ + ni/	[kepalikini]	‘he/she will be forgiven’
/kɛrɛtokɪ + ni/	[keretokini]	‘he/she will be assisted’

From the above examples above, we can further disintegrate the data at the morpheme boundary for a clear analysis. The data will be like as follows:

[ke-baki-ni] *'he/she will be reached'*

[ke-paliki-ni] *'he/she will be forgiven'*

[ke-retoki-ni] *'he/she will be assisted'*

From the description above it is evident that prefix **/-kɛ/** represent third person singular pronoun and also the expression of the verb in every segment is in the past tense. The suffix **/-ni/** stands for the expression of a perfective aspect. It is this suffix **/-ni/** which is a [+ATR] segment that brings about vowel harmony when it is attached to a [-ATR] segments and thereby harmonises all other vowels in the entire sound segment.

A rule to account for this process is expressed as follows:

Rule 3

$$\begin{bmatrix} +\text{syllabic} \\ -\text{low} \\ -\text{ATR} \end{bmatrix} \longrightarrow [+\text{ATR}] \; / \; \begin{bmatrix} +\text{syllabic} \\ +\text{ATR} \end{bmatrix} \; \text{C}$$

It is worth noting that the Ilchamus vowel harmony spread from the root to the affix and from affix to the root. An example to describe is seen when we observe the following:

[ke- + -liki- + -ni] *'he/she will be told'*

[ke- + -reki- + -ni] *'he/she will be found'*

Here, the medial segment is the root of the word and thus when affixed to the suffix **/-ni/** then the vowel harmony begins but now spread to the prefix.

4.3 The Phonological Processes Involving Consonants

In Ilchamus language, the phonological processes that occur on consonants are more or less the same as those that involve vowels. These processes include:

4.3.1 Consonant Deletion

Deletion entails the process where segments are lost. The sound segment at some instances are deleted especially in a continuous speech. This process can overlap and affect both vowels and consonants. The following illustration focus on deletion that affect consonants.

Example 34

Word	**segment deleted**	**realization**	**gloss**
/ne+ nkɔrioŋ/	**/ŋg/**	/neɔrioŋ/	‘for the back’
/namit + nejieu/	**/n/**	/amitejieu/	‘selfish’
/naŋu + ŋgoʧeke/	**/ŋg/**	/naŋuoʧeke/	‘bad lack’
/namelok + nai/	**/n/**	/namelokai/	‘my sweet one’
/ne + itodor/	**/t/**	/neitodo/	‘to make it red’

From the data above, it is evident that a consonant is deleted and the process is usually occasioned by speech overlap. Rapid speech is realized when there is a simultaneous speech on a day-to-day occurrence among speakers. A rule to account for consonant deletion in Ilchamus can be expressed as follows.

Rule 4

$$C \rightarrow \emptyset \; / \; \text{———} \#$$

4.3.2 Syllable Deletion

As discussed in Section 4.2.1 and Section 4.3.1 above deletion entails losing of a segment yet the meaning of a sound is not lost. This work has observed that Ilchamus has both consonant and vowel deletion as already discussed but there also exist syllable deletion. As noted earlier this process could be motivated when speech overlap occurs whereby the syllable is deleted in the rapid speech. The following is a data to exemplify syllable deletion in Ilchamus.

Example 35

Word	**deleted segment**	**Realized**	**gloss**
/entaitu/	/-tu/	[entai]	‘you remove’
/entaraputu/	/-tu/	[entarapu]	‘you collect’
/entupukutu	/-tu/	[entupuku]	‘you come out’
/entelekutu/	/-tu/	[enteleku]	‘you remain’
/entaraŋutu/	/-tu/	[entaraŋu]	‘you sing’

As observed from the data above, it can be noted that there is more than one sound syllable in the words displayed. There exists a morpheme boundary in each of the examples. An illustration could be in,

[en-tarapu-tu]

[en-teleku-tu]

where the prefis /en-/ represents is pronoun marker of the plural ‘you’. The other remaining segment of the sound constitute the root of the word and a suffix /-tu/ that comes at the word final position. It is further observable from the data that the syllable carried by the voiceless alveolar plosive **/-tu/** is deleted all through the examples and the root of a word remains. It is important to note that the meaning of the sounds are maintained after deletion. This process depicting the deletion of the alveolar plosive at the word final position can be written as:

Rule 5

$$[+\text{Syll}] \rightarrow \emptyset \,/\, \underline{\qquad} \#$$

4.3.3 Glide Formation

This is a phonological process that sees high front vowels realized as surface glides /j/, /w/ when they are followed by non-high vowels. As discussed in section 3.8, it is noteworthy to mention that glides are vowel-like consonants for they bear properties of vowels. The following are Ilchamus examples of glides.

Example 36

Word	**Gloss**
/nkiwuaŋata/	‘lightning’
/ajiet/	‘to pull/stretch’
/ajier/	‘to cook’
/awuar/	‘to scratch’

The above examples show the existence of glides in the Ilchamus language. The display is integral as it forms the background for analysis of the following section.

4.3.3.1 Palatal Glide

A close scrutiny into the Ilchamus language data this paper noted that palatal glides occur in some cases. To illustrate this we looked into the following.

Example 37 a)

Word	**Realization**	**Gloss**
[kiok] →	[kijok]	‘we will go early in the monrning’
[kiaŋu]→	[kijaŋu]	‘we will wait’
[kiau:] →	[kijau:]	‘we will bring’
[kiem] →	[kijem]	‘we will marry

Further illustrations to clearly build up this process is by studying the singular forms of the above data which appears as displayed below.

Example 37 b)

Word	**Realization**	**Gloss**
[kaok] →	[kaok]	‘I will go early in the morning’
[ka:ŋu]→	[ka:ŋu]	‘I will wait’
[kajau:]→	[kajau:]	‘I will bring’
[kaem] →	[kaem]	‘I will marry

From the two pairs of examples above, it is observable that in **/ki-/** is a plural marker for the objective pronoun 'we' whereas **/ka-/** is singular marker for the objective pronoun 'I'. It is further observable that: **/ki- + -aɲu/** changes to **/kijaɲu/** whereas her counterpart does not change, **/ka:- + -ɲu/** remains as **/ka:ɲu/** in both positions/. The examples also show that the formation of a glide is at the morpheme boundary. When the high vowel **/i/** is affixed to the verbal root then the palatal glide is formed. This high vowel **/i/** changes to a glide when it is followed by a non-high vowel. In other instances, the formation of a palatal glide is not possible because the environment necessitating its formation is not there as seen the second set of examples. The high vowel may not necessarily be followed by a non-high vowel. It can therefore be safely concluded that in the first set of examples there exists an insertion of a glide. A rule to account for the above example can be written as:

Rule 6

$$\begin{bmatrix} \emptyset \end{bmatrix} \rightarrow \begin{bmatrix} +\text{Palatal} \end{bmatrix} \; / \; \underline{\quad} \; \begin{Bmatrix} V \\ +\text{HIGH} \\ +\text{BACK} \end{Bmatrix}$$

Therefore, a palatal glide is inserted when a high vowel is followed by a non-high vowel and the resultant is the formation of a glide.

4.3.4 Prenasalization of Stops

In Ilchamus as discussed before, we established that the nasal /m/ or /n/ are added to consonants to form new words in line with Ilchamus phonology. All of the voiced /b,g,d/ and voiceless /p,k,t/ stops are prenasalized in Ilchamus. Examples of prenasalized stops are as follows.

Example 38

Word	**Realization**	**Gloss**
/ai+par/	[mpara]	‘to ask’
/ai+put/	[mputa]	‘to fill’
/ai+bil/	[mbilo]	‘to unwound’
/ai+bok/	[mbo:]	‘to prevent’
/ai+tam/	[ntama]	‘to feed’
/ai+tar/	[ntara]	‘to insight’
/ai+daʧ/	[ndaʧa]	‘to step on’
/ai+doŋ/	[ndoŋo]	‘to beat’
/ai+gɛr/	[ŋgɛro]	‘to count’
/ai+gil/	[ŋgila]	‘to repeat’
/ai+gut/	[ŋguta]	‘to move’

From the examples above, a close observation of the data reveals that the syllable /-ai/ forms the preposition ‘to’. In Ilchamus language, these syllable is deleted and the consonant attaches itself to a nasal of its class and the resultant word is prenasalized. An illustration to describe this is seen in the following:

/ai+par/ → *[mpara]*

/ai+bil/ → *[mbilo]*

/ai+tar/ → *[ntara]*

/ai+daʧ/ → *[ndaʧa]*

/ai+gil/ → *[ŋgila]*

It is observable that when the syllable /-ai/ is deleted then a nasal sound is added to the root of the word to nasalize it and a vowel is added this new segment. It is further clear from the data that the bilabial nasal attaches itself to bilabial plosives, the alveolar nasal to alveolar plosives and the velar nasal to velar plosives. A rule to capture this scenario is as follows.

A consonant sound is changed into a nasal when a nasal sound is preceded by syllable. It was then hard to generate a rule since it is observable that changes are consistent but the motivation is not clear. The prefix /-ai/ is deleted when and the nasal is inserted. The trigger segment was not clear and more studies needed.

4.3.5 Palatalization

Palatalization involves raising the tip and blade of the tongue to a high front position close to the anterior part of the hard palate region. It is a phonological process that signifies a secondary consonant modification where in addition to primary constriction the air moves towards the palatal region and the consonant acquire the feature [y] or [i] in the subsequent environment of occurrence. In Ilchamus palatalization occurs especially when a consonant is followed by vowel [i].

Example 39 a)

Word	**Realization**	**Gloss**
/tisirie/	[tisir^{y}ie]	‘write with’
/sikarie/	[sikar^{y}ie]	‘adore with’
/mpirie/	[mpir^{y}ie]	‘side with’
/te:nie/	[te:n^{y}ie]	‘tie with’
/ta:sie/	[ta:s^{y}ie/	‘do with’
/tu:die/	[tu:d^{y}ie]	‘bore with’
/ti:kie/	[ti:k^{y}ie]	‘hang with’

Consider the following set of data.

Example 39 b)

Word	**Realization**	**Gloss**
/tisira/	[tisira]	‘write’
/sikara/	[sikara]	‘adore’
/mpira/	[mpira]	‘side’
/te:na/	[te:na]	‘tie’

/ta:sa/	[ta:sa]	‘do’
/tu:do/	[tu:do]	‘bore’
/ti:ka/	[ti:ka]	‘tie’

These pairs of examples discloses the process that is taking place in each set. The first set of examples shows the influence of the palatalization by combination of the high vowel that acts as a trigger for palatalization to occur. The second data has no high vowel at the end and thus no motivating factor. It is worth noting this process palatalization is attached to the consonant and not the vowel. It is the consonants that gets palatalized when a constriction occurs and air escapes through the palate.

From the above examples on palatalization, this work generates a rule to account for palatalization process in the Ilchamus language as follows:

$$C \rightarrow [+pal] \,/\, \underline{\qquad} \begin{pmatrix} +syll \\ +high \\ -back \end{pmatrix}$$

In Ilchamus language the process of palatalization is made possible when the high vowel [i] is followed by another vowel that is not [i].

4.3.6 Velarization

Velarization entails the moving of tongue body and root from their neutral vocal tract position. This helps in describing the high vowel [u]. Major linguistic works distinguishes a ‘dark l’ from a ‘clear l’ arguing that a ‘clear l’ is velarized to some extent. In Ilchamus language velarization occurs in the sense that the speakers tend to contrast between the ‘dark l’ and the ‘clear l’. There seem to be a more prominent /l/ than her less prominent counterpart. The more prominent /l/ is generally associated with more dental articulations of coronal consonants so that this ‘dark l’ tends to be dental or dentoalveolar while ‘clear l’ tends to be retracted to an alveolar position. This is usually observed when the /l/ sound is followed by a high vowel and a ‘dark l’ is realized. When the /l/ sound in Ilchamus is followed by a non-high vowel sound then a ‘clear l’ occurs. Ladefoged (1971) uses superscript vowels to distinguish between them (for example [l^{u}] versus l^{α}). Later a common practice followed here, is to place a tilde through the main symbol as a general

marker for either of the two complex articulations, for example [ɬ]. Below are velar sounds that are found in the language of study.

Example 40

Word		**Gloss**
/likae/	[likae]	‘another’
/lino/	[lino]	‘yours’
/lipoŋ/	[lipoŋ]	‘female’
/lata/	[ɬata]	‘oil/fat’
/latia/	[ɬatia]	‘neighbour’

Further, in Ilchamus language, this research observed that the /l/ sound can be added to other consonants in the language so as to velarize the entire word. In other cases the /l/ sound is used as masculine gender marker which is added as prefix into the language. The examples therefore to demonstrate velarization process in Ilchamus language is as follows:

Example 41

Word		**Gloss**
/l + deroni/	[lderoni]	‘rat’
/l + dikir/	[bent]	‘bent’
/l + kar/	[lkar]	‘earthly pleasure’
/l + kudud/	[lkudud]	‘muscle’
/l + masi/	[lmasi]	‘long hair’
/l + motɪ/	[lmotɪ]	‘pot’
/l + ʧenɪ/	[lʧenɪ]	‘medicine/tree’
/l + ʧonɪ/	[lʧonɪ]	‘hide’

It is observable that we have a morpheme boundary in the above data. A clear case is as follows:

[l- + -deroni]

[l- + -moti]

The use of the alveolar lateral approximant changes the entire consonants into velarized segments since the sounds followed by a velar consonant takes on a velar feature, this affects the stop or the nasal sound directly in terms of its place of articulation as in the examples above.

4.4 Summary

The main aim for this chapter was to present the phonological processes in the Ilchamus language. The processes have been identified, described and discussed together with a supportive backing of data. It is worth noting that all the possible major phonological processes involving both vowels and consonants that are found in the Ilchamus language using the distinctive features.

The chapter began with the vowels related phonological processes which include firstly vowel deletion. This research found out that deletion that concerns vowel is triggered by the rapid speech and in some cases to mitigate redundancy in speech and therefore a seemingly extra segment is done away with. It was evident that during the deletion process, the meaning of the segment left do not change. It is of paramount importance to note that the deletion process is well within the NGP theory of analysis as this work adopted it. Secondly, the research proceeded to discuss the process of vowel assimilation as observed in the language of study. Assimilation was illustrated as that process where a vowel is influenced by its environment of occurrence. The paper observed that a low vowel can influence other vowels and subsequently high vowels on the other hand can also influence the other vowel sounds in the syllable of occurrence. It is noteworthy to highlight that it was not easy to generate a rule to account for assimilation of vowels in the language since there occurred two processes, first deletion then followed by lengthening. Deletion process is well provided for within the theory of examination adopted by this research although lengthening is not covered in the theory. However, other theories like autosegmental phonology allows for deletion then followed by lengthening. Thirdly, vowel lengthening was the other process explored. Lengthening is a case where articulation of vowels have

different durations and thus revealing a classical process and in the language of study this paper noted that the syllable /-ki/ in Ilchamus triggers vowel lengthening process. Fourthly, this research discussed another important phonological process referred to as vowel harmony. Vowel harmony is an assimilatory process in which case all vowels in a morpheme or word agree on a specific feature. In Ilchamus language it was observed that vowel harmony was discussed in relation to the feature [+ATR] or {-ATR] was of significance. We found out that in Ilchamus language vowel harmony occurs usually when the [+ATR] changes the [-ATR] segments since they are the dominants in the language. All vowels undergo vowel harmony except the vowel /a/ as illustrated in Section 4.2.4.

This research also explored the phonological processes involving consonants. Under this section, the work described the process of consonant deletion. As highlighted above, deletion entails a process where segments are lost and meaning is not lost. This could be within a single word or in a combination of words. Consonant deletion in Ilchamus language occurs when speakers commune rapidly and at times segments are lost. A similar process after discussing both vowel deletion and consonant deletion is syllable deletion. The process of deletion has been defined earlier. On the syllable deletion, a combination of a consonant and vowel sound is lost without necessarily a loss in meaning of the left segment. This chapter also discussed the glide formation especially the palatal glide formation where it was found out to have been characterized by a high vowel when preceded by a non-high vowel. The research further discovered that a palatal glide is formed through a process of insertion. This process is triggered by the high vowel when preceded by a low vowel and the inserted glide attaches itself to the consonant. The chapter too discussed the process of prenasalization as a situation where non-nasal sound segments are prequalified as nasals due to the influence of the sound by attaching itself to a nasal sound. The environment of articulation for the entire sound changes and acquire the property of nasals. Palatalization is the other consonant related phonological process discussed in this chapter. As discussed in Section 4.3.6 above, palatalization is a case where the high front vowel [i] in an underlying representation will be palatalized in the surface representation of the word that it occurs. From the illustration, we observed that the palatal is inserted and thus attached to the consonant of occurrence. In Ilchamus palatalization occurs when the consonant is followed by a long vowel [i]. Lastly, the chapter discussed velarization as common phonological processes that occur in Ilchamus

consonants. As mentioned earlier, this process occurs when a non-velar sound is follows a velar sound thereby changing its place of articulation.

In summary therefore, these processes have been supported by enough data and a subsequent rule to account for each of the highlighted process. We observed the uniqueness of each process and how others cut across both vowel and consonant related levels of analysis like vowel, consonant and syllable deletion and vowel and consonant assimilation.

CHAPTER FIVE

SUMMARY AND CONCLUSIONS

5.1 Introduction

This chapter seeks to review the work of research in totality that is the findings of the research vis-à-vis the earlier set hypotheses. The goal of this research was to study the the sounds and phonological processes of the Ilchamus language. This section will then take a review of the findings that this work interacted with right from data collection to the analysis of data.

5.2 Summary and Findings

This work began with the preliminaries of the study in the first chapters. Chapter one dealt with the introduction to the study and stated clearly the objectives of the study together with research questions and hypotheses. The chapter further moves on to discuss the literature review in the area where the study found out that Ilchamus language has not been subjected to more studies and therefore still a grey area. The theoretical frame framework chosen touches on the natural generative phonology which aided us in the analysis of the language of study. This chapter too displayed a clear methodology within which data was gathered and later analysed.

Chapters 2 and 3 are where we generated both the vowel and consonant inventories information that was so vital in the preceding chapter. Ilchamus has a total number of fourteen vowels, twenty-four V_1V_2, five $V_1V_2V_3$ and thirty-two consonants. The vowel and consonant sequences have too been discussed. These vowels and consonants were mapped onto a distinctive feature matrix so as to deduce their occurrences together with the features that each of them carries. This research managed to unravel several sound segments and classify them according to their features. An illustration herein is where the long and short vowels were contrasted using a minimal pair test. A minimal pair test was seen as the most significant ways to study two similar sound segments as it paints a clear difference between two contrasting sound segments. The work also discussed the Ilchamus consonants at length. These consonants consists of: stops, nasals, fricatives, affricates, glides, velarized consonants, prenasalized consonants and the most unique of Ilchamus language the existence of geminates, that differentiates /r/ and /rr/ sound where at one instance one is more prominent than the other. Syllable and glides also formed part of this area of research.

In Chapter Four, the paper analysed the data by discussing extensively the phonological processes that involve both the vowels and the consonants. We saw that phonological processes are a mental operation that apply in speech to substitute for a class of sounds or sound sequences presenting a common difficulty to the capacity of the individual. Here we discussed the various possible phonological processes that involve both vowels and consonants. First we began with glide formation and extend to palatal glide. We saw that glides exist in the language of study but palatal glides are formed. We observed that a palatal glide is formed when the high vowel **/i/** is affixed to the verbal root then the palatal glide is formed. Illustrations and the subsequent rule to account this is found in section 4.3.3 and section 4.3.4. A supportive data was then given to illustrate the process.

This research then discussed deletion as a phonological process. Deletion can be realized on both vowels and consonants. This process is among those that cut across the two segments. As discussed in Section 4.2.1, Section 4.3.1 and Section 4.3.2, this work of research found out that deletion as a phonological process occurs when a non-high vowel is deleted when it precedes a vowel in a light or [-heavy] syllable. A rule to describe this is given together with enough data to support it. We also discussed vowel assimilation though we found that assimilation is among those processes that cut across the analysis of both the vowel and consonants.

Vowel lengthening is one other phonological process that this paper discussed. Through the analysis the work saw that vowel lengthening concerns about the duration within which a segment is produced. We established in section 4.2.3 that Ilchamus vowel lengthening occurs mostly before the suffix **/-ki/** when it appears in the word final posstion. This suffix triggers the lengthening of the preceding vowel. A rule to account for this is highlighted in the discussion under this section and an adequate data has been used. Vowel harmony touches on the advance and retracted tongue root positions. The research found that in any given language, the vowels therein will either be [+ATR] or [-ATR].

In sections 4.3.1, to Section 4.3.6, this work observed the phonological processes that touch on consonants. We began with the process of prenasalization which is common in Ilchamus language and can be experience from time to time. The research noted the when non-nasal sound segments precedes a nasal sound then its position of articulation is changed and thus acquiring the nasal qualities.

Palatalization is the other phonological process that this work discussed. It was observed that in Ilchamus palatalization occurs when a consonant is followed by vowel [i]. This is made possible when in addition to primary constriction the air moves towards the palatal region and the consonant under investigations acquire the feature [y] or [i] in the subsequent environment of occurrence. A phonological rule together with sufficient examples is given to prove the existence of the process. Last but not least we discussed velarization as the other phonological process that concerns the Ilchamus consonants. In velarization this research saw that the major discussion revolves around the two realization of voiced dental fricative sound, that is the 'dark l' and 'clear l'. In Ilchamus the same distinction is brought about when the /l/ sound is preceded by either a high or a low vowel. As highlighted in chapter four the /l/ becomes more dark when combined with high vowel sounds as opposed to when combined with non-high vowels. The work also established that at times the velarization is used in Ilchamus language as a masculine gender marker. A rule therefore was formulated to account for velarization.

5.3 Relating the Findings to Hypothesis

This work of research first hypothesis was that the Ilchamus vowel and consonant phonemes are not same as that of Maa and was unravelled that most of the vowels and consonant sound segments were similar except a case of the contrasting clear and dark lateral approximant, /l/. In Ilchamus we encountered both and clear dark /l/ sounds whereas in Maa language there exist only the clear /l/ sound. The other contrasting aspect was the absence of the voiceless post-alveolar fricative /ʃ/ in Ilchamus but present in Maa.

The second hypothesis was that the vowel changes that occur in the Ilchamus language are caused by other vowels was validated as there were sufficient processes highlighted like vowel assimilation to identify and illustration this.

The last hypothesis has also been validated in that consonant changes that occur in the Ilchamus language are caused by other consonants. This was evident through the phonological processes such as prenasalization.

5.4 Conclusion

In conclusion therefore this study employed the natural generative phonology to discuss the phonological processes in Ilchamus language. This work has achieved its objectives since it manage to generate both the vowel and consonant inventories for the Ilchamus language. So going forward there now exist the vowel and consonant inventories for

Ilchamus. It was noted that, Ilchamus language is a rich grey area that ought to be studied more so as to ascertain the various features and processes that touch on the language. We observed that the natural generative phonology adequately handles the analysis of the Ilchamus phonology. The research further found out that several phonological processes are found in Ilchamus language and there are phonological rules to account for this.

5.5 Recommendations

This work of research dealt on the phonology of Ilchamus language and was limited since it did not extend to autosegmental features. As noted previously, this language has received very little attention in the past. In consideration with the short span of time we had to piece together this work, this research strongly recommend the following points. That any future works of study carried in Ilchamus language to find out more on the tonal aspect of the language. During our study we noted a few cases on tone though our work did not touch on the autosgemnetal features aspect which was beyond our scope. This work also recommend that any works of study that regards the phonology of Ilchamus language to involve the borrowed words. Through data collection this research found out a few foreign words that have been modified to meet the verbal art of the language vocabulary. It is also our recommendations that in future analysis of this language, other theories be used as they bring about the diversification and different views of approach to the analysis of Ilchamus language. Such theories can include Autosegmental Phonology Theory and Source-Similarity Correspondence Model.

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APPENDIX

Map 1

The map above shows the geographical location of the Ilchamus speakers. They are found within the administrative boundaries of Marigat and Mukutani Divisions though some have settled in Mochongoi Division. They originally settled along the showers of Lake Baringo and are surrounded by the Tugen and Pokot of the larger Kalenjin family. There are also a few Turkana who are Nilotic speakers who border the community towards Marigat township, a cosmopolitan urban setup in the region.