

**A Comparative Analysis of Phonological and Morpho-syntactic Variations in Lungu,
Mambwe and Namwanga Languages in Zambia**

By

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ABSTRACT

The study compares the phonology, morphology, and syntax of Lungu, Mambwe, and Namwanga (LuMaNa) languages which are less documented, and very little is known about their grammar. The purpose is to account for their linguistic structure to outline their grammar and design their orthographies. The study is informed by descriptive and comparative Bantu phonological and morpho-syntactic theories. Data were collected using comparative, elicitation, and document analysis methods to account for grammatical variations in the three languages. The study shows that LuMaNa languages have more phonological similarities than variations in terms of vowel quality. Regarding consonants, LuMaNa languages have twenty (20) consonantal segments which display minimal variations in terms of form. The nominal structure of the three languages also shows more similarities than differences. The three languages use (augment) + prefix + stem nominal structure, have eighteen (18) noun classes, and derive new lexemes using related processes such as affixation and compounding. Similarly, the verbal structure of LuMaNa languages shows more relatedness and very minor lexical differences in the subject and tense marker positions. The study further shows that syntactic features of LuMaNa languages have more similarities with minor morphological variations in the word order of the noun phrase, verb phrase, and basic sentences. However, at the microvariation level, the study concludes that Lungu and Mambwe languages have more similarities than Namwanga although the three languages display similar internal phonological, morphological, and syntactic characteristics. Considering that the three languages have minor differences in terms of phonology, morphology, and syntax, the study comes up with a common and comprehensive grammar and orthographic design of LuMaNa which can be used by curriculum developers. Therefore, this study contributes to knowledge and scholarship relating to LuMaNa languages by providing morpho-phonological and syntactic features which are necessary for education and language planning and finds its place within descriptive comparative Bantu framing, documentary, and general comparative linguistics.

Keywords: *Comparative Bantu, descriptive, variation, grammar, orthography, Lungu, Mambwe, Namwanga, Zambia*

DECLARATION

I declare that the study, “A Comparative Analysis of Phonological and Morpho-syntactic Variations in Lungu, Mambwe and Namwanga Languages in Zambia” is my original work, that it has not been submitted for any degree or examination in any other university, and that all the sources I have used, cited or quoted have been indicated and acknowledged by complete references.

Full name: Pethias Siame

Signed:



Date: 07/11/2022

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DEDICATION

To my late father Kegwin Siame whose wish was for me to attain a higher education, my precious mother Megrith Nampungwe, my dearest wife Priscilla, my siblings, my dear children, great-grandchildren to be, and all my acquaintances. Thank you for your unwavering physical and spiritual support, patience, perseverance, and forbearance during my studies. This achievement is yours. May the unfailing God replenish your efforts!



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May the Good Lord Jesus Christ bless you all for making my academic journey memorable!

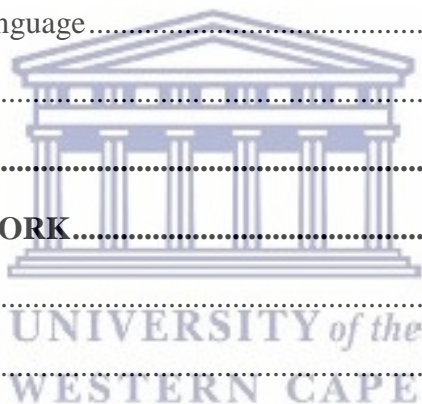
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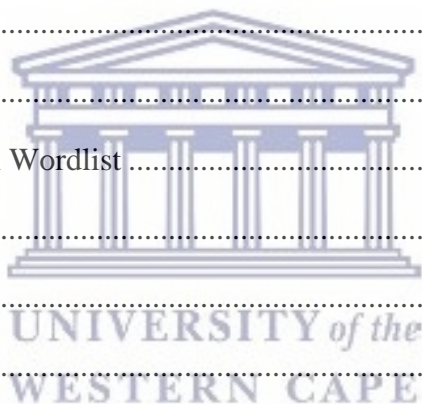
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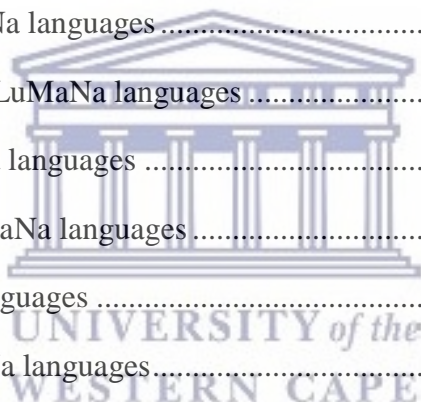
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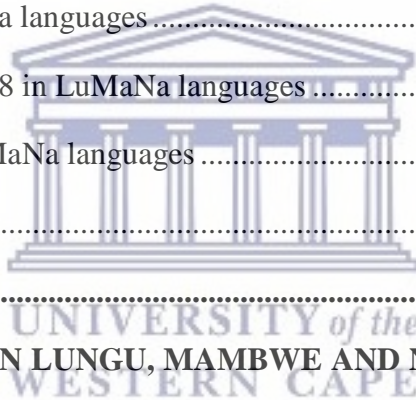
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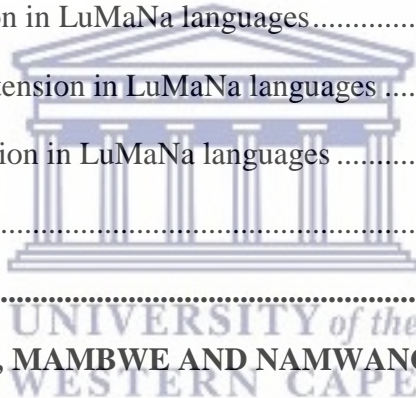


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LIST OF ABBREVIATIONS AND ACRONYMS

Adj	Adjective
Agr	Agrees
Aux	Auxiliary
C	Consonant
C1	First Consonant
C2	Second Consonant
Cl	Noun Class
CLS	Comparative Languages Survey
Conj	Conjunction
COVID	Corona Virus Disease
CSO	Central Statistics Office
CSV	Consonant + Semi-vowel + Vowel
CV	Consonant + Vowel
CVCV	Consonant + Vowel + Consonant + Vowel
Dem	Demonstrative
Det	Determiner
DO	Direct object
DP	Determiner Phrase
EPG	Electro-palatography
EC	Empty Category
Fin. V	Finite Verb

FV	Final Vowel
H	High tone
HH	High + High tone
HL	High + Low tone
Lu	Lungu
L	Low tone
LMS	London Missionary Society
LuMaNa	Lungu, Mambwe and Namwanga
Ma	Mambwe
Mod	Modifier
MoESVTEE	Ministry of Education, Science, Vocational Training and Early Education
MV	Main Verb
N	Noun
Na	Namwanga
NC	Nasal + Consonant
Neg	Negative/Negation
NP	Noun Phrase
OM	Object marker
OVS	Object + Verb + Subject
OT	Optimality Theory
2OM	Two Object Markers
3OM	Three Object Markers
PB	Proto-Bantu
PERF	Perfective



Per. M	Persrsistive Marker
PL	Plural
1PL	First Person Plural
2PL	Second Person Plural
3PL	Third Person Plural
Poss	Possessive
PP	Preposition Phrase
Pron	Pronoun
Q	Question
RAD	Radical
ROL	Regional Official Language
SG	Singular
1SG	First Person Singular
2SG	Second Person Singular
3SG	Third Person Singular
SM	Subject Marker
2SM	Two Object Markers
3SM	Three Subject Markers
SUFF	Suffix
SV	Subject + Verb
SVO	Subject + Verb + Object
TAM	Tense, Aspect, Mood
TBU_s	Tone Bearing Units
TM	Tense Marker



V	Verb
V₁	First Vowel/First Verb
V₂	Second Vowel/Second Verb
VCV	Vowel Consonant Vowel
VP	Verb Phrase
VR	Verb Radical/Root
VSO	Verb + Subject + Object
VV	Vowel + Vowel
Vs	Vowels



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CHAPTER ONE

INTRODUCTION AND BACKGROUND TO THE STUDY

1.0 Introduction

This chapter introduces the study entitled *A Comparative Analysis of the Phonological and Morpho-syntactic Variations in Lungu, Mambwe, and Namwanga Languages in Zambia*, which are specifically spoken in Mpulungu, Mbala, Senga, Nakonde, and Isoka Districts. The title has been tailored to meet descriptive objectives, and in line with the comparative Bantu phonology, morphology, and syntax framing, combined with the descriptive methodological design as attested by scholars such as Mutch (2005) and Fox (1995). The acronym LuMaNa has been coined to represent the first two letters of each language, namely; Lungu (Lu), Mambwe (Ma), and Namwanga (Na) respectively [henceforth, LuMaNa]. The application of comparative Bantu theory to analyse linguistic variations of the three closely related languages in terms of phonology, morphology, and syntax can be traced way back to the 1850s (Bleek, 1862/1869, Guthrie, 1948; Doke, 1960; Mtenje, 2016). The adoption of comparative Bantu theory supplemented by a descriptive comparative methodology has a bearing on the study of phonology, morphology, and syntax of LuMaNa. Insights from this analysis will allow for the development of comprehensive grammar and orthographies which should in turn contribute to the scholarship knowledge of documentary, descriptive, and comparative Bantu linguistics.

This chapter will develop as follows; contextualising the study in terms of the background of LuMaNa languages, the place of LuMaNa in language zoning in Zambia, geographical position, and historicizing LuMaNa languages. It also contains the statement of the problem, the aim and the specific objectives of the study, and research questions. It further consists of the

motivation/rationale for conducting the study, the scope and limitations of the study, and the structure of the thesis. The chapter ends with a summary.

1.1 Contextualising the study

1.1.1 Background to LuMaNa languages

Guthrie (1948) classifies Lungu as M14, Mambwe as M15, and Namwanga as M22 respectively. LuMaNa languages are at the peripheral of the Northern part of Zambia along the corridor of Tanzania (Nurse and Philippson, 1999). Analytically, the grouping of the above three Bantu languages in Zone M suggests that they are closely related and have many common linguistic features. Nurse and Philippson (1999) have shown that the origin of the LuMaNa languages is believed to be from Fipa which is regarded as their ancestor language in Southern Tanzania. However, very few studies have been conducted about the three closely related languages, and as such, very little literature is known and documented regarding the LuMaNa languages in Zambia. The most detailed literature that is solely dedicated to the Lungu language is by Bickmore (2004) which is titled *Cilungu Phonology*. Although the title of the book is on phonology as a level of linguistic analysis, the document also covers some aspects of morphology and syntax. However, Bickmore's study goes beyond phonology and also deals with some elements of nominal and verbal morphology including the syntactic characteristics of Lungu. Bickmore's (2004) study is an attempt to establish the grammar of the Lungu language. It is also important to state that earlier on, Bickmore and Doyle (1995) conducted and authored the study titled *Lexical Extraprosodicity in Chilungu*. The above work enriched the literature on the linguistics of the Lungu language that later gave birth to Lungu phonology which contains substantial grammar and acts as a point of reference during the analysis of LuMaNa languages in the present study. It can be argued that, apart from Guthrie (1948) who classified Lungu as M14, and Mann and

Kashoki (1978) who described the language in terms of ethnicity and how it is related to Mambwe, the rest of the linguistic studies on Lungu language have been conducted by Bickmore.

Concerning Mambwe language, Werner (1940) produced a *Collection of Mambwe Proverbs* and shows that the available literature recorded on the language before independence was conducted by Missionaries. Literature shows that towards the attainment of Zambia's independence, two grammars were documented on Mambwe, one by Rupyra (1958) and another one was produced by the LMS (1962). There was a big gap in terms of publication of linguistic literature and related materials after 1962. The next publication on Mambwe was on idioms which endeavoured to enrich the vocabulary of Mambwe language (Kagaya, 1987). The above study was followed by Halemba (1991) who translated the New Testament Bible from English to Mambwe and later published a *Mambwe-English Dictionary* (Halemba, 1994). In his study, Halemba (1994) shows that tone and other phonological characteristics of Mambwe language have not been documented, a gap the present study will fill. The other important literature on Mambwe language is an *Extensive Mambwe-Lungu Dictionary* by Halemba (2007) with an attachment of a grammar supplement for better understanding of the linguistics in the dictionary.

The other available literature on Mambwe language is Jones' (1893 and 1901) which deals with translations of selected aspects of the New Testament Bible. London Missionary Society (LMS) who succeeded Jones made quick improvements on his early translations and produced their own translations of the New Testament Bible. Based on the above, the New Testament was compiled, translated and published in 1921/1922, and was extensively advertised as being in 'Mambwe-Lungu'. The above scenario shows that by the time of publication, the Anglican Church had made up their minds to treat Lungu and Mambwe languages as dialects of an ancestor language,

with priority being given to the latter language (LMS, 1921/1922). Based on the available literature, it can be argued that very few studies have been conducted on the LuMaNa languages by mother tongue speakers as reference material.

The earliest most notable publications dedicated solely to Namwanga language are Joseph Busse's two papers. The first publication comprises a collection of texts and their translations (Busse, 1936 and 1937) and the other study on phonology (Busse, 1940 and 1941). Bickmore (2000) is similar to Busse's latter publication on phonology though she categorically considered Downstep and Fusion in verbal tonology in Namwanga language.

In order to back Busse's (1940/41) work on phonology, Bickmore (2000) conducted a subsequent study on verbal tonology and assumed that many of the underlying high tones (H's) in Namwanga language fuse together. Bickmore attests that to determine which H's either fuse or do not is a very complicated task which requires appropriate and vigorous examination of the subject matter. He further states that it is difficult to penalise the fusion of auto-segmental features of Namwanga language because in order to attain descriptive adequacy, constraints must be parameterised by distinguishing between the fusion of H's which are adjacent in the input and the fusion of those which are not adjacent. Bickmore concludes that the challenges of fusing non-adjacent H's which are uniformity must be ranked higher than the general uniformity.

To enrich the literature on Namwanga, Bickmore (2000) conducted another phonological study on tones and glides. In this study, the author deals with segmental and suprasegmental phonology. Under segmental phonology, Bickmore analyses the semi-vowels and their formation in the language whereas in suprasegmental phonology, he deals with tone as one of the important features and classifies Namwanga as a tonal language. It is expedient to state that the above two studies by Bickmore (2000) have greatly centered on structural characteristics which include the

segmental and prosodic features of the Bantu languages. Otherwise, most of the studies on Namwanga languages were done by the Scottish Missionaries, starting with Dewar's (1900) folk tales, followed by a number of translations of Biblical texts up to the early 1960s.

Nonetheless, Lungu and Mambwe languages are treated as independent groups in most scholarly works, although some linguists regard the two languages as dialects of a single language (Siame and Banda, 2021). The existing literature gives the impression that nothing specific had been written about Lungu before the 1980s (Polomé, 1980). Jones (1893 and 1901) works show that the earliest studies which described Mambwe language were in the real sense based on Lungu language. As pointed out by Watson (1958) and Halemba (1994), it is evident that Jones documented the grammar of Lungu language using a Swahili interpreter because there are many foreign words, and misuses of the language structure based on the available written discourse. Evidence for the above argument can be drawn from the study '*Outline of Ki-Mambwe Grammar*' (cf. Jones, 1893). It can be argued that the title '*Ki-Mambwe*' is archaic and has Swahili and Fipa inclinations. The use of the prefix (ki-) is no longer used, instead (ci-) is a preference (cf. Siame and Banda, 2021) and usually begins with a small letter for language(s). Nevertheless, Jones (1893) should have titled the study as '*Outline of the ciMambwe Grammar or simply ciMambwe Grammar*'.

Johnston (1919-1922) collected wordlists of Lungu and Mambwe, and classified the two languages as dialects of the same language and described them as 'Lungu-Mambwe'. In the same manner, Doke erroneously grouped Lungu, Mambwe and Tabwa as dialects of Bemba (Doke, 1945 and Watson, 1958). Just like Lungu and Mambwe languages, Doke (1945) and Watson (1958) attest that Namwanga has not been the subject of full-length studies. As the case of Lungu and Mambwe is in terms of similarity and dialectology, Namwanga and Iwa are also

regarded as dialects of a single language (Johnston, 1922). The above scenario shows that Johnston (1922) was not aware of the genetic relatedness of Namwanga and Iwa languages, as such regarded Namwanga was closely related to Bemba. Due to lack of accurate and validated information, Johnston erroneously classified Namwanga as a dialect of Bemba (Johnston, 1922).

The LuMaNa languages are not used as official Zambian languages for initial literacy and local government in Northern and Muchinga Provinces because they lack established phonological, morphological and syntactic literature which constitute the grammar and orthographies for teaching and language planning (cf. MoESVTEE, 2013). Due to the above scenario, the 2013 curriculum framework which the Zambian government prepared to offer initial literacy in local Zambian languages failed to materialise because most languages such as LuMaNa had not developed the desired grammars and orthographies which can only be achieved through research and documentation like the present study.

From the foregoing, it is evident that the LuMaNa languages are less explored and documented and as such very little information is known about their grammatical description. The researcher of this study hastens to point out that preservation of Bantu languages can only be achieved through research, documentation and publication. Negligence of research and documentation of Bantu languages endangers their existence which is in conformity with Brenzinger (1998) who points out that small African languages are currently still not endangered by ex-colonial languages but risk being replaced by other major African languages such as Bemba in the Zambian context which is the Regional official language in Northern and Muchinga provinces where LuMaNa languages are found. To avoid the dearth of literature in the three related languages, this study compares and analyses the phonological and morpho-syntactic variations in LuMaNa languages for the purposes of developing grammars and orthographies to

be used for language planning and teaching in schools. The researcher of the present study argues that the above scenario is likely to lead to the recognition of LuMaNa languages as regional official languages which have been named as the Mambwe group (CSO, 2010).

1.1.2 The place of LuMaNa in language zoning in Zambia

After independence in 1964, the Republic of Zambia adopted English as the medium of instruction from Grade One to tertiary education. English language subsequently became the National official language (NOL) for use in schools, business, politics and administration. The seven Zambian Regional official languages (henceforth, ROL) gained their status through language zoning and were mandated to be used in local courts and administrative functions (Banda, 2010). The seven ROL in Zambia include the following; Bemba, Nyanja, Lozi, Tonga, Lunda, Luvale and Kaonde. It should be pointed out that the above seven ROL represent a total of 72 local languages spoken in Zambia. The Zambian languages which are not among the regional official local languages are regarded as dialects of the seven ROL. The above demonstration can be traced on the linguistic map of Zambia under the next sub-heading on geographical background to LuMaNa where all the languages spoken in Zambia are shown in relation to their actual territories and localities.

Jimaima (2016) aptly shows that language zoning in Zambia was assumed that the seven languages were static and bounded in particular homogenous communities and regions. The present study is in conformity with the above assumption and postulates that the belief to assume that other languages in Zambia have remained dormant to the point where only the regional languages are superior to those without the official regional status should entirely be regarded as a misconception. Nkolola (2013) argues that despite the seven regional lingua franca in Zambia being adopted for official use in designated parts of the country and domains, their status is not

clearly stated and their application in government policies is completely dependent on political will because the *Zambian Constitution ACT No. 1 (5)* provides for the use of English as the official language. The above assumption shows that, although zoning of *Zambian languages* has been done and that seven languages have been granted regional official status, English language still remains the national official language and medium of instruction in schools and government. However, with about 72 dialects spoken in the country, Zambia deserves to be described as a multi-ethnic and multilingual nation (Banda, 1996; Mann and Kashoki, 1978). The above notion is affirmed by the Ministry of Education in Zambia in the Curriculum Framework which adheres to the reinforcement of language zones and initial literacy to be conducted in local languages to the first graders (MoESVTEE, 2013).

In the light of Banda (1996) and language zoning, LuMaNa languages are not ROL in Zambia and as such, they are overshadowed by Bemba as their ROL for initial literacy and local government. As pointed out above, Bemba is one of the mandated Regional official languages in Zambia which is spoken in Northern, Muchinga, Luapula, Copperbelt and the central part of Central Province (Nkolola, 2013). Therefore, Lungu and Mambwe languages in Northern Province as well as Namwanga language in Muchinga Province use Bemba as their ROL in primary schools for initial literacy and in secondary schools as a subject. Arguably, LuMaNa languages are found in zone M and belong to the Mambwe group in the *Zambian classification* with total population of 764, 106 (CSO, 2010). Based on the above revelation, it can further be argued that once the orthographies and grammars are established, the LuMaNa languages can be mandated the ROL status for teaching, planning and administrative purposes.

1.1.3 Geographical position of LuMaNa languages

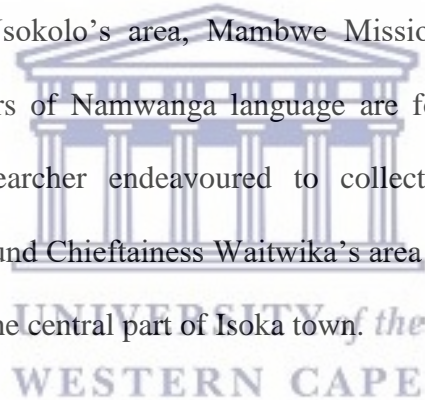
Lungu or ciLungu [henceforth, Lungu] is spoken in Mpulungu district on the western side of Mbala in Northern Province in Zambia. The native speakers of Mambwe, iciMambwe or ciMambwe language [henceforth, Mambwe] who are also named after the language, are located in Mbala and Senga districts of Northern Province in Zambia (cf. Halemba, 2004; Siame, 2019; Siame and Banda, 2021). Namwanga, Nyamwanga, Mwanga or ciNamwanga [henceforth, Namwanga] language is spoken in Nakonde and Isoka districts in Muchinga Province and is on the eastern side of Mbala district in Zambia while Swahili and Fipa are spoken along the corridor of Zambia and Tanzania (Sinkamba, 1984).

The geographical location of the Lungu language is around the south-eastern shore and to the south of Lake Tanganyika. Willis (1966) shows that some native speakers of Lungu reside in Southern Tanzania and others in Zambia. However, Willis argues that the majority of Lungu speakers live in Zambia. To the west, the Lungu are neighbours of the Tabwa, and to the south the Bemba (Willis, 1966). The major language neighbours of Lungu to the north are the Fipa in Tanzania and to the east the Mambwe language which is spoken both on the Tanzanian and Zambian sides. On the other hand, the notable neighbours of the Mambwe speakers are the Fipa to their north, Namwanga to their east, and Bemba to their south (Willis, 1966).

Furthermore, Namwanga spans both sides of the Tanzania-Zambia border, roughly half way between Lakes Tanganyika and Nyasa (Willis, 1966). The notable neighbours of Namwanga speakers are the Mambwe in the west, the Fipa in the north-west, Kuulwe and Wanda in the north-east, Nyiha and Iwa to the east, and the Bemba in the south (Willis, 1966). Literature shows that Iwa speakers are found to the east and south-east of the Namwanga whose traditional territory is entirely within Zambia. On the other hand, Namwanga borders the Nyiha of Tanzania

in the north, to the north-east the Malila, to the east the Wandya and Tambo, and to the south-west the Bemba (Willis, 1966).

The present study covers five districts, namely; Mpulungu, Mbala, Senga, Nakonde and Isoka. The territorial allocation of LuMaNa languages on the linguistic map below shows that Lungu is spoken in Mpulungu district, Mambwe is spoken in Mbala and Senga districts whereas Namwanga is spoken in Nakonde and Isoka districts respectively. The researcher endeavoured to collect and document the unadulterated Lungu which is mainly spoken in Chief Tafuna's area. On the other hand, Mambwe language which is spoken in Mbala and Senga districts in Zambia has two forms, namely; deep and localised Mambwe. The Mambwe language which was collected, analysed and documented in this study is the one spoken in the central part of Senga district which include Chief Nsokolo's area, Mambwe Mission as well as Kavumbo area. Furthermore, the native speakers of Namwanga language are found in two districts, namely; Nakonde and Isoka. The researcher endeavoured to collect, analyse and document the Namwanga which is spoken around Chieftainess Waitwika's area in Nakonde, Chief Kafwimbi's area in Isoka district as well as the central part of Isoka town.



In Zambia, there are linguistic boundaries of the recognised local languages across the country. The linguistic map shown below affirms that there are 72 local languages which are spoken in Zambia with respect to their specific environments or localities. Out of the 72 local languages in Zambia, only seven (7) have been recognised as ROL for use in local courts, schools and government administration while the rest are regarded as dialects (Banda, 1996). According to Kashoki (1990), there are seventy-three (73) languages which are spoken in Zambia and all belong to the Bantu family except English language which has been adopted as a medium of instruction, but is also spoken elsewhere such as European and Asian countries. In view of the

above, the researcher infers that Zambia has seventy-two ethnic groupings versus seventy-three language groupings and that the seven ROL represent less than 10% of the total number of recognised languages. As can be seen on the linguistic map below, the LuMaNa languages are shown along the border of Zambia and Tanzania on the North-east part of the map and are all coloured coffee to show their geographical and linguistic relatedness. Based on the map below on the Zambian side, Lungu is surrounded by Swahili, Tabwa, Mambwe and Bemba languages; Mambwe language is surrounded by Bemba, Lungu and Namwanga languages while Namwanga borders Bemba, Mambwe and Iwa languages. On the Tanzanian side, LuMaNa languages border Swahili and Fipa languages respectively.

The map below shows the linguistic and geographical boundaries of all the recognised languages which are spoken in Zambia, LuMaNa languages inclusive:

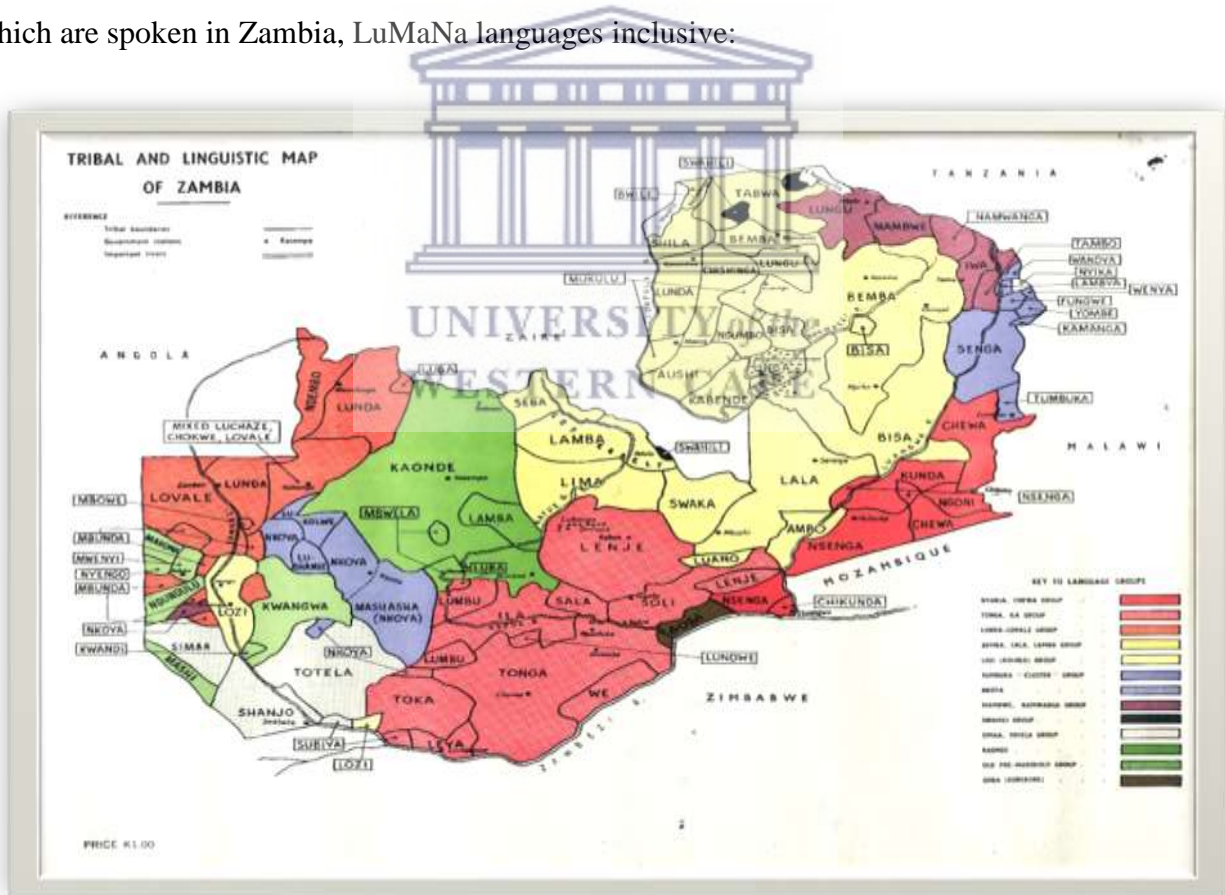


Figure 1.1 Linguistic map of Zambia (Adopted from Brelsford, 1965:158)

1.1.4 Historicising LuMaNa languages

With regards to historicity of LuMaNa languages, Lungu and Mambwe languages are spoken in parts of the Northern Province of Zambia including some parts of Southern Tanzania (Guthrie, 1948; Bickmore, 2007). The native speakers of Namwanga are believed to have come from Fipa and Nyika in Tanzania (Sinkamba, 1984).

It is expedient to state that Zambia and Tanzania share the same historical background because both countries were once colonised by Britain, which is an English speaking country in Europe (<https://study.com/academy/answer>). Due to the above scenario, after independence in 1964, the Republic of Zambia adopted English as the medium of instruction from Grade One. English language subsequently became the National official language (NOL) for use in schools, business, politics and administration while the Regional official Zambian languages gained their status through language zoning and were sanctioned for use in local courts and administrative functions in Zambia (Banda and Bellononjengele, 2010). According to Nkolola (2013), Bemba as one of the mandated ROL in Zambia is spoken in Northern, Muchinga, Luapula, Copperbelt and the central part of Central Province. Therefore, Lungu and Mambwe languages in Northern Province as well as Namwanga language in Muchinga Province use Bemba as their ROL during initial literacy and as a subject both in primary and secondary schools.

Greenberg (1963) shows that the languages of Africa have variations to such an extent that they are likely to have minimal relation to one another. Greenberg's assertion shows that conducting a comparative study like the present one is inevitable in order to excavate the distinctive features of related languages since the scholar confesses that the languages in Africa have little genetic relatedness to one another. The above notion is attributed to aspects of colonialism from European languages which influenced the classification system of African languages. Greenberg

(1963) further argues that there are about 2000 African languages which also include; unclassified languages, sign language, and Austronesian languages despite their closest linguistic features being non-African. The researcher of the present study argues that the number of Bantu languages concerning studies that have already been conducted shows that very little is documented and as such very few things are known about the various rich linguistic characteristics of many Bantu languages. According to Greenberg (1963), in the 1950s, the African languages were classified into families, branches, groups, and sub-groups by putting together those that were thought to have a common ancestor language such as Fipa in Southern Tanzania which is believed to be the origin of LuMaNa (Nurse and Philippson, 1999).

According to Miti (2006), Greenberg places the Bantu languages in the Niger-Congo branch and within the Bantoid sub-group of Benue-Congo. The LuMaNa languages are thus classified in the Benue-Congo sub-group of African Languages. Furthermore, Greenberg (1963) classifies African languages into four language families, namely; Afro-Asiatic, Congo-Kordofanian, Nilo-Saharan, and the Khoi-San. The above language families can be described as being indigenous to the African continent. The Congo-Kordofanian language family is further sub-divided into its branches, groups, and sub-groups (Greenberg, 1963). In Greenberg's classification of language families, the two main groups are Niger-Congo and Congo-Kordofanian which he further classifies as 1A and 1B respectively. Therefore, the above sub-categorisation implies that LuMaNa languages which are in the Niger-Congo branch fall under 1A.

Guthrie (1948) classifies Bantu languages according to the classification done by Wilhelm Heinrich Immanuel Bleek, who earlier coined the word 'Bantu' as one of the world's largest language groups. Being the main proponent of comparative Bantu studies, Bleek (1862/1869) classified the Bantu languages using what he called a practical method where he categorised

languages into Zones. Analytically, LuMaNa languages are classified in zone M as follows; M14, M15, and M22 respectively. As pointed out by Greenberg (1963), the commonest language characteristics found in most of the Niger-Congo languages include the classification of nouns and that most Bantu languages have a tone as a suprasegmental feature and hence are regarded as tonal languages. In addition, Guthrie (1948) argues that language groups are various entities that are taken into account when classifying languages into respective Zones. The above classification was done according to genetic relatedness (cf. Guthrie, 1948).

1.2 Statement of the problem

Although there are viable comparative works on Bantu languages, to the knowledge of the researcher of the present study, there are only three notable studies in Zambia that attempted to compare Lungu, Mambwe, and Namwanga languages in some segments, namely; Nurse (1999), Kashoki and Mann (1978), and Bickmore and Doyle (1995). Nurse (1999) conducted a lexical statistical analysis and concluded that there is a distance between Lungu and Mambwe as well as Namwanga. Kashoki and Mann (1978) concluded that Lungu and Mambwe are mutually intelligible although native speakers of each language can distinguish many lexical differences among them. Bickmore and Doyle (1995) conducted a study on Lungu and revealed that the language has more tonal distinctions than many modern Bantu languages. To the knowledge of the researcher, no study in Zambia has compared, analysed, and documented the phonology, morphology, and syntax of LuMaNa languages which are spoken in the Northern and Muchinga Provinces of Zambia (cf. Nurse, 1999). The above-stated closely related languages are said to have a universal origin and are believed to be dialects of the Fipa language in Southern Tanzania (Nurse, 1999). It is worth stating that other earlier studies on LuMaNa languages concentrated on particular levels of linguistics, such as Nurse (1999) on morphology, Kashoki and Mann (1978)

on lexicology and ethnicity, and Bickmore and Doyle (1995) on tonology, segmental feature of phonology. However, the present research has taken a much broader magnitude than previous studies on LuMaNa because it compares and analyses three levels of linguistics, namely, phonology, morphology, and syntax. Moreover, to the knowledge of the researcher, no study has been conducted on LuMaNa languages to lead to the development of common grammar and orthography for use in teaching and language planning.

Further justification for conducting this study is that although LuMaNa languages have been coded and classified by Guthrie (1948/71) as follows: Lungu as M14, Mambwe as M15, and Namwanga as M22, they are nonetheless, less documented and there is little information about their grammars and orthographic designs. In addition, the three languages are not recognized as ROL but are overshadowed by Bemba as one of the regional official local languages for initial literacy and local government in Northern and Muchinga parts of Zambia (Banda, 1996). Children who learn initial literacy in LuMaNa speech communities using Bemba face challenges because there are vast linguistic variations that border on grammar and orthographic designs.

Considering the dearth of literature, this study identifies and analyses the phonological and morpho-syntactic variations in LuMaNa languages which should in turn lead to the development of grammatical and orthographic designs for official, political, educational recognition, teaching, and language planning.

1.3 Aim, research questions, and objectives of the study

1.3.1 Aim and research objectives

There is little literature on the linguistics of LuMaNa languages. The lack of adequate literature has hindered the establishment of comprehensive grammars and orthographies for the three

genetically related languages for official recognition in politics, teaching, and language planning. Therefore, this undertaking aims to identify and analyse the phonological and morpho-syntactic variations of these closely related languages to fill the above gaps. To achieve the set aim, the study has the following research objectives:

- i. To establish the phonological variations of Lungu, Mambwe, and Namwanga languages;
- ii. To determine the nominal variations of Lungu, Mambwe, and Namwanga languages;
- iii. To describe the verbal variations of Lungu, Mambwe, and Namwanga languages;
- iv. To explore the syntactic variations of Lungu, Mambwe, and Namwanga languages; and
- v. To outline the syntactic and morpho-phonological implications of the variations for the LuMaNa grammar and orthography.

1.3.2 Research questions

The undertaking answers the following research questions:

- i. How can the phonological variations in Lungu, Mambwe, and Namwanga languages be established?
- ii. How can nominal variations in Lungu, Mambwe, and Namwanga languages be determined?
- iii. How can verbal variations in Lungu, Mambwe, and Namwanga languages be described?
- iv. How can syntactic variations in Lungu, Mambwe, and Namwanga languages be explored?
- v. What are the implications of the linguistic analyses (i-iv) for a LuMaNa grammar and orthographic design?



1.4 Motivation/Rationale for conducting the study

Most studies regarding the grammar of Bantu languages have been motivated by the description of the various phonological, morphological, and syntactic characteristics. However, the propelling change from earlier grammar to present ones was a transition from the European principles governing languages to an analysis that is based on what the languages themselves are in reality. The earlier grammar of Tswana had distorted facts because European scholars had a pre-conception of Bantu languages (cf. Cole, 1955; Banda et al, 2001; Banda, 2008). Cole (1955) adds that the main distortion was on word division, that is, whether groups of syllables should be written conjunctively or disjunctively.

Most grammars established by the Europeans are incomplete. For instance, the Scottish writer on the Mambwe language, Halemba (1994) observes that tone marking and other phonological features of the language have neither been studied nor documented. The study is also motivated by the need to document phonological, morphological, and syntactic variations in the three closely related languages to be used to establish the grammar and formulate orthographic designs for language planning and teaching in Zambian schools. Moreover, the grammar and orthographies which will be developed for LuMaNa languages shall eventually contribute to the general body of documentary, descriptive and comparative linguistics. The further motivation for conducting this study is that most Bantu comparative studies in Zambia and other parts of Africa have concentrated on two languages such as Mudzingwa (2010) who analyses repair strategies in Karanga and Zezuru languages which are dialects of Shona. The next motivation borders on the comparative Bantu study of Chewa, Tumbuka, and Sena languages in Malawi which has likely attributes to the present study (Kiso, 2012).

The final motivation is a similar study involving the comparison of three closely related languages in Malawi (Mtenje, 2016). Mtenje (2016) compares the phonology, morphology, and syntax of SuNdaLa languages and hence acts as a mirror during the analysis of LuMaNa languages in Zambia. To the knowledge of the researcher, a study involving three close languages whose origin is believed to be universal is the first of its kind to be conducted in Zambia (cf. Nurse, 1999).

1.5 Scope and limitations of the study

This comparative analysis is confined to the LuMaNa languages which are spoken in Zambia. The study is limited to three levels of linguistic analysis, namely; certain aspects of phonology, nominal and verbal morphology as well as syntax. The study is further confined to five (5) study areas, namely; Mpulungu, Mbala, Senga, Isoka, and Nakonde districts. Data for the Lungu language were collected from the Mpulungu district while the Mambwe language was collected from Mbala and Senga districts respectively. Data collection for Lungu and Mambwe languages was confined to Northern Province in Zambia. On the other hand, data for the Namwanga language were collected from Isoka and Nakonde districts in Muchinga Province in Zambia.

The study on linguistic variations in LuMaNa languages is confined to the research frontiers of descriptive and comparative Bantu theoretical, methodological, and conceptual perspectives. In addition, data that have been used in the present study were collected from the three closely related languages and have not been generalised because each language has its own distinct phonological, morphological, and syntactic characteristics.

On the other hand, LuMaNa languages are less documented. The implication is that there is limited literature to review. For instance, Bickmore (2000, 2004, and 2007) and Halemba (1991,

2004, and 2007) have been overly used during literature reviews as existing documented sources of information on the three languages.

1.6 Structure of the thesis

This comparative Bantu study has eleven chapters. Each chapter is organised in such a manner that it deals with a particular component. In addition, the chapters are systematically organised and each chapter draws background insights from the latter. The chapters are interdependent and all of them contribute to the development of a well-organised comparative analysis of LuMaNa languages in terms of phonology, morphology, and syntax.

Chapter One introduces the study, *A Comparative Analysis of the Phonological and Morpho-syntactic Variations in Lungu, Mambwe, and Namwanga Languages in Zambia*. The chapter contextualises the study and provides the background information, the place of LuMaNa in language zoning, and the geographical and historical positions of LuMaNa languages in Zambia. The chapter also deals with the statement of the problem, aim, research questions, and objectives of the study. The chapter further presents the rationale/motivation for undertaking the study, the scope and limitations of the study, and the structure of the thesis as well as a summary.

Chapter Two is an excavation of the state-of-the-art known as the literature review. It accounts for the existing literature related to phonology, morphology, and syntax in the following aspects; related studies on Bantu languages outside Zambia, related studies on Bantu languages in Zambia as well as studies on Lungu, Mambwe, and Namwanga languages.

Chapter Three accounts for the theoretical odyssey of comparative Bantu linguistics. It presents the background of comparative Bantu linguistics concerning the present study, the descriptive

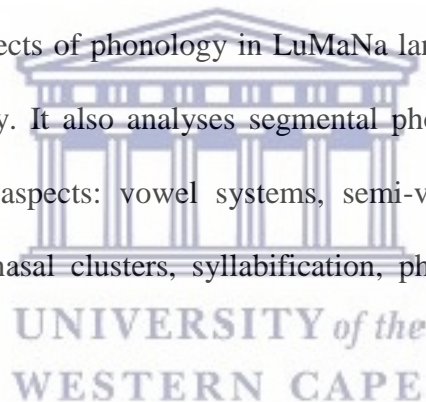
theory as well as the comparative Bantu theory which is segmented into comparative Bantu phonology and comparative Bantu morpho-syntax.

Chapter Four accounts for the methodology which was applied during the comparative analysis of LuMaNa languages. It contains the paradigm, qualitative research design, and research methods which include comparative method backed by lexicostatistics and mass comparison, elicitation, and document analysis methods. The chapter also contains research areas, the research population, and sampling techniques. Furthermore, the chapter presents data collection in terms of primary and secondary sources as well as data collection tools. Finally, the chapter presents the comparative Bantu analysis strategies employed during the study and the chapter summary.

Chapter Five presents some aspects of phonology in LuMaNa languages. It accounts for a brief background of Bantu phonology. It also analyses segmental phonemes in LuMaNa languages and deals with the following aspects: vowel systems, semi-vowels, consonantal segments, suprasegmentals, nasalisation, nasal clusters, syllabification, phonological processes, and the chapter summary.

Chapter Six presents nominal morphology in LuMaNa languages. It deals with the nominal structure of the LuMaNa languages. It outlines a brief background to the Proto-Bantu noun class prefixes, the noun structure of LuMaNa languages, noun classes, and noun class pairings as well as noun class concord in LuMaNa languages and closes with a chapter summary.

Chapter Seven deals with nominal derivation in LuMaNa languages. The chapter contains derivation strategies that LuMaNa languages use to create nouns which include, prefixation, suffixation, and zero modification. It also deals with the creation of nouns from lexical categories



which include; nouns, verbs, and adjectives. The chapter further analyses nominal derivation by compounding in LuMaNa languages and closes with a summary.

Chapter Eight deals with the verbal structure in terms of tense, aspect and mood (TAM), and verbal complexes. The chapter ends with a summary.

Chapter Nine presents verbal extensions in LuMaNa languages. It begins with a brief introduction to verbal extensions in Bantu languages. The following verbal extensions are analysed; applicative, causative, reversive, passive, repetitive, intensive, reciprocal, completive, reduplicative, reflexive, frequentative, and perfective. The chapter closes with a summary.

Chapter Ten deals with the variations of the word order in LuMaNa languages. It starts with a brief introduction to word order in Bantu languages. The chapter also contains the word order in the noun phrase, verb phrase, and sentence structures and ends with a chapter summary.

Chapter Eleven presents the summary and conclusions of the study. It contains a summary of the main findings regarding phonological, nominal, and verbal morphological variations as well as syntactic variations in LuMaNa languages. The chapter also provides conclusions based on the findings of the study in Chapter Five which deals with phonological aspects, Chapter Six and Seven which have nominal morphology, Chapter Eight and Nine which contain verbal morphology, and Chapter Ten which contains syntactic variations. It further contains the implications of phonological and morpho-syntactic variations on the orthographic designs and grammar of LuMaNa languages. The chapter closes with recommendations that can be considered for future undertakings using the comparative Bantu framing.

1.7 Chapter summary

Chapter One has presented the introduction and background to the comparative analysis of phonological and morpho-syntactic variations in LuMaNa languages. It has contextualised the study by providing; the background information, and geographical and historical background of the study on LuMaNa languages. It has also provided data concerning the position of LuMaNa in the zoning of Zambian languages and has established that LuMaNa languages use Bemba as their regional official language for initial literacy in primary, secondary, and tertiary education as well as in political administration, local courts and planning in education. The chapter has as well propounded the statement of the problem, aim, motivation for undertaking this research, scope, and limitations of the study as well as the structure of the thesis. Chapter One has placed this study within the frontiers of other similar comparative Bantu studies outside and within Zambia.

The next chapter presents the existing literature on comparative Bantu outside and within Zambia, related non-comparative literature on Bantu languages both outside and in Zambia as well as studies on LuMaNa.



CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents literature on comparative Bantu and related descriptive studies and explores the knowledge gaps. Bantu languages are vast and very little is known and documented. Most studies focus on major Bantu languages such as Swahili in Tanzania, and Bemba in Zambia, but neglect minority languages like LuMaNa. When minority Bantu languages are studied, scholars use the Chomskyan theories which are not easy to be interpreted by curriculum developers. This is the more reason why most minority Bantu languages still lack literature on grammar and orthographies. The present descriptive comparative study intends to establish the language structure of the LuMaNa cluster which will in turn enrich the literature on grammar and orthographic designs of Bantu languages. The findings of the present study will also provide more information on certain aspects of phonology, morphology, and syntax of Bantu languages which will become the basis for data analysis on local Bantu languages in future studies. The present study adopts the descriptive comparative Bantu analysis of the variations in LuMaNa languages (cf. Bleek, 1862/1869).

The chapter is organized as follows: related studies on Bantu languages outside Zambia, related studies on Bantu languages in Zambia as well as studies on LuMaNa languages in Zambia.

2.1 Related studies on Bantu languages outside Zambia

2.1.1 Comparative studies on Bantu languages outside Zambia

This portion reviews the related comparative works conducted outside Zambia in terms of phonology, morphology, and syntax. The review of literature aims at identifying the similarities

and variations between Bantu languages outside Zambia and the LuMaNa languages. The following works have been reviewed; Kadenge and Simango (2014), Pulleyblank (1986), Clements and Goldsmith (1984), and CLS (2006),

Kadenge and Simango (2014) employ the Optimality Theory framework to account for a formal comparative analysis of repair strategies that are used to resolve vowel hiatus in Nsenga and Shona. The study shows that vowel hiatus resolution is categorical in the Shona language and domain-specific in the Nsenga language. The analysis further describes vocalic hiatus as not being generally preferred and that the two languages use similar repair strategies which include glide formation, labialisation, and deletion. The scholars argue that where there are differences in repair strategies, the variation is linked to the assumption that hiatus resolution is sensitive to phonology and morpho-syntax, with hiatus resolution strategies being used differently based on the phonological and morpho-syntactic situation. The analysis also shows that Nsenga permits vowel hiatus while Shona resolves it through spreading which is also called glide epenthesis. The present study is similar to the above work in terms of vowel hiatus and deletion as phonological processes. Vowel hiatus and deletion discussed in Kadenge and Simango (2014) are among many other phonological processes which have been addressed in the present study to establish the phonological variations in LuMaNa languages. The present research draws insights from Kadenge and Simango and applies them during the analysis of vowel hiatus resolution strategies in LuMaNa, such as; vowel length, coalescence, vowel harmony, assimilation, and gliding as well as verbal complexes.

Pulleyblank (1986), and Clements and Goldsmith (1984) expound that the analyses of most Bantu languages show that Low tones are completely underspecified underlying. The present study is related to the above studies in terms of phonology and nominal morphology. The

findings of the above work are important during the analysis of syllabification, affixation, tone, and noun classes in LuMaNa languages.

The Malawi Comparative Languages Survey report (CLS, 2006) indicates that the comparative analysis of linguistic variations within the SuNdaLa languages is entirely limited to the languages which were studied. This study establishes that the SuNdaLa varieties are mutually intelligible, with more lexical and phonological similarities, and that the languages are at a dialectal continuum. The CLS (2006) report does not systematically identify what features the SuNdaLa share and in what way they differ from one another. The report states, however, that Ndali and Sukwa are closer to each other than to the Lambya language. The scholar observes that most of the vocabulary in the three varieties is similar with just minor differences. The survey report further shows that linguistic differences often occur because Sukwa and Ndali have a rule of post-nasal stop voicing which Lambya does not share with them.

On the other hand, CLS (2006) shows that Lambya has voiced fricatives that are not found in Sukwa and Ndali. The CLS report is relevant to the present study because it contributes to the development of theory. The present study has similar characteristics to CLS (2006) report which analyses three closely related languages in Malawi and deals with phonological and lexical variations. The present study will benefit from CLS (2006) report during the analysis because it also considers aspects of phonology, morphology, and syntax.

2.1.2 Non-comparative studies on Bantu languages outside Zambia

This section reviews the literature on non-Zambian languages which are descriptive and beneficial during the analysis of the present study. The reviewed studies include the following: Monaka, (2019), Sloat et al (1978), Katamba (1989, 1993), Clark et al (2007), Mathangwane

(2021), Di Garbo (2013), Morapedi (2019), Alphonse and Lusekelo (2021), Guérois (2015), Möller (2011), and Merrifield (2010).

Monaka (2019) uses an experimental research design and electro-palatography (EPG) to account for the co-articulation characteristics of Shekgalagari plosives in VCV strings in symmetrical and asymmetrical vowel contexts. The study shows that the velars have the least contact areas followed by dental and the palatals have the largest area of contact. In terms of resistance, the study reveals that velars show the least resistance to context influence and are followed by dental and palatals which show the most resistance. The study also shows that the voiced stops have the least resistance to co-articulation and are followed by the voiceless unaspirated. On the other hand, the study reveals that the voiceless aspirated stops show the most resistance. The study further shows that the inherent sound characteristics of the segments induce variations in sound patterns in different contexts of co-articulation. The present study is related to Monaka's work in terms of phonology with special reference to segmental phonemes which include plosives, dental, and palatals regarding their co-articulation characteristics. On the other hand, the study on LuMaNa languages is different because it has comparative objectives which deal with genetically related languages. The present study also deals with other prosodic features of language which include nominal and verbal morphology as well as syntax.

Sloat et al (1978) describe prosody as a study of quantity, stress, and tone concerning the syllable, and intonation when referring to phonetic phrases and sentences. The scholars describe length in terms of the number of speech sounds which can either be vowels or consonants. The study shows that quality or tone is restricted to vowels. Sloat et al (1978) further outline that suprasegmental features of language which include length and tone are used to express the distinctiveness of sound. In addition, Katamba (1993) describes syllabification as one aspect of

phonological analysis where a syllable is defined as the heart of phonological representations and is a unit in terms of which phonological systems are organised. Katamba argues that when syllables are not supported by other elements in a language, they become meaningless. The present study is related to the above studies in terms of phonology and syntax. Nonetheless, it is different from the above works based on comparative objectives and that it also deals with nominal and verbal morphology. The arguments in the above literature provide insights into the analysis of segmental and suprasegmental phonology, syllable structure, and the word order in phrases and sentences in LuMaNa languages.

Katamba (1989) accounts for tone in general as a suprasegmental feature of language and shows that it is mainly used to express the distinctiveness of word meaning in minimal pairs. Clark, et al (2007) defines tonal language as a language in which tone is a feature of the lexical items which are expressed in terms of prescribed pitches for syllables and in other instances to describe sequences of pitches for morphemes or words. Greenberg (1963) posits that syntactic tones are a situation that is created when there is an interface between syntax and phonology that helps to explain the tonal pattern differences which come about due to varying syntactic environments. The above studies imply that phonology provides the background information which helps to understand syntactic features. The above literature describes pitch in terms of distinguishing the meaning of words by using tone marking. The scholars further argue that marking of tone is necessary as it helps to indicate the rising (H) and the falling (L) tone which is usually indicated on the vowels of respective words. The present study is related to Katamba, Greenberg, and Clark, et al's literature in terms of tonal phonology and syntactic tones in nominal morphology. Nevertheless, the present study is different because it is comparative and deals with specific languages which are genetically related to each other. The above studies provide significant knowledge on tone marking in chapter five of this thesis.

Mathangwane (2021) accounts for the morphophonology of Chiikuhane noun class prefixes. Chiikuhane which is also known as Subiya and classified as K42 is spoken in Botswana (cf. Guthrie, 1967-71). The study shows that Chiikuhane is spoken in the north western part of Botswana mainly in the Chobe District and the surrounding areas (cf. Andersson and Janson, 1997; Batibo et al, 2003; Mathangwane and Ndana, 2014). The scholar presents a morphophonological analysis of Chiikuhane noun class prefixes focusing on how nouns are derived through the prefixation of class prefixes, their semantics, and the phonological processes that take place in this language. The scholar argues that typical of many Bantu languages, Chiikuhane has eighteen noun classes including the locative classes 16, 17, and 18 respectively. The scholar also argues that although the language retains classes 12 [ka-] and 13 [tu-] to mark the diminutive, some exceptions do exist whereby words such as *ká-zuní* ‘bird’ and *tú-zuní* ‘birds’ fall into these classes respectively yet they are not diminutives (cf. Appah, 2003). The study shows that the semantics of the Chiikuhane language is problematic because noun classes no longer mark clear categories as a result some overlaps exist, for instance, body parts are found in classes 3/4, 5/6, 11, and 15. The present study is related to Mathangwane’s work in terms of phonology and nominal morphology specifically the nominal structure and nominal derivation. On the other hand, this study is different in that it also analyses verbal morphology and syntax, and comparative objectives.

Mathangwane (2021) further argues that phonologically, the Chiikuhane language deviates from many Bantu languages in the sense that the noun class prefixes carry High tones. Mathangwane (2018:156) considers Chiikuhane to belong to the “pure tone systems” because underlying tones in this language are unpredictable and lexically marked on all the Tone Bearing Units (TBUs). The scholar argues that tones in Chiikuhane can occur on any vowel in the language. Mathangwane (2018) attributes the presence of High tones on the noun class prefixes to the loss

of the high-toned pre-prefix resulting in its High tone being retained and reassigned to the class prefixes. Mathangwane argues that there are exceptions to the above rule in the three locative prefixes, namely; [ha-] in Cl.16, [ku-] in Cl.17, and [mu-] in Cl.18 which carry Low tones. The study also reveals that the language employs hiatus resolution strategies such as glide formation and insertion, vowel deletion, and vowel coalescence depending on the underlying phonetic environment in cases where the noun class prefix is followed by a vowel initial stem. The present study is similar to this literature in terms of phonology and nominal morphology. On the other hand, the study on LuMaNa languages is different because it has comparative objectives and involves three closely related languages as opposed to one. This literature provides insights into the present study in terms of noun class prefixes and strategies of nominal derivation.

Di Garbo (2013) conducts an *Evaluative Morphology and Noun Classification* in languages with grammatical gender, a feature of Bantu noun morphology that interacts with evaluative morphology. Aikhenvald (2003) argues that noun classification strategies are grammatical constructions that are specialised in the categorisation of nouns. Aikhenvald adds that different noun classification strategies can be determined according to the following criteria: meaning, number of distinctions within the system, locus of marking, historical development, and degree of Grammaticalisation. Corbett (1991, 2011a and 2012) says gender is the particular type of noun classification strategy that must be reflected in agreement which is beyond the nouns themselves. Di Garbo (2013) argues that for the gender system of a language to be considered productive, the gender of a noun needs to be cross-referenced by those elements in the utterance which entertain some kind of morpho-syntactic relation with the noun itself, such as adjectives, pronouns, demonstratives, determiners, verbs, and relative pronouns but also add positions and complementisers. On the other hand, Corbett (2000 and 2006) argues that anaphoric pronouns

are taken as one of the entities that can agree with nouns. The literature provides insights for morpho-syntactic analysis in the present study.

Di Garbo (2013) further bases the analysis of evaluative morphology and noun classification on the works of Corbett (1991) and Dahl (2000a and 2000b) who argue that it is always possible to recall the fundamental semantic notion(s) on which the categorisation is based even if only a restricted portion of the nominal lexicon of a language is provided. Dahl (2000a) argues that semantic gender assignment in most cases involves nouns that refer to animate entities which are limited to the domain of animacy being highly language-specific. Corbett (2011b) argues that animacy, sex, shape, and size are the most common semantic notions upon which a gender system is based. Dahl (2004) reveals that grammatical gender is a very mature and stable phenomenon in language and presupposes rather long evolutionary chains. Di Garbo (2013) also builds on the study by Greenberg (1978) who accounts for demonstratives and anaphoric pronouns as well as Corbett (1991 and 2012) who analyses nouns. Foley and Van Valin (1984) suggest that gender systems are grammatical devices whose function is mostly connected with reference tracking and disambiguation. Barber and Carreiras (2005) argue that the above hypothesis is supported by neuro-linguistic evidence in the studies. The present study is related to Di Garbo in terms of nominal morphology and syntax. Nonetheless, this work is different from Di Garbo's because it accounts for phonology by analysing three closely related languages and has comparative objectives.

Morapedi (2019) investigates an under-researched verbal extension in Bantu languages called the neuter construction, focusing on Setswana. The scholar notes that the neuter construction is very interesting in Setswana in the sense that the verbal extension [-eg] that occurs in transitive verbs results in the dropping of the subject, where the object occupies the subject position. The author

adds that the above-stated process makes the transitive verb such as *ja* ‘eat’ look intransitive. The scholar further argues that the above situation gets more complex as the neuter extension resists the other verbal extensions, whereas other verbal suffixes, such as [-el], [-is], [-iw/-w], do not impose that much rigidity on them. The study also shows that the neuter suffix [-eg] is also restrictive in terms of selecting verbs that it occurs with. The scholar concludes that the neuter only occurs with verbs whose object or theme has changed to state, such as *j-eg-a* ‘edible’, *rat-eg-a* ‘lovable’, and *rob-eg-a* ‘breakable’ whereas other verbal extensions are likely to be found in all types of verbs. The present work is related to Morapadi in terms of verbal extensions. Nonetheless, it is different because it also analyses phonology, nominal morphology, and syntax in LuMaNa languages. The other difference is that the present study has comparative objectives and deals with three languages as opposed to one language.

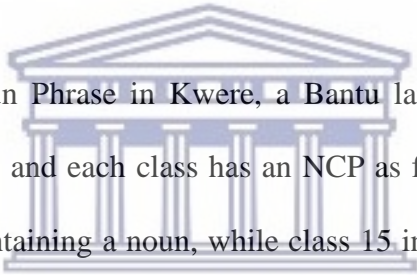
Alphonse and Lusekelo (2021) discuss properties of adjectives and adjectivisation in Iraqw, a Southern Cushitic language of Tanzania. The study demonstrates that Iraqw has seventy-three (73) core adjectives, with derivational processes adding about one hundred eighty (180) derived adjectives, making a total of about two hundred fifty-three (253) adjectives. The scholars postulate that derived adjectives are produced through zero derivation, compounding, and reduplication processes. The study shows that stative verbs, nouns, and ideophones are attested as among the derived words that are used to express property concepts. The above findings refute Nordbustad’s (1985) claim that adjectives are significantly few in Iraqw whose analysis shows thirty-three (33) adjectives, including both core and derived adjectives. The scholars argue that Iraqw has at least 253 core and derived adjectives, thus making the language one with an open class of adjectives. The study shows that the power of derivation plays a vital role in creating new members of the adjective class and helps in expressing adjectival concepts through zero (null) derivation in the language (cf. Kiparsky, 1982). The above finding agrees with Kahigi

(2008) and Dixon (1999) who appreciate the power of derivational processes in adding new lexemes in languages (cf. Kari, 2015 and Robinson, 2016). Given the productive nature of the adjective word class, Iraqw expresses all semantic types put forward by Dixon (1982) concerning the both morphological and syntactic agreement and the distribution patterns of adjectives.

Alphonse and Lusekelo (2021) add that morphologically, adjectives in Iraqw are marked with gender and number features inherited from the noun they attribute. The study reveals that adjectives agree with the nouns they modify in both gender and number features. In addition, adjectives occupy two syntactic positions, namely, the attributive and the predicative positions. The scholars also state that Iraqw allows more than one adjective to co-occur in which stacking of adjectives is not arbitrary but follows the rather restrictive pattern suggested by Dixon (1982). The present study is related to the above literature in terms of syntax. Nevertheless, this study is different because it has comparative objectives and also analyses the phonology and morphology of the LuMaNa languages. Alphonse and Lusekelo provide insights for the identification and analysis of adjectives in the word order of the noun phrase in LuMaNa languages.

Guérois (2015) documents the grammar of Cuwabo in Mozambique. In terms of phonological typology, Cuwabo has a consonant-vowel (CV) syllable structure in which the nucleus is generally a vowel but can also be a syllabic nasal or liquid. The study shows that Cuwabo has a common 5-vowel system with a consonant system that includes voiced prenasalised consonants in its inventory. The scholar argues that a striking feature shared by the P30 languages is the denasalisation of Proto-Bantu prenasalised clusters *mb, *nd, *ŋg, which are realised as /b/ /d/ /g/ in Cuwabo and /p/ /t/ /k/ in Makhuwa where devoicing also occurs. The literature reveals that the language has few morphophonological processes which include vowel coalescence, vowel deletion, and vowel harmony. The study also shows that the Cuwabo language is a tonal

language with a binary distinction although nouns and verbs constitute the main word classes. The scholar argues that the noun class system productively interacts with other constituents in the sentence, within the noun phrase (NP) as well as on the predicate, whose agreement is controlled by the head constituent which is usually a noun. The scholar adds that in the NP structure, modifiers usually follow the head noun. The study further shows that verbs are built upon an extensive template with different slots potentially filled with inflectional markers, derivational verbal extensions, and post-final clitics. The scholar also argues that the Cuwabo language has a subject, verb, object (SVO) word order like most Bantu languages. The present study is related to Guérois's study in terms of phonology, morphology, and syntax. However, this study is different because it has comparative objectives and deals with three languages that are closely related.



Möller (2011) analyses the Noun Phrase in Kwere, a Bantu language of Tanzania. The data shows that Kwere has 16 classes and each class has an NCP as follows; classes 1 to 11 and 14 are all inherited noun classes containing a noun, while class 15 includes the infinitives of verbs, and classes 16 to 18 are locative classes. The study reveals that among the noun classes, there are regular singular and plural pairings between classes which include; 1/2, 3/4, 5/6, 7/8, 9/10, and 11/10. The scholar argues that the noun phrase in Kwere consists of several different elements which agree with the head noun. The findings show that adjectives agree with the head noun by taking the NCP, while the associative marker, possessives, demonstratives, quantifiers, and other determiners take the ACP. The scholar argues that the noun phrase can involve several constituents but the different elements are always post-head except for *chila* 'every', which precedes the head. The study shows that when a noun phrase consists of both demonstrative and possessive, the order is, N + DEM + POSS. The scholar argues that the possessive 'my' in class 5 could either be spelt *jangu* or *dyangu*. The present study will benefit from Möller's work in

terms of phonology, nominal morphology, and syntactic elements which constitute the noun phrase.

Merrifield (2010) establishes a Grammatical Sketch of the Lolo Language of Yunnan in China. The work seeks to depict the most salient features of the language's word classes, phrases, clauses, and sentences with special attention to verb serialisation. The study establishes that the language has a dominant verb complex with concatenating verbs. The study also brings to light the following strategies for the creation of new words: compounding to produce nouns and verbs; affixation and reduplication to produce a large variety of words; nominalisation to produce nouns; complex phrases to produce temporal and locative expressions; idioms to produce adjectival and loan words to produce nouns (cf. Katamba and Stonhan, 2006; Kunkeyani, 2007; Kozwanomo, 2016). Merrifield (2010) further states that reduplicated adjectives, verbs, and auxiliaries are used to formulate yes/no questions. The study concludes that the language has both mono-clausal and multi-clausal verb sequences. The present study is similar to Merrifield regarding phonology, nominal and verbal morphology, and syntax. On the other hand, the study is different from Merrifield's because it has comparative objectives and analyses the three closely related languages as opposed to one language.

2.2 Related studies on Bantu languages in Zambia

2.2.1 Comparative studies on Bantu languages in Zambia

This part presents the scholarly works that have been conducted on Zambian languages comparatively. The chapter reviews the following comparative studies; Nurse (1999), Kashoki and Mann (1978), Grimes (1996), Chanda (1985), Lisimba (1982), Kula and Marten (2019), and Guthrie (1948).

The lexicostatistical analysis by Nurse (1999) suggests that there is more distance between Lungu and Mambwe in Tanzania than there is between Namwanga and Wanda. On the other hand, Kashoki and Mann (1978) show that data from the Zambian side indicate a high degree of lexical similarity between the Lungu and Mambwe languages. The SIL's Ethnologue describes Lungu and Mambwe as dialects of a single language, 'Mambwe-Lungu', reproducing the original formulation of the London Missionaries Society (Grimes, 1996). The insights from Nurse (1999) will guide lexicostatistical analysis of lexical variations in the present study while Grimes' work validates historicising LuMaNa languages in chapter one. Furthermore, Kashoki and Mann (1978) provide insights regarding the analysis of lexical variations of Lungu and Mambwe languages in chapters five to ten of the present study.

Chanda (1985) deals with the variations in phonological as well as functions of the verb extension [-il-] in Bemba. The scholar shows that phonological variation of extensions on verbs is determined by the process of vowel harmony, nasal harmony, metathesis, and imbrication. Chanda counters that Guthrie's literature on the functions of verb extensions is not adequate. The findings of his study outline that the extension [-il-] in Bemba is used to indicate at least seven grammatical relations, namely; the benefactive, locative, possessive, goal, causative, instrument as well as manner. Although Chanda's work is on Bemba, his arguments and revelations are of great importance to the development of the present comparative study in terms of the distinctiveness of consonants and vowels, phonological processes, and verbal extensions. The present study is similar to Chanda's research in that it analyses the phonological variations and some aspects of verbal morphology. This study goes beyond Chanda's work by analysing nominal morphology and syntactic variations in LuMaNa languages.

Lisimba (1982) makes an in-depth comparative Bantu analysis of the lexical, morphological, grammatical, or syntactical and phonological relationships between thirteen (13) existing siLuyana dialects and siLozi in the Western Province of Zambia. The analysis shows that the thirteen (13) dialects share common linguistic features in terms of lexical roots and stems, morpho-phonemics, concord systems, inflection and derivation of verbs, and vowel copying. Lisimba's study reveals that the only difference between the dialects exists at the tonal level. Lisimba's principles of vowel copying, are also applied by Kula and Marten (2019) during the comparative analysis of the Dciriku and Mwenyi languages. The present study is related to Lisimba's work based on phonological, morphological, and syntactic features of the language. This study is, however, different from Lisimba's because it is conducted in Northern and Muchinga Provinces in Zambia and accounts for the three closely related languages which are not dialects of each other, but independent languages. Lisimba's literature provides the knowledge which is vital during the analysis of phonological aspects, lexical words, phonemes, and agreement in verbs as well as inflectional and derivational affixes in LuMaNa languages.

2.2.2 Non-comparative studies on Bantu languages in Zambia

This sub-heading discusses the linguistic studies done in Zambia which are not comparative but are related to the present study and contribute to the understanding of phonology, morphology, and syntax. The study reviews the following works: Kashoki (1967), Hyman (1991), Mann (1999), Carter (2002), Chiyonga (2009), Collins (1962), and Givon (1969).

Kashoki (1967) establishes an inventory of phonemic contrasts in Bemba for segmental and suprasegmentals. This is a descriptive study that analyses three concepts. Firstly, the study outlines that Bemba phonemic contrast by covering some ideas such as key symbols, phonemic chart for consonants, vowels, tonemes, allotones, and so on. Secondly, it deals with the phonemic

syllable structure by covering areas such as the Bemba phonemic syllable, the phonemic status of syllabic nasals, the phonemic status of the voiced bilabial glide [w], and the voiced palatal glide [y], and thirdly, the distribution of phonemes, which include consonant phonemes, two-consonant clusters, and vowel clusters. The present study is similar to Kashoki's in terms of phonology. On the other hand, the study on LuMaNa languages is different because it also accounts for verbal and nominal morphology as well as syntax and addresses comparative objectives.

Hyman (1991) deals with underlying segments in the Bemba language. He identifies seven underlying vowel phonemes as follows: /i/, /u/, /e/, /o/, /a/, /ị/ and /ụ/. Hyman (1991) shows that there is a difference between the non-diacritic /i/ which is subject to vowel harmony and gliding whereas its counterpart, the diacritic /ị/ is not subject to vowel harmony and gliding instead it undergoes consonant mutation. The present study is related to Hyman's work in terms of phonology. On the contrary, this study has comparative objectives, and accounts for morphology and syntax which Hyman's work does not cover. Hyman's study is useful when making an inventory of consonants and vowels in LuMaNa languages.

Mann (1999) analyses the Bemba Grammar. The scholar shows that the phonological system of Bemba has eighteen (18) consonant sounds and five (5) vowels. Mann shows that the nominal class system of Bemba is similar to other Bantu languages which have eighteen (18) noun classes. The scholar discusses subject and tense marking, and tone patterns associated with the Bemba verbal form. In addition, he discusses the mood of the verb and types of words found in Bemba, besides components of a sentence. According to Kashoki (1999), Bemba nouns, locatives, and adjectives have tonal pattern differences which occur according to their immediate grammatical environments although the author describes these findings as being tentative. The

study shows that the existence of the relationship between syntax and phonology in the Bemba tonal system is thus not clearly stated. The present study is related to Mann and Kashoki's work in terms of phonology, verbal and nominal morphology, and syntax. Nevertheless, the above studies center on one language while the present study has comparative objectives and analyses three closely related languages. Mann and Kashoki's work is important in the present study as they provide a clear descriptive analysis of Bemba as the ROL of LuMaNa languages which has been used as a corpus to inform the analysis of phonological, verbal, and nominal morphology as well as syntax.

Carter (2002) provides 'An Outline of Chitonga Grammar'. The scholar concentrates on the sound system and orthography of Tonga and brings to light some aspects of morphology and syntax. Carter (2002) builds on the study by Collins (1962) who analyses Tonga Grammar. The chapters deal with preliminaries and references to the grammatical aspects, word classes of nouns and adjectives, verbal and adverbials, prepositional affixes, pronominal, demonstratives, numerical, relative clauses, subordinate clauses, and conditional sentences. The present study is similar to Collin's work in terms of morphology and syntax. However, this study is different because it centers on more than one language, addresses aspects of phonology, and is comparative. Collin's work is insightful during the discussion of nominal classes in chapter six and the word order in chapter ten of this thesis.

Chiyonga (2009) analyses the Grammar of Compound Nouns in Tonga. Her study of grammar brings to light some aspects of phonology, morphology, syntax, and semantics. The scholar got insights from Katamba (1993) and Bloomfield (1933) during the analysis of the relationship between the structure of words and sentences on one hand and compound nouns in Tonga on the other hand. The present study is similar to Chiyonga's literature in terms of compounding under

nominal morphology where she analyses the phonology, morphology, and syntax of compound words in the Tonga language. However, this study is different because it has comparative objectives, deals with three closely related languages, and goes beyond nominal morphology by analysing phonology, verbal morphology, and syntactic variations in LuMaNa.

Chulu (2020) analyses the Grammar of Compound words in Bemba. His study draws insights from Bloomfield (1933) and Katamba (1993) who analyse the grammar of compound words in general. Chulu's study to the following works; Tonga grammar (Collins, 1962), Grammar of Compound Nouns in Tonga (Chiyonga, 2009), and an Outline of Chitonga Grammar (Carter, 2002). Chulu argues that at the centre of generating meanings of compound nouns in Bemba is a critical analysis of the grammar of Bemba compound nouns concerning their morphology, syntax, and semantics. The study lends itself to the contention by Kula (2009) that the combined nominal roots show properties of compounds concerning the head controlling agreement and prosodic requirements on the head to end in a high tone. The study establishes the grammatical properties of Bemba Compound Nouns within the spheres of the morphology, syntax, and semantics of the Bemba compound nouns. The scholar argues that nouns can combine with verbs, adjectives, nouns, and so forth and can form complex compound nouns in form of grammatical phrases and clauses. The scholar further argues that when two parts of speech are combined to form a compound; the meaning of individual words is obscured. Chulu's literature is helpful during the determination of nominal morphological variations in the present study. The valid concepts of this study contribute to the analysis of nominal derivation in chapter seven of this thesis. However, the present study is different because it has comparative objectives and deals with three closely related languages as opposed to one. The study is also different because it accounts for phonological aspects which Chulu did not do.

Givon (1969) considers the causative in Bemba verbal extensions as a supplement to the various verbal morphology and treats it as a complementising verb that can be taken only by human agents. The scholar shows that the causative suffix in Bemba is [-i-] which is realised as [-y-] only if it follows very few tonal consonants on the surface. Givon indicates that Bemba uses the suffix [-*enshya*] or [-*inshya*] and that the causative can also be marked by the suffix [-*ka*] or [-*eka*] in certain transitive verbs. The scholar does not provide details on what happens to the verb roots during the forming of the causative extension. The above omission leads fail to account for certain phonological processes which are used to form verbal extensions such as vowel harmony and gliding. Furthermore, Givon's (1969) assertion that the causative can only be taken by human agents is not convincing because in Bemba, for instance, not all agents in the performance of the action of the verb are humans. The present study is similar to Givon's work in terms of verbal morphology regarding tense, aspect, and mood (TAM), subject and object marking, verbal extensions, and negation on verbal complexes.

2.3 Studies on Lungu, Mambwe, and Namwanga languages

2.3.1 Studies on Lungu language

The following descriptive scholarly works on the Lungu language have been reviewed: Kashoki and Mann (1978), Siame and Banda (2021), Guthrie (1948), Bickmore (2004 and 2007), Halemba (2007), Kagaya (1987), Bickmore (2003), and Bickmore and Doyle (1995).

Kashoki and Mann (1978) argue that the Lungu language is closely related to Mambwe to such an extent that the two are often described as dialects of the same language. Due to the above reason, the two languages are sometimes written as Lungu-Mambwe or Mambwe-Lungu. About geographical position and ethnicity, those identifying themselves as Mambwe are to the east of those that claim Lungu ethnicity (cf. Siame and Banda, 2021). Guthrie (1948) confirms that

Lungu as a Bantu language is spoken in parts of the Northern Province of Zambia as well as in Southern Tanzania. The above studies provided insights in chapter one under the following: the background, geographical and historical variations of the LuMaNa languages.

Bickmore (2004, 2007) reports that studies on the Lungu language focus on phonology and tone in particular. Given Bickmore (2004), Lungu exhibits several morphophonological processes that affect vowel length, namely; vowel deletion, gliding, nasal demorification, and word-final shortening. Bickmore (2004) argues that both vowel deletion and gliding target only short vowels in the Lungu language. The scholar states that vowel hiatus is tolerated on the surface when there is a consonant underlying between the two vowels which ultimately deletes. The study shows that Lungu does not have *[wu] or *[wo] surface sequences. When the above sequences occur, the [w] deletes. The *[wu] or *[wo] surface sequences are common problems in almost all Bantu languages. The scholar argues that the deletion process is led by hardening the voiced bilabial glide /w/ to the voiced bilabial plosive [b] after a heteromorphemic nasal in which an underlying voiced velar plosive /g/ deletes unless it is preceded by a nasal. The scholar also argues that in situations where the voiced bilabial glide /w/ or voiced velar plosive /g/ deletes, the Lungu language tolerates a surface hiatus. Bickmore (2004) further argues that while rising tones are present in Lungu, their distribution patterns are restricted. The present study draws insights from Bickmore's work during the analysis of morphophonological processes acting on LuMaNa languages such as deletion, vowel hiatus, gliding, and vowel length.

Bickmore (2004) also reveals that while Lungu employs the cross-linguistically common processes of gliding and vowel deletion to resolve most instances of underlying vowel, vowel (VV) hiatus, there are several instances of surface vowel following another vowel (VV) hiatus. The study shows that vowel hiatus is caused by either the first vowel being underlying long or an

underlying consonant (C) coming between the two vowels (Vs) which later deletes. The scholar argues that the first case of surface vowel hiatus that does not result from one of these two situations is the one created by an onsetless Subject Marker being followed by a root-initial vowel. Bickmore argues that there is one instance where a High-toned mora is inserted between the two vowels to resolve the vowel hiatus. Bickmore (2007) shows that vowel length is not contrastive in verb roots. The scholar shows that first in verbal complexes in the verbal structure of Lungu elements is the Subject Marker [SM], followed by a singular Object Marker [OM], and in each case, the verb ends with the root [VR] and Final Vowel [FV]. The study shows that Lungu like many other Bantu languages employ various strategies to avoid surface vowel hiatus. The scholar argues that, in general, when the morphology creates a VV sequence, the hiatus is repaired by an alteration of the first V in the sequence, viz. if it is high it glides and if it is low it deletes. Bickmore further argues that it does not seem possible to restrict vowel deletion or gliding to some specific part of the verbal complex in Lungu. The present study is similar to the above literature in terms of phonology and verbal morphology. On the other hand, this study is different because it also accounts for nominal morphology and syntax in LuMaNa languages. The above studies guide the analysis of gliding, vowel deletion, vowel hiatus, syllable structure, verbal structure as well as subject and object marking in the present study.

Bickmore (2007) further argues that as is the case in all Bantu languages, the Lungu language exhibits extensions on the verbs. The study shows that the Lungu language has a range of derivational verbal extensions that often though not always change the number of augments of the verb. The following are some of the verb extensions Bickmore documents on Lungu language: causative, intensive, passive, stative, reciprocal, and applicative. The study reveals that as is true of many Bantu languages, in certain tenses and aspects, the Lungu language has a Melodic High suffix. This is in addition to the H tones supplied by the various morphemes that

comprise the verb which docks onto certain free Tone Bearing Units [TBUs]. The analysis also provides the basics of Lungu tonology in which the author proposes that the underlying tonal distinction in Lungu lies in high versus low tones. The study further shows that Lungu has a variety of different contour tones, all of which must be borne by a long vowel. Lungu language exhibits downstepped High tones which are indicated orthographically. The scholar points out that one can account for the actual tonal pattern as well as the length of the root-initial V in each of the forms if one assumes that in a particular environment, the language inserts H-toned mora after an onsetless subject marker (SM) which gets associated to the initial mora of an immediately following onsetless verb root (Bickmore, 2007). The present study is similar to Bickmore's work in terms of phonology and verbal morphology. Nonetheless, it is different because it also includes nominal morphology and syntactic analysis of LuMaNa languages. The present study has comparative objectives and deals with three genetically related languages. Bickmore's work is the point of departure for the analysis of verbal extensions, tense, aspect, mood (TAM), and tone in the present study.

Like other Bantu languages, Lungu language has a word structure and nearly all the words are composed of a prefix + root. Nouns and verbs practically always have a prefix. He argues that the pre-prefix or augment is usually optional in both nouns and verbs. The study also shows that verb roots in Lungu are usually compounded into single words with various prefixes where the first prefix denotes the subject, the second denotes tense, and sometimes other prefixes denote object pronouns. Halemba (2007) reveals that the word structure of Lungu is similar to that of Mambwe. Bickmore's study guides the analysis of the nominal and verbal structures of the LuMaNa languages.

Bickmore (2004) argues that when the noun in Lungu in class 1a/2a becomes diminutive, then the class prefixes surface with a long vowel and the pre-prefix is never present. The study shows that augmentatives are formed in class 7/8 prefixes. Class 7/8 prefixes are added to the inherent class prefix of the noun. As is the case in the diminutives, the class 5 prefix is always realised as /li-/, and the class 2 prefix is always realised as /ya-/ in the Lungu language. The study also shows that when the augmented noun is from class 9/10, the inclusion of the class 9/10 prefix is often optional, but just as was seen with the diminutives, if the root begins with a voiced plosive, then the class prefix is obligatorily maintained. The study further reveals that the toneless prefixes /cii-/ and /vii-/ are used to augment the nouns in class 1a/2a. The present study is similar to Bickmore's work in terms of diminution and augmentation. On the other hand, this study deals with all noun class prefixes, phonology, and verbal morphology as well as syntactic variations. This literature lays a strong foundation for the present study in chapters six and seven during the analysis of the noun class system and nominal derivation which include honorific, diminutive, augmentative, and pejorative nouns in LuMaNa languages.

Bickmore (2004) adds that the nominal stem in Lungu is most often monomorphemic, but not always. The study shows that the most obvious case of a bimorphemic stem is seen in the class 15 words, which are used as verbal infinitives. In those cases, the stem comprises both a verbal root as well as the "Final Vowel" /-a/. Bickmore argues that in bimorphemic nominal stems as well as deverbal nominatives, nouns are transparently derived from verbs. Bickmore (2004) further states that the stem in Lungu consists of a verb root plus a nominalising suffix where each of the five vowels can be used as a deverbal suffix. However, the precise semantics that these vowels contribute are not completely transparent. The above expression can be seen in the vowel /-i/ which can be used as an agentive suffix, though this is not always the case. Further revelation shows that the vowel /-o/ can be used as an instrumental, but again, this is not always

synchronically true. Bickmore argues that while in most cases the nominal roots are bimorphemic, they can be more than two morphemes. This data supports the analysis of nominal morphology in the present study during the formation of deverbal nouns.

Bickmore (2004) also notes that when the reflexive prefix /í-/ is present in a nominal, it appears in the object marker position. The study reveals that all Subject and Object markers in Lungu are bound morphemes. Bickmore further argues that in cases where Subject and Object markers must appear alone, a corresponding independent pronoun must be used. The above literature provides insights during the analysis of subject and object marking in verbal morphology in LuMaNa languages.

In the view of Bickmore (2004), all obstruent in the Lungu language can be preceded by a nasal such as: *mb, mp, nd, nt, ng, nk, mv, mf, nz, ns, nsh, nj*, and *nch*. Of course, the question arises as to whether these are unitary phonemes or consonant clusters. The study reveals that in a monomorphemic word like *yèmbà* ‘lake’, it is admittedly somewhat ambiguous as to whether the [mb] is a unitary phoneme or a sequence of the voiced bilabial nasal /m/ and a voiced bilabial plosive /b/. Based on the preceding argument, it is assumed that some phonological processes could change one representation into the other. Bickmore argues that it is clear that some instances of surface [nC] must begin as two separate phonemes. The scholar also argues that the only consonant which never precedes the voiced bilabial glide [w] is the voiced velar nasal [ŋ] which is realised as [ny] in Lungu. The study further shows that there are more restrictions on what consonants can precede [y]. Bickmore raises a question as to whether all surface glides can be derived from the high vowels /i/ and /u/ or some must be set up as phonemes themselves. The above literature provides insights during the analysis of tone assignment, phonological processes as well as determination of consonants and semi-vowels in the present study.

Bickmore (2004) further states that if the stem begins with a voiced plosive /b/, /d/, /j/, or /g/, then the nasal class prefixes remain. The above expression seems to be a strategy to avoid intervocalic voiced plosives. The analysis reveals that Lungu does not permit /d/, /j/, or /g/ intervocalically anywhere in the language, and while the voiced bilabial plosive /b/ is attested intervocalically by surfacing as a voiceless post-alveolar fricative [ʃ], the number of such occurrences is relatively small compared to other consonants in the language. Bickmore (2003) argues that the work on Lungu gives an overview of the nominal tonology, phonetics of High tone lowering as well as the use of feet in accounting for binary spreading. Bickmore (2003, 2004) should be seen as complement of Kagaya (1987) who published a dictionary and four papers on Lungu with the tone which is thoroughly marked. Bickmore and Doyle (1995) refer to the thorough marking of tone in Lungu by Kagaya which is the point of reference during the analysis of phonology and verbal morphology in LuMaNa languages in the present study.

2.3.2 Studies on Mambwe language

This sub-heading covers the literary works that have been done in the Mambwe language. The following scholarly works have been reviewed: Bickmore (2004), Halemba (1994), Halemba (2007), and Halemba (1991).

Bickmore (2004) shows that the most accessible source on the Mambwe language is a very extensive dictionary by Halemba (1994). Halemba (1994) testifies that he has not attempted to mark tones and other prosodic features because these and related phonological phenomena in Mambwe have never been studied. Halemba's study is different from Bickmore (2003/2004) as well as Kagaya (1987) who published a dictionary and four papers on Lungu with the tone which is thoroughly marked. Bickmore and Doyle (1995) confirm the thorough marking of tone in Lungu, a gap that the present study fills in the Mambwe and Namwanga languages. The above

studies provide insights during tone marking and identification of elements of grammar in LuMaNa languages.

Halemba (2007) documents a *Mambwe–English Dictionary* to which he attaches a brief grammar supplement of the Mambwe language. The scholar presents a simple sound system of the language, which includes the vowel system, a few phonological processes such as vowel length, and syllable structure. Halemba establishes the alphabet in terms of vowels, consonants, and what he calls half vowels. What the researcher calls half vowels are linguistically described as semi-vowels, glides or approximants. The scholar establishes the word structure of nouns and verbs as prefix + root which corresponds to the word structure of the Lungu language (cf. Bickmore, 2004). Halemba (2007) also deals with some aspects of derivative verbal forms by identifying and providing definitions of verbal extensions where he testifies that the list of extended verbal forms in Mambwe is not exhausted. His work identifies and accounts for applicative, causative, reversive, verbs of state, repetitive, intensive, reciprocal, completive, reduplicative, and reflexive verbal extensions. Halemba's brief grammar to aid the understanding of Mambwe words in the dictionary lays a good foundation for the present study and is insightful during the establishment of rules governing verbal extensions in LuMaNa languages. Based on the confession by Halemba (2007) that the list of extended verb forms in Mambwe is not exhausted, the present study analyses the existing extensions comparatively and adds more. Halemba's grammar supplement attached to the dictionary is also beneficial in the present study during the analysis of segmental phonology in terms of the phonetic and phonemic systems, the nominal and verbal structures, such as; noun class pairings, verbal extensions, and other derivative verbal forms.

Halemba (2007) also provides a brief description of changes in sounds. He states that the prefix before a word causes the last vowel or the first vowel of a word to change. The scholar adds that the most drastic changes of sounds in the words in Mambwe occur with the nasal consonant /n/ when it is used as a personal prefix of the first person singular. The study further shows that /n/ before the reflexive prefix /i/ becomes [-nj-] as in *kanjisumbe* ‘let me cast/throw myself down’. The scholar argues that the combination of a nasal with a permissible consonant creates a nasal complex, such as [nj]. The present study is similar to Halemba’s work in terms of the reflexive prefix and pronoun. This literature provides information on how to account for verbal morphology especially the verbal structure in LuMaNa languages.

Halemba (2007) documents the sound system of the Mambwe language in terms of the fusion of two adjacent vowels. The writer just gives a few examples of fusion and does not explain how the vowels fuse. In his work, he uses elision and fusion interchangeably which creates problems for language users because elision is applicable in consonants where the weaker consonant is not pronounced, such as the voiceless alveolar plosive /t/ in ‘listen’ in the English construction which is elided in pronunciation while fusion is applicable in vowels in Bantu languages. Since the study deals with vowels, the best term should have been vowel fusion or coalescence of adjacent vowels. Furthermore, the study needed to use fusion and elision of sounds when dealing with both concepts. Halemba’s literature is helpful in chapter five when accounting for phonological processes in particular the ‘fusion of vowels’ and a ‘vowel chart’ with special reference to positions of vowels in LuMaNa languages.

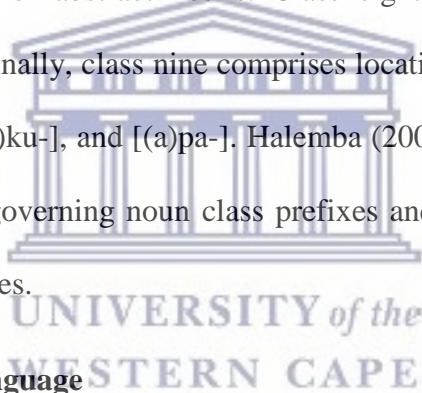
Halemba (2007) also provides a statement: *ukuntaputuka* ‘never ending’ which he divides into syllables: *u-ku-nta-pu-tu-ka*. The above statement is meant to shed light on separating words into syllables for a better understanding of the dictionary. He further states that in Mambwe,

consonant groups are never divided when dividing words into syllables as shown in the example above. It should be noted that the concept of syllables is vital as they are the building blocks of words and the nucleus determines the boundaries of syllables. Halemba (1991) uses vowel lengthening at the beginning of words as in; *aakamutontela* ‘those who obey him’; at the middle of words as in *ukuzuula* ‘to undress, to be full’; and at the end of words as in: *ulupapulo luu* ‘this testament’. Halemba explains that a vowel at the beginning of an abstract word that begins with [u] is always long. He further suggests that lengthening of vowels should always be done on syllables that are before the final one in the verbs that are in the intensive form (Halemba, 2007). It must be pointed out that vowel lengthening is just one of the phonological processes in the Mambwe language. Therefore, the present study uses Halemba’s ideas to account for other phonological processes in LuMaNa languages which include; gliding, coalescence, vowel hiatus, vowel and consonant harmony, deletion as well as assimilation.

Mambwe has the attested word structure in Bantu languages and nearly all the words are composed of a prefix + root (Halemba, 2007). The above word structure is similar to the Lungu language (cf. Bickmore, 2004). The scholar posits that nouns and verbs practically always have a prefix. The pre-prefix or augment is usually optional in both nouns and verbs in the Mambwe language. The verb roots are usually compounded into single words with various prefixes where the first prefix denotes the subject, the second denotes tense and sometimes other prefixes denote object pronouns.

Halemba (2007) establishes a nominal system of nine noun classes in the Mambwe language. Halemba states that the first noun class comprises all intelligent beings, human or otherwise, agents, including foods and foreign words, and is headed by the (pre-prefix) and prefix [(u)mu-] for singular nouns and [(y)a-] for plural nouns. The second noun class is formed using the prefix

[(u)mu-] for the singular nouns and [(i)mi-] for plural nouns where the initial [u] or [i] is soft and sometimes drops completely. The third noun class begins with [i(n-)] or [(u)lu-] in the singular nouns and [(i)n-] in the plural nouns in which [(i)n-] changes into [(i)m-] if it comes before a voiceless bilabial plosive /p/, a voiced bilabial plosive /b/, a voiceless labio-dental fricative /f/ and voiced labio-dental fricative /v/; hence the qualifying singular prefix becomes [i/lu-] and the plural is always [zi-]. Halemba argues that class three prefixes are used to emphasise quantity and variety. The fourth noun class uses the prefix [(i)ci-] for singular nouns and [(i)vi-] for plural nouns and is used to form augmentative and pejorative nouns. Class five uses the prefix [(i)li-] or [i-] for the singular nouns and [(a)ma-] for the plurals. Class six uses the prefix [(a)ka-] for the singular and [(u)tu-] for the plural and includes diminutive nouns. Class seven uses prefixes [u-] and [(u)lu-] to form collective or abstract nouns. Class eight uses the prefix [(u)ku-] and comprises infinitives of verbs. Finally, class nine comprises locatives which are formed from the following prefixes: [(u)mu-], [(u)ku-], and [(a)pa-]. Halemba (2004/2007) is a point of departure for chapter six regarding rules governing noun class prefixes and class pairings under nominal morphology in LuMaNa languages.



2.3.3 Studies on Namwanga language

The studies reviewed on the Namwanga language have contributed to the understanding of phonology, morphology, and syntax of Bantu languages. The following studies have been reviewed: Kashoki and Mann (1978), Grimes (1996), Bickmore (2000), Bickmore (2000), and McCarthy and Prince (1995).

In Kashoki and Mann (1978), a linguistic analysis suggests that Namwanga and Iwa in Zambia are as closely related lexically as Lungu and Mambwe are to each other. This is consistent with what is known about the shared history and culture of the Namwanga and Iwa. Furthermore,

Grimes (1996) considers Tambo and Iwa as dialects of Namwanga. The above works are a guide during the analysis of lexicography in LuMaNa languages in terms of nouns and verbs.

Bickmore (2000) deals with the Downstep and Fusion in Namwanga, spoken in Northern Province then, now Muchinga Province in Zambia. He analyses verbal tonology where she assumes that many of the underlying high tones (H's) in the Namwanga language fuse. However, the scholar argues that determining which H's fuse and which ones do not is a very complex undertaking that requires appropriate and vigorous examination of the subject matter. The scholar applies Optimality Theoretical analysis to examine the pivotal constraints which penalise fusion in the output which is similar to the study by McCarthy and Prince (1995). Bickmore argues that it is difficult to penalise the fusion of auto-segmental features of Namwanga. He notes that to attain descriptive adequacy, constraints must be parameterised in at least two ways: the first being that constraints must be able to distinguish between the fusion of H's which are adjacent in the input, and secondly, the fusion of those which are not adjacent. Bickmore concludes that the penalty for fusing non-adjacent H's which are uniformity must be ranked higher than the general uniformity. Bickmore's ideas are valid during the analysis of the phonological processes concerning constraints and tone. The above work provides insights into analysing the verbal structure in terms of tense, aspect, and mood (TAM) in the present study.

2.4 Chapter summary

The chapter has reviewed related literature on comparative Bantu linguistics and other related studies in Bantu languages. In so doing, the researcher understands and conceptualises the research problem clearly and fosters the conceptualisation of the relationship between the research problem and the body of knowledge in comparative and descriptive linguistics. Conducting a review of studies or literature to identify the knowledge gaps is beneficial in that it

helps the researcher to improve the research methodology, broaden knowledge and contextualise the findings.

The reviewed literature includes the following aspects: related studies on Bantu languages outside Zambia, related studies on Bantu languages in Zambia as well as studies on LuMaNa languages. In terms of phonological studies, most grammars reviewed focus on the phonetic description of sounds, that is, vowels and consonants, syllable structure, tone, and phonological processes. Regarding the morpho-syntactic studies, the most common phenomena described include noun class systems, concordial systems, numerals, pronouns, possessives, noun derivation, relatives, adjectives, quantitatives, adverbs, idiophones, conjunctives, noun phrases, verb conjugation, verb phrase structure, word order, tense marking, verb extensions, sentence patterns such as basic clause types, compound sentences and complex sentences, negation, relativisation, questions, adverbs, and imperatives.

For each category of literature reviewed, the relationship between previous studies and the present one is established. In this way, the undertaking of a literature review to explore the knowledge gaps places the present analysis of LuMaNa languages within the context of other similar studies such as Mtenje (2016), Halemba (2007), and Bickmore (2004). The above-named renowned scholars of Bantu linguistics have enriched the comparative analysis of phonological, morphological, and syntactic variations in LuMaNa languages and, therefore, have justified conducting this study.

The next chapter presents the theoretical framework applied in the present study.

CHAPTER THREE

THEORETICAL FRAMEWORK

3.0 Introduction

The chapter presents the comparative Bantu theory which has been used to complement the descriptive theory to underpin this study. The comparative Bantu theory has been adopted to account for the variations in LuMaNa languages. The chapter starts with the descriptive theory and shows how the comparative Bantu theory has been incorporated into the present study. The comparative Bantu theory has been sub-divided into comparative Bantu phonology and comparative Bantu morpho-syntax. Comparative Bantu phonology has been used to account for phonological variations while comparative Bantu morpho-syntax deals with the analysis of nominal and verbal morphology, and syntactic variations in LuMaNa languages. The chapter closes with a summary.

3.1 Descriptive theory

This study is descriptive and as such adopts the descriptive theory to govern the comparative analysis of LuMaNa languages in terms of phonology, morphology, and syntax to establish their grammar and orthographies. Mutch (2005) shows that descriptive theory is used to analyse how given words and sentences are expressed in particular languages. Sebastien (2016) postulates that descriptive theory is a set of propositions that attempts to describe something, such as the phonology, morphology, and syntax of the LuMaNa languages.

According to Gleason (1961), descriptive linguistic studies are concerned with the analysis of language characteristics and are usually biased toward morphology which deals with the internal structure of words in particular languages. Descriptive grammar is, therefore, an approach that

analyses the grammatical composition of any given language without prejudice in terms of the status it has in a particular society. Due to the above notion, the descriptive approach is widely used in linguistics when analysis a particular corpus and helps to describe the findings in detail. From the foregoing, the descriptive theory in this study is backed by the comparative Bantu theory. According to Sapir (1921) and Bloomfield (1933), the linguistic theory combines the three levels of linguistic analysis, namely, the sound system [phonology], word formation [morphology] as well as the correct arrangement of words in sentences [syntax] which is in tandem with the scope and magnitude of the present study. Dryer (1997) quotes Aissen (1999) by arguing that what Dixon (1997) calls “basic linguistic theory” serves as such a descriptive theory. Therefore, it can be argued that the Basic Linguistic Theory qualifies to be classified under descriptive theory as it deals with the description of the basic grammar of languages such as the LuMaNa (cf. Aissen, 1999).

The researcher of the present study takes cognisance of sentiments by scholars such as Pollard and Sag (1994) who argue that the basic linguistic theory, in this case, the descriptive theory, is inadequate as it does not adequately account for the Chomskyan generative work as an explanatory theory. The present study overcomes the above-stated inadequacy by combining the descriptive theory with insights from the comparative Bantu theory which helps to alleviate the weaknesses of not using the Chomskyan generative theory and strengthens the explanatory power of the framework. Further justification for adopting a comparative Bantu theory to account for a descriptive study is that, although the Chomskyan generative theory is a powerful tool to use, non-linguists and curriculum developers, for example, who might need descriptive data on the structure of the LuMaNa languages, may find it difficult to understand and conceptualise the governing principles as well as the tenets of theories such as the Minimalist

Theory which uses a program to account for the morphological and syntactic structures of languages using illustrative explanations (cf. Chomsky, 1995).

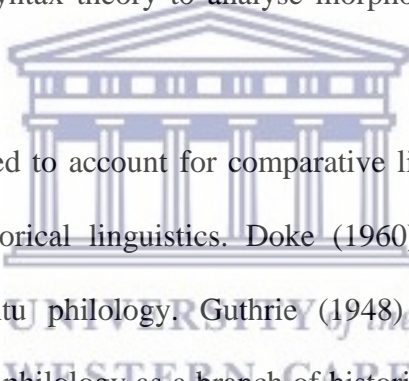
Chomsky (1995) on the other hand backs the choice of the descriptive theory in a way by stating that the core assumption of the Minimalist Program is that grammar should be described in terms of a minimal set of theoretical and descriptive apparatus. Therefore, the present study has taken care of the weaknesses of using the descriptive theory by incorporating the explanatory power of comparative Bantu theory to analyse the grammar of LuMaNa languages in terms of phonology, morphology, and syntax.

3.2 Comparative Bantu theory

The comparative Bantu theory is a combination of three theories namely, comparative Bantu phonology theory, comparative Bantu morphology theory, and comparative Bantu syntax theory. Guthrie (1948) shows that comparative Bantu theory is specifically used to compare and analyse two or more closely related Bantu languages. Although the present study is descriptive, it adopts the comparative Bantu theory to account for the analysis of phonological and morpho-syntactic variations in LuMaNa languages. Hachipola (2017) shows that comparative analysis was originally developed to establish the relationship between Indo-European languages although it has been applied successfully to account for comparative studies of Bantu language families. Hachipola (2017) argues what is known today about the Bantu language family is largely dependent on comparative studies. The present study on comparative Bantu draws insights from Bleek (1860), Meinhof (1932), Guthrie (1948 and 1967-71), Doke (1960), Nurse (1999), Greenberg (2001), Mtenje (2016), Hachipola (2017) as well as Mtenje (2018).

From a general perspective, the scholarly works of comparative Bantu theory can be traced way back to the 1850s starting with Wilhelm Bleek as the major proponent of comparative Bantu

studies (Bleek, 1862/1869). This is followed by Guthrie (1948) and later Doke (1960). Guthrie and Doke are among the earliest scholars after Bleek to apply comparative theorisations. The present study whose descriptive objectives are designed to compare the phonology, morphology, and syntax of LuMaNa languages which are closely related conforms to Bleek (1862/1869) who analyses the linguistic structures of closely related languages using the comparative theory. For this reason, the choice of comparative Bantu farming to accounting for the linguistic variations in LuMaNa languages fits well within the frontiers of comparative studies (Bleek, 1862/1869). From the time of Bleek (1862/1869), Guthrie (1948), and Doke (1960), a lot of comparative Bantu studies have been conducted by both Bantu (native speakers of Bantu languages) and non-Bantu speakers using either comparative Bantu phonology to account for phonological features or comparative Bantu morpho-syntax theory to analyse morphological and syntactic structural elements of languages.



Comparative Bantu theory is used to account for comparative linguistic studies which are also referred to as comparative historical linguistics. Doke (1960) refers to comparative Bantu linguistics as comparative Bantu philology. Guthrie (1948) describes comparative Bantu linguistics or comparative Bantu philology as a branch of historical linguistics that is concerned with comparing languages to establish how their history is related by taking into consideration the genetic similarities and differences. Guthrie (1948) describes genetic relatedness as a situation of languages having a common origin. Guthrie (1948) stresses that for the sake of continuity in the documentation of comparative linguistics, a clear distinction between attested and reconstructed forms must be stated by linguists and it is necessary to prefix an asterisk (*) to any form that is not found in surviving versions of the language. To support Guthrie's notion above, Doke (1960) argues that "...all will agree at least, that whatever relates to the language, its genius, its relation to other known languages, even its mechanism and its flow are not traits

which would look misplaced in the historical picture of a nation.” The above argument shows that genetic relatedness is the corpus upon which comparative Bantu linguistics theoretical framing is built. Based on the above data, comparative linguistics and framing deal with languages that are related and have a common origin. The present study on phonological and morpho-syntactic variations in LuMaNa languages fits within the genetic relatedness of a common ancestor, the Fipa language in Southern Tanzania (Nurse, 1999).

LuMaNa languages also fit in the description of genetic relatedness as a corpus for the application of comparative principles as attested by Greenberg (2001). Greenberg (2001) argues that, in principle, every difference between two related languages should be subjected to a high degree of plausibility and systematic changes. For example, in the present study, the phonological, morphological, and syntactic systems should be consistent. Greenberg (2001) further argues that in practice, the comparison of languages may be more restricted, for instance, just to lexicology. The theoretical underpinning of the present study shows that comparative Bantu framing is used to determine the relatedness of languages that are deemed to have a common origin or ancestor language such as LuMaNa languages and cannot be used to analyse the Proto language.

The present study segments the comparative Bantu framing into two sub-headings, namely; the comparative Bantu phonology and the comparative Bantu morpho-syntax. The comparative Bantu phonology accounts for the phonological variations while the comparative Bantu morpho-syntax accounts for morphological and syntactic variations in LuMaNa languages respectively.

3.2.1 Comparative Bantu phonology

Comparative Bantu phonology theory deals with phonological aspects such as phonemes, syllable structure, and phonological processes which are great ingredients of phonological

analysis to determine variations of languages in question. It suffices to say, this sub-heading deals with the comparative description and analysis of both segmental and suprasegmental features in LuMaNa languages. Although the chosen central approach is generally descriptive, the theoretical implications of comparative Bantu phonological aspects should emerge when accounting for the vowel and consonant systems, suprasegmentals, phonological processes, and syllable structure in LuMaNa languages. The above theoretical implications and notions in the present study conform with Mtenje (2016) who conducts a related study by comparing and analysing the phonological and morpho-syntactic variations in SuNdaLa languages in Malawi.

A good number of scholars use comparative Bantu phonology to analyse phonological elements. As a result, this comparative study of Bantu phonology is guided by the principles of scholars whose studies deal with the concept in general and categorically. Among the most notable theorists of Bantu phonology discussed in this chapter include; Guthrie (1948, 1967-71), Meeussen (1967), Miti (2006), Mtenje (2016), (Kula 2002), Bickmore (2004), Mtenje-Mkochi (2018), Kadenge and Simango (2014), Mtenje (2021), Downing (2003), Bickmore and Doyle (1995), Mtenje (2013), Bickmore and Kula (2013), Kula and Marten (2019), Mkochi (2014) and Bickmore (2000).

Guthrie (1948, 1967-71) uses comparative Bantu theory to classify Bantu languages into Zones based on the genetic relatedness of the language varieties. For instance, Guthrie (1948) classifies Lungu, Mambwe, and Namwanga languages in Zone M, which is, M14, M15, and M22 respectively to demonstrate that the three languages have genetic relatedness. The above notion of classification is attested by Nurse and Philippson (1999) who argue that the above three languages [LuMaNa] are closely related and are believed to have one common origin in Southern Tanzania and one ancestor language, the Fipa.

Meeussen (1967) reconstructs the vowel system from Proto-Bantu times. His work is of significant recognition in the analysis of the vowel system in the present comparative study for the determination of phonological variations. Meeussen uses Classical Philology to study the Bantu languages such as Bemba which is the ROL of LuMaNa languages. To substantiate Meeussen's claim of the vowel system, other notable scholars such as Miti (2006), Mtenje (2016), Kula (2002), and Bickmore (2004) use comparative Bantu phonology to account for phonological studies on the vowel system. The above studies reveal that some Bantu languages have a five-vowel system while others have a seven-vowel system. The studies also show that there are yet other Bantu languages that have more than seven vowels. Examples of studies on Bantu languages with a seven-vowel system include Lingala, Mongo, and Wongo (Miti, 2006) while languages with five vowel system include SuNdaLa (Mtenje, 2016), Bemba (Kula, 2002) and Lungu (Bickmore, 2004).

Mtenje-Mkochi (2018) accounts for the morphophonological comparative analysis of SuNdaLa, Bantu languages in Malawi, and establishes that Ndali repairs vowel hiatus by altering the VV sequence by either deletion of vowels or gliding in verbal complexes. Mtenje-Mkochi's (2018) principles are related to Kadenge and Simango (2014) who analyse the vowel hiatus resolution in Nsenga in Malawi and Shona in Zimbabwe. Kadenge and Simango (2014) provide a formal comparative analysis of repair strategies used to resolve vowel hiatus in Nsenga and Shona within the Optimality Theory framework and show that while vowel hiatus resolution is categorical in Shona, it is domain-specific in Nsenga. The analysis further shows that vocalic hiatus is not generally preferred and the two languages use similar repair strategies in most cases to resolve vowel hiatus which include; glide formation, secondary articulation, or labialisation and deletion. Kadenge and Simango (2014) argue that where the repair strategies differ, the variation is attributed to the fact that hiatus resolution is sensitive to phonology and morpho-

syntax, and hiatus resolution strategies apply differently depending on the phonological and morpho-syntactic context. The study shows that Nsenga permits vowel hiatus in these cases while Shona resolves it through spreading which is also called glide epenthesis. The above two comparative phonological studies are insightful in the present study when comparing and determining the principles that govern the analysis of phonological processes as well as positive and negative forms of verbal complexes.

Chiona (2005) provides an account of phonological processes in the Ndali and Nyika languages. This research focuses on syllable structure processes such as vowel deletion, glide formation, and vowel coalescence which are vowel hiatus resolution strategies in Ndali. The findings of Kadenge and Simango (2014) and Mtenje-Mkochi (2018) regarding vowel hiatus resolutions are similar to Chiona (2005) in terms of syllable structure. However, the findings of Chiona (2005) on vowel hiatus resolutions are also similar to those of Clements and Goldsmith (1984). Chiona (2005) specifically deals with phonological processes in verbal structures. Nevertheless, the scholar does not identify the phonological, morphological, and syntactic conditions which govern the formation of various phonological processes. The present study is related to the above studies in terms of phonological processes, vowel hiatus resolution strategies, and comparative objectives. On the other hand, the above studies do not analyse morphology and syntax. A further distinction of the present study is that it accounts for three closely related languages instead of two as portrayed in the literature under review. The literature in the above studies provides insights into the analysis of the syllable structure, phonological processes, and verbal structure of LuMaNa languages.

Mudzingwa (2010) analyses repair strategies in Karanga and Zezuru. The comparative study aims at investigating how the two Shona dialects deal with onsetless syllables and sub-minimal

words. This study shows that glide formation in these two varieties is the default strategy, and if this is blocked by phonotactic constraints, secondary articulation is used. The study further shows that if secondary articulation is also blocked, the two varieties resort to elision to resolve the hiatus constraints. The analysis provides the conditions under which secondary articulation replaces glide formation and when both glide formation and secondary articulation may not be possible thus leaving room for vowel elision. The study further shows that two constraints drive the repair of onsetless syllables in Karanga and Zezuru, namely, no hiatus and onset. The present study is related to Mudzingwa based on phonology and the comparative nature of objectives. Nonetheless, this study also accounts for morphology and syntax and deals with three genetic languages as opposed to two. The study adopts Mudzingwa's work as a point of reference during the analysis of vowel hiatus repair strategies in LuMaNa languages.

Mtenje (2021) accounts for vowel sequences in Bantu languages and theoretical trends. The study shows that vowel sequences and their interaction with syllable structure in the phonology of Bantu languages have been a subject of considerable theoretical discussion. The research presents data from Ndali and Nyika in Malawi where, like in most Bantu languages, vowel sequences are not tolerated and are separated by glide formation, vowel deletion, or consonant insertion in both reduplicated and non-reduplicated constructions. The study shows that in some morphological constructions, vowel sequences are allowed because they bring about contradictions in the ranking of faithfulness and syllable structure-related constraints. The findings reveal that there are cross-linguistic variations on when and how such sequences are separated to yield preferred syllable patterns, but the most common repair strategies are epenthesis, glide formation, coalescence, and deletion. The theoretical findings of this study on vowel hiatus resolution strategies are similar to Mtenje-Mkochi (2018). Given Mtenje (2021), one of the most critical situations arises when it comes to justifying why within the same

language some vowel sequences are tolerated in one domain while in another domain they are not allowed. The scholar, however, argues that there have been different theoretical perceptions over the years in the analysis of this type of vowel sequences, although the articulation of Optimality Theory (OT) as attested by Prince and Smolensky (1993), McCarthy (2004), Kager (1999), and Archangeli and Langendoen (1997) provides latest theoretical aspects on how complicated issues involving vowel sequences can be analysed. The above literature provides insights into how to analyse vowel sequences in the present study.

Mtenje (2021) further argues that while in the majority of cases, vowel sequences are resolved by using vowel deletion and consonant epenthesis to make sure that syllables generally start with full onsets, there are situations when contiguous vowels are maintained within the same language, which is difficult to comprehend. The study reveals that these facts can easily be analysed in OT by applying the concepts of Cophonologies and linguistic variations in constraint rankings (cf. Downing, 2003; Inkelas, 1998; Orgun, 1998; and Inkelas and Zoll, 2005). Therefore, the study outlines further supporting evidence from Bantu languages which require the explanatory principles of Cophonologies in OT in which it has been shown that by using the Cophonology theory, linguists can easily overcome the ranking paradoxes without weakening any of the independently acceptable principles of OT. The above study demonstrates that there is an interface between phonology and morphology. The present study draws insights from Mtenje (2021) on how to account for vowel sequences and is similar in terms of phonology, nominal and verbal morphology, and the comparative nature of objectives. The present study is, however, different because it also analyses syntax and deals with three genetically related languages as opposed to two languages.

Mtenje (2016) describes and compares the grammars of Sukwa, Ndali, and Lambya (SuNdaLa) which are closely related varieties and are spoken in the northern region of Malawi. The analysis focuses on the phonological and morpho-syntactic systems of the SuNdaLa varieties by examining variations among them and identifying the shared linguistic features. The study demonstrates that all SuNdaLa varieties have a five-vowel system which relates to the findings of Kula (2002) regarding the vowel system of Bemba as well as Bickmore (2004) concerning Lungu language. Mtenje (2016) argues that variations exist among the SuNdaLa consonant inventories. However, Lambya has the richest consonant inventory because it is the only variety that distinguishes voiced obstruents. The scholar argues that variation in the realisation of NC sequences exists in the SuNdaLa cluster in which Sukwa and Ndali employ a rule of post-nasal stop voicing while Lambya aspirates its stops after a nasal. Further variation exists in Sukwa and Ndali which delete a fricative after a nasal while Lambya maintains it. The study reveals that SuNdaLa varieties share most other processes involving the NC sequences, such as homorganic nasal assimilation and consonant hardening. The analysis further shows that SuNdaLa varieties share the basic syllable structures and all varieties disallow contiguous vowel sequences. The present study is similar to Mtenje regarding the analysis of three languages, the comparative nature of objectives, and that it analyses phonological and morpho-syntactic variations. The difference is that LuMaNa languages are spoken in Zambia while SuNdaLa languages are found in Malawi.

According to Bickmore and Doyle (1995), the nouns in Lungu display more tonal distinctions synchronically than exist in many other modern Bantu languages. The study shows that there exists a five-way distinction between nouns with CVCV stems and a four-way distinction in nouns with monosyllabic stems. The scholars observe that the above assumption does not only correctly predict the attested surface patterns, but also leads to rules which are well-motivated

both theoretically and typologically in the majority of Bantu languages. The duo argues that Lungu nouns are interesting in that there appear to be more tone classes synchronically than exist in most modern Bantu languages which retain some of the Proto-Bantu tone patterns. The scholars further argue that there is a five-way tonal distinction in CV-CVCV nouns in Lungu which are formed by attaching a noun class prefix to a noun stem. The study also shows that there is a four-way tonal distinction in Lungu nouns with monosyllabic stems. The findings of Bickmore and Doyle (1995) on noun roots counter Inkela's (1989:154) who claims that only those phonological elements belonging to affixes and clitics can be lexically invisible. The duo (Bickmore and Doyle) commonly assumes that the analyses of most Bantu languages show that Low tones are completely underspecified underlying. The present study is related to Bickmore and Doyle in terms of suprasegmental features and nominal morphology. The difference lies in the comparative nature of objectives and that the study also analyses verbal morphology and syntax in LuMaNa languages.

Mtenje (2013) accounts for arguments during a cluster analysis of Nasal Consonant (NC) Sequences of Sukwa and Marang languages in Malawi. The scholar argues that NC sequences in Sukwa and Marang should be analysed as clusters. The arguments for the cluster analysis revolve around the distribution patterns and certain phonological processes that occur in the languages which can only be accounted for if a cluster analysis is adopted. Kadenge and Simango (2014) use similar principles to Mtenje (2013) to analyse vowel hiatus resolutions in Nsenga in Malawi and Shona in Zimbabwe. Mtenje-Mkochi (2018) complements Mtenje's study by arguing that Ndali repairs vowel hiatus by altering the VV sequence by either deletion of vowels or gliding in verbal complexes. The present study is related to the above phonological studies in terms of nasal sequences and nasal clusters in LuMaNa languages and is different because it compares three languages as opposed to two. This study is also different because it

analyses the variations which exist in nominal morphology, verbal morphology, and syntactic characteristics in LuMaNa languages.

Bickmore and Kula (2013) compare the two “Central Bemba” dialects to highlight similarities and differences in tone. The study shows that there are three central findings concerning Northern Bemba tonology as the focus of comparison with Copperbelt Bemba, namely, local high tone spreading is binary; high spreading is blocked by the OCP; and there is unbounded high spread if no high follows. Although the study does not highlight any major difference in unbounded spreading in the Copperbelt Bemba, it shows that the first two properties of Northern Bemba are markedly different. The study further reveals that in Copperbelt Bemba, local spreading is ternary, not binary, and a high tone undergoes binary spreading even if it causes an OCP violation which results in a phonetic downstep. In addition to documenting and describing the behavior of high tone in Copperbelt Bemba and offering an analysis of contemporary Copperbelt Bemba tone, the scholars compare the findings on ternary spreading to similar cases in other languages. The present study is related to Bickmore and Kula in terms of the comparative objectives and suprasegmental phonology that is, tone and is different because it also deals with, morphology and syntax, as well as three genetically related languages as opposed to two dialects of Bemba.

Kula and Marten (2019) account for vowel copying in Dciriku and Mwenyi languages. The duo analyses an interaction of vowel copying between phonology and semantics. The scholars explore the interface between phonology and semantics in Bantu languages to account for vowel copying in Dciriku which is spoken in Namibia and Angola, and Mwenyi which is spoken in the Western Province of Zambia. Scholars argue that vowel copying is a phonological process in which inducing morphological distinctions comes from semantic factors. The scholars also argue

that vowel copying in Dciriku and Mwenyi makes visible semantic information by showing that an action has reached the goal or stage of completion. The scholars further argue that vowel copying indicates that the phonological differences point to semantic distinctions in telicity and perfectivity than to distinctions that arise from inflectional and derivational morphology. The present study is related to Marten and Kula's work based on phonology, inflectional and derivational morphology. On the other hand, it is different because it accounts for three genetically related languages and also analyses verbal morphology and syntax in LuMaNa.

Bickmore (2000) analyses tones and glides in the Namwanga language in Zambia (cf. Mtenje, 1986; Kula, 2002; Sibanda, 2004; Mkochi, 2014). In addition, Bickmore (2000) accounts for the Downstep and Fusion as phonological processes in the Namwanga language. Furthermore, Bickmore (2000) analyses and documents Lungu phonology in Zambia. The above literature shows that Bickmore conducted three distinguished phonological studies in 2000, two in Namwanga and one in the Lungu language. The present study is related to the above literature in terms of phonology with an exception of Bickmore (2000) on Lungu phonology whose title is deceptive because it also deals with nominal morphology, verbal morphology, and some elements of syntax. The present study is different because it also analyses, morphology and syntax. It is further different from works by Bickmore (2000) because the objectives are comparative. The focus of the above studies centers their attention on structural characteristics which include segmental and prosodic features of Bantu languages and unreservedly contribute to the development of the present study in chapter five regarding some aspects of phonology in LuMaNa languages.

The present study also reviews and adopts the ideas of distinguished scholars whose studies on Bantu phonology focus on selected elements of Bantu languages. Mtenje (1986) studies the

issues in the non-linear phonology of the Chewa language in Malawi. Kula (2002) analyses the phonology of verbal derivation of the Bemba language in Zambia. Sibanda (2004) analyses the verbal phonology and morphology of the Ndebele language in Zimbabwe. In addition, Mkochi (2014) accounts for strong accent constituents in Tonga in Zambia and subsequently analyses the universal guidelines and constraints to consider when determining strong accent constituents. The present study draws insights from the above studies in terms of phonology and verbal morphology. On the other hand, this thesis is different from Kula, Sibanda, Mtenje, and Mkochi because it also accounts for nominal morphology and syntax. The other difference is that the present study has comparative objectives and deals with three closely and genetically related languages as opposed to one language.

3.2.2 Comparative Bantu morpho-syntax

Comparative Bantu morpho-syntactic theory is a combination of morphological and syntactic theories. The morpho-syntactic analysis aims at establishing whether the morphology and syntax of languages under investigation are at dialectal continuum or not (cf. Bose and Nassenstein, 2016). In the present study, the comparative Bantu morphology has been sub-divided into verbal and nominal morphology which are analysed in separate chapters. Thereafter, the comparative Bantu syntax theory has been used to account for variations of syntactic features in LuMaNa languages.

In nominal morphology, the noun class system is the prominent feature of Bantu languages. Miti (2009) argues that the grammatical structure of Bantu languages is defined by the characteristic of the nominal class system. The above expression shows that in Bantu languages, the concordial agreement of the syntactic system is dependent on the nominal class system. The theorists below provide insights during the analysis of nominal morphology; Meeussen (1967), Mtenje (2011),

Nurse (1999), Katamba (2003), Nkolola (2010), Marten (2009), Kula (2009), Nurse and Philippson (2003), Mtenje-Mkochi (2018), Guérois et al (2017), Mtenje, (2016), and Mogara et al (2019), Kula and Marten (2021), Marten et al (2018), Toporova, (1997), Petzell and Hammarström (2013), Maho and Sands (2003), Marten et al (2007), Maho (2009), Guthrie (1971), Nurse and Philippson (1975, 1980), and Gonzales (2002).

Meeussen (1967) and Mtenge (2011) analyse the present-day Bantu languages. Meeussen (1967) accounts for the classification of the noun classes and makes major contributions to the comparative study of Bantu languages and the reconstruction of the phonemes, grammar, and vocabulary of Proto-Bantu. Meeussen (1967) clearly outlines the main facts of Proto-Bantu grammar in the manner they were known during that time. In addition, Meeussen is the scholar who is responsible for founding the database of "Bantu Lexical Reconstructions" which has been maintained to date. On the other hand, Nurse (1999) conducts a lexical statistical analysis using Bantu lexical reconstruction principles introduced by Meeussen (1967) and concludes that there is more distance between Lungu and Mambwe in Tanzania than there is between Namwanga and Wanda languages. The above studies provide insights for the present study during the analysis of nominal morphology with special reference to the noun class system of LuMaNa languages.

Katamba (2003) analyses the noun class pairings of various Bantu languages as well as nominal formation variations. The study shows that noun class pairings can be used to identify languages with similar characteristics. In a related study, Nurse and Philippson (2003), and Kunkeyani (2007) account for strategies that are pertinent for noun formation such as deverbatives, that is the formation of nouns from verbs. In addition, Nkolola (2010) conducts a similar study and analyses the word formation and nominal classification of Bantu languages. Marten (2009) further supplements Katamba's (2003) work by conducting a study on the determination of

augment and augmentless varieties of language. The above studies and strategies are useful in the present study during the analysis of noun classes and nominal derivation in LuMaNa languages.

Mtenje-Mkochi (2018) compares the nominal class marking systems of Sukwa classified as M202, Ndali classified as M301, and Lambya classified as M201B which are spoken in Malawi, Tanzania, and Zambia and are collectively labelled SuNdaLa languages. The study focuses on the Malawi varieties and analyses the similarities and micro-variations exhibited in these closely related languages. The research compares the SuNdaLa languages using parameters developed by Guérois et al, (2017) to test the validity of closely related varieties by considering the similarities of the nominal class marking systems, variations exhibited in the noun classes, and factors that account for the variations. The study shows that the SuNdaLa varieties share similarities on a lot of values, particularly that they have V-shaped augments and use the class 5 prefix [-li-] which alternates with zero. The analysis also reveals that SuNdaLa languages have 19 noun classes, express diminutive and augmentative meaning through noun classes and nouns take locative and infinitive prefixes. The duo argues that the above-mentioned parameters fail to capture micro-variation of minute details exhibited within the SuNdaLa varieties. The scholars also argue that there is a need to refine the parameters by adding sub-parameters. The analysis further shows how closely related languages exhibit variation and how the variation provides indications of the direction and nature of language change in the nominal class marking systems. The scholars conclude that although there are minimum variations in the nominal class marking systems of SuNdaLa, their similarities are indeed indications that the varieties are on a dialectal continuum. The present study draws insights from this work in terms of analysing noun structures, noun class prefixes, and strategies employed during a nominal derivation in LuMaNa languages.

Mtenje (2016) describes and compares the grammars of Sukwa, Ndali, and Lambya (SuNdaLa) which are spoken in the Northern region of Malawi. The study reveals that the nominal system in SuNdaLa varieties is tonal, namely, the realisation of a high tone in nouns is not predictable and hence underlying contrastive tones have to be marked. The most common word formation strategies in SuNdaLa are noun derivation using derivational affixes, reduplication, compounding, and borrowing (cf. Akanlig-Pare, 1999; Beard, 2001; Kozwanomo, 2016; Robinson, 2016). Morpho-syntactic characteristics of SuNdaLa languages display the expected classical Bantu language features in the noun class system, the noun formation, and the noun modification processes. The SuNdaLa varieties share most morpho-syntactic properties and they exhibit the same values concerning object marking. The varieties allow an overt lexical noun phrase to occur with the object marker and they employ locative object markers. While Ndali pairs the singular class 9 nouns commonly with the plural class 4, Sukwa and Lambya follow the most common pattern in choosing plural class 10 for singular class 9. Sukwa and Ndali (SuNda) share the same possessive stems while Lambya (La) has its own. The scholar concludes that SuNdaLa varieties appear as segments of a dialectal continuum with Sukwa and Ndali having a closer relationship with Lambya being further apart. The present study fits within the frontiers of morpho-syntactic comparative analysis of Bantu languages by analysing a similar study of three genetically related [LuMaNa] languages.

Mogara et al, (2019) explore the characteristics of the form, structure, function, and semantic features of compound words in Setswana in Botswana. The scholars argue that although the principles of compounding in Tswana are similar to those found in other Bantu languages such as Swahili in Tanzania, the semantics tend to be distinctive because they reflect the Tswana socio-cultural and historical lifestyles as cattle keepers, traditional hunters, and farmers. The trio argues that compound words are often used in the same manner as proverbs and idioms for

stylistic effect in speech. The scholars further argue that although proverbs and idioms tend to be long by nature of compounding, the Batswana speakers prefer them to loanwords during conversations as they add more value to both the oral and written discourse than other words in their usage. Mogara's study lays the foundation for the analysis of compound words in the present study.

Toporova (1997) analyses the typology of Bantu noun classes by discussing aspects of phonology, the noun class distribution, locatives, diminutives, and augmentatives. In terms of the typology of diminutives and augmentatives, Mtenje-Mkochi (2018) is similar to Toporova's study. The scholar notes that there is a tendency for several phonemes in Bantu languages to grow towards the eastern and southern directions. The study brings to light the two most common prefix models, namely, consonant final and final vowel which are exhibited in most Bantu languages concerning zones. Toporova argues that the consonant final model is less common and occurs in the zones A, G, E, K, H, while the CV prefixes are frequent and found in all Bantu areas. The study reveals that VCV prefixes with an initial vowel as a pre-prefix occur in zones E, J, R, S, M, and G. The study further shows that there is a tendency for non-standard prefix forms in the areas not central to Bantu languages. The smallest number of classes, that is, between 10 and 13 occur in the northern and western zones A, B, and C while the highest number of classes are found in the languages of the eastern, north-eastern, and central zones. Toporova's study also shows that all the Bantu languages of the north-western zones A, B, and C and of zone H have all three locative classes, namely 16, 17, and 18. The study further reveals that all the locatives mentioned above occur in some eastern G, central K, and M, southern S, east-southern P, and south-western R languages as well as in part of some of the languages of the zones D, E, F, and L. The above classes are found in all zones except the west-northern languages (zones A, B, and C). The typological analysis of the noun class systems of Bantu

languages is groundbreaking in the present study during the analysis of the noun structure and noun class prefixes in LuMaNa languages which belong to Zone M.

Petzell and Hammarström (2013) conduct a lexical and grammatical comparison as well as a subgrouping of closely related Bantu language varieties in the Morogoro region in Tanzania. The comparison is based on 27 morphophonological and morpho-syntactic parameters, a lexicon of 500 items, and the speakers' self-assessment of linguistic similarity. Maho and Sands (2003) argue that the language varieties are poorly described just like many other languages in Tanzania. This study supplemented parameters proposed by Marten et al (2007) to investigate the structural relationships between the Greater Ruvu Bantu language varieties. The study establishes that languages are labelled according to Maho's (2009) updated version of Guthrie's (1971) divisions which is related to parameters developed by Marten et al, (2007). The study focuses on structural features such as morphophonological processes, noun class marking, negation, and verbal morphology which includes tense, aspect, and mood (TAM) markers. The study uses automated cognate judgment methods as well as manual cognate judgments based on older sources by Nurse and Philippson (1975 and 1980) and Gonzales (2002) to compare lexical data. The scholars argue that to determine the relationships and boundaries between the varieties, grammatical phenomena constitute a valuable complement to counting the number of identical words or cognates. The present study benefits from the arguments in the above literature and applies the insights during the analysis of phonological and morpho-syntactic variations in LuMaNa languages.

Under verbal morphology, the present study adopts the theorisations of the following studies; Downing (2001), Kiso (2012), Downing (2011), Miti (2006), Marten and Kula (2014), Chanda (1985), Guthrie (1948), Nurse and Philippson (1999), Mtenje (2016), Mwansa (2011), Cocchi

(2000), Grüter (2006), Nkolola (1997), Marten et al (2007), Barbiers and Kleij (2002), Bresnan and Moshi (1990), Henderson (2006), Marten and Kula (2012), Mtenje-Mkochi and Mtenje (2019) and Swilla (1998).

Downing (2001) postulates that verbal structure branches from the Macro Stem together with the Stem. The above notion shows that a scholar cannot account for any element of verbal morphology without springing from the verbal structure of a particular language hence the present study adopts the same notion to establish verbal morphological variations in LuMaNa languages. The present study also adopts the concepts which Kiso (2012) applies to analyse tense, aspect, and mood (TAM) in LuMaNa languages. Kiso (2012) provides the background information applied during the comparison of tense and aspect in the Chewa, Tumbuka, and Sena languages in Malawi. The scholar compares and analyses the variations of tense and aspect systems in the three Bantu languages based on rigid or flexible different remoteness categories. The scholar identifies similarities and differences based on the reconstruction of historical developments and concludes that there are copula constructions in Chewa, Tumbuka, and Sena. The present study draws insights from Downing (2011) during the analysis of the verbal structure of LuMaNa languages in terms of tense, aspect, and mood. The study also considers Kiso's (2012) comparative Bantu verbal morphology during the analysis of tense, aspect, and mood (TAM) to establish the verbal variations in LuMaNa languages respectively. In addition, Miti (2006), and Marten and Kula (2014) investigate the benefactive and substitutive applicative in Bemba. The present study adopts the principles of the above works to govern the analysis of verbal extensions in LuMaNa languages.

Mtenje (2016) describes and compares the grammar of Sukwa, Ndali, and Lambya in Malawi in terms of verbal morphology. The study establishes that SuNdaLa varieties share the verb

structure common to all Bantu languages with prefixes for the markers of the subject, tense and aspect, and the object, and suffixes for various categories of extensions. The study also shows that SuNdaLa varieties share the most morpho-syntactic properties and exhibit the same values concerning object marking. In SuNdaLa, object marking is restricted to one per verb and it is the benefactive object which can be expressed by an object marker. Furthermore, Sukwa and Ndali (SuNda) share the same possessive stems while the Lambya language has its own. This literature is a mirror of the present study in terms of verbal morphological variations in LuMaNa languages.

Cocchi (2000) shows that Bantu object markers and Romance clitics can be given a unitary analysis. Cocchi points out that object markers in Bantu languages encode phi-features of corresponding lexical determiner phrases (DPs), and express syntactic relations of the object, indirect object, locative, and reflexive. The study establishes that object markers replace lexical arguments and have a similar syntactic distribution surfacing to the left of the verb. The study also investigates the implications of these similarities in the acquisition of object markers of Bantu language families. Mwansa (2011) uses Cocchi's principles to compare object marker acquisition between Bemba and French speakers of equivalent ages. The Bemba spontaneous data shows similarities between Bemba and French children in terms of ages of acquisition and omission of object arguments. The data, however, does not clearly show the delay in the acquisition of the object marker as opposed to the subject marker that is attested in French children. The elicitation production experiment shows that Bemba children do not randomly omit objects, but appear to obey semantic and pragmatic constraints that license null objects in the target language whereas high rates of non-target omissions have been reported in French children. The study further shows that children reject the null object construction in a replication

study of Grüter (2006) on the Truth Value Judgment Task which involves French-Canadian children of an equivalent age range. The study reveals that Bemba children like their French counterparts have no null object representation in their grammar. This study provides the background insights and vital theoretical underpinning embedded in comparative Bantu morphology during the analysis of verbal morphology more especially subject and object marking in the present study on LuMaNa languages.

Nkolola (1997) accounts for verbal morphology regarding verb extensions in Tonga. Her work analyses the applied, causative and passive extensions. The study shows that in verbal morphology, affixes should be attached to the root of the verb to indicate the subject, object, tense, aspect, negation, mood, and other grammatical and lexical elements of the verb. The scholar establishes that the elements of the Tonga verb are; the pre-prefix, prefix, post-prefix, tense and aspect marker, object marker, root extension, and ending in that order of occurrence. The above analysis shows that the Tonga language fills most of the slots on the verbal structure of Bantu languages developed by Schadeberg (2001). Nkolola's findings on Bantu verbal morphology are insightful and contribute to the analysis of eleven (11) verbal extensions in LuMaNa languages.

Marten et al (2007) provide a more systematic approach for the analysis of morpho-syntactic characteristics of Bantu languages. The scholars propose 19 parameters that serve as the basis for cross-linguistic comparison. They employ these parameters in a comparative study of ten south-eastern Bantu languages. The scholars point out that earlier studies on morphological and syntactic variation aimed at providing broad parameters for variation among the world's languages. The study shows that many of the more recent studies on comparative Bantu have examined these phenomena in much smaller and structurally more similar language groups such

as studies on the Dutch dialects in the SAND project and the research conducted on variation in the syntax of Italian dialects (Barbiers and Kleij, 2002). The present study is similar to the above literature in terms of morphological and syntactic analysis. Nonetheless, it is different from previous studies because it also analyses phonology and focuses on three genetically related languages in Zambia.

Marten et al (2007) raise concern over earlier studies such as Bresnan and Moshi (1990) and Henderson (2006) and object that such studies are often conducted independently without consultation of other studies and, therefore, produce results that cannot be used for comparative investigations of morpho-syntactic structures. Marten et al (2007) argue that their parameters prove to be meaningful for the sample languages, as they differentiate the languages chosen for the survey. The scholars also argue that their parameters are ascertainable in Bantu languages in general. Marten et al (2007) establish that parameters are binary in that a given language shows either a positive value or a negative one. Furthermore, their parameters are transferable in that they can be related to structures found outside Bantu languages. The present study is similar to Marten et al in terms of morpho-syntactic structural analysis. Marten's parameters guide the analysis of verbal morphology regarding subject and object marking in the present study.

In addition, Marten et al (2007) parameters address morph-syntactic phenomena which include: object marking, double object construction, relative constructions, locative inversion constructions, and the distinction between conjoint and disjoint forms. The study shows that the parameters were employed in five languages, namely Chewa, Bemba, Swahili, Swati, and Otjiherero languages. The results reveal that the closest similarity exists between Bemba and Chewa (67%), and between Bemba and Swahili (66%). Based on the number of shared structures among all languages of the sample, the study shows that Chewa comes first (60%), followed by

Swahili (55%), then Bemba (53%), Otjiherero (50%), and finally, Swati (42%). The scholars argue that Chewa is the most typical of the five sampled Bantu languages since it shares the most structural characteristics with all the other four languages. The scholars attribute a plausible explanation for the structural resemblance between Chewa, Swahili, and Bemba and the divergence of Otjiherero and Swati to a relationship between structural similarity and geographical proximity, language contact, and the function the languages have in their areas. The present study is similar to the above literature in terms of morpho-syntactic analysis. On the other hand, it is different because it also analyses phonology as well as three genetically related languages spoken in Zambia. The present study also applies the principles of Marten et al (2007), and Marten and Kula (2012) during the analysis of object marking in LuMaNa languages.

Mtenje-Mkochi and Mtenje (2019) investigate verbal reduplication in very few studied languages, namely, Sukwa, Ndali, and Lambya. The study shows that the three varieties are closely related and are spoken in Malawi, Tanzania, and Zambia. The scholars use descriptive analysis, tone, and segmental material transfer and argue that although the varieties show some differences in some properties such as those related to phonology and morpho-syntax, the reduplication process is quite similar. The scholars also argue that the verb stem is used as a base on which various applications take place. They further argue that, unless the word minimality conditions are met, elements that are related to the prefix are not considered to be part of the reduplicated part. The scholars conclude that as much as the segmented material is transferrable, it is not permissible to transfer tone and as such, the tone does not form part of the reduplicated elements. The present study is similar to the above arguments in terms of verbal extensions, dealing with three languages, and the comparative nature of objectives. The difference is that the present study also analyses phonology, nominal morphology, and syntax.

Swilla (1998) describes the tenses in Ndali. The scholar establishes that Ndali tenses are similar to those found in many other Bantu languages. She identifies eighteen tense forms and discusses the semantic values including the morphophonological processes that apply in the constructions with the first singular subject. The scholar establishes that time markers are generally pre-verb roots and aspect markers are post-verb roots. The scholar also discusses the semantic values of each of the eighteen forms and also the morphophonological processes that apply in the constructions with the first singular subject. The study shows that the distinction between past and non-past is more important than the traditional tripartite system of past, present, and future. The analysis demonstrates that Ndali has several forms for expressing the present and the past but does not have this elaborate system for the future. The future is expressed using the present form of the motion “go” which is followed by a verb in the infinitive to which a locative is prefixed. The study further reveals that the future can also be expressed by using the present form of a verb followed by a future-time adverb. The scholar argues that the future tense can as well be formed using the subjunctive form of the verb “come” which should be followed by a verb with the final vowel [-e]. The study also shows that the future does not have forms that are particular to itself but it depends on other verbs and modalities. This work is beneficial to the present study during the analysis of the verbal structure, specifically tense in LuMaNa languages.

Concerning the general comparative Bantu syntax framing, the study adopts the scholarly works conducted by, Kiso (2012), Guthrie (1948), Mtenje (2011), Meeussen (1967), Marten (2007), Marten and Kula (2012), Letsholo-Tafila and Mushayabasa (2019), Zentz (2016), Chomsky (1982) Radford (1997) and Holmberg (2005) respectively. The contributions of the above studies towards the development of the present study are great. Based on the number of the literature reviewed, I observe that there are few comparative syntactic studies that have been conducted on Bantu languages.

Kiso (2012) provides a comparison of syntactic aspects in Chewa, Tumbuka, and Sena languages in Malawi. The above languages belong to Zone N in Guthrie's (1948) classification of Bantu languages. The study establishes that Chewa and Sena are marked by [-li], [-ndi], and [-khala] while in Tumbuka [-wa] and [-ni] occur in a specific form used for nominal predication in the present tense clause. Kiso (2012) deals with negation in the main and other clauses and how it is expressed in Chewa, Tumbuka, and Sena languages concerning other Bantu languages. This literature guides the analysis of syntactic variations in the present study.

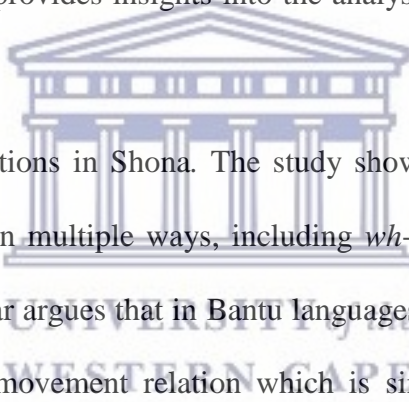
Mtenje (2011) uses Bantu grammatical and Bantu lexical principles to analyse relative clauses and prosodic phrasing in the Wandya language in Malawi. Scholars such as Mtenje (2016), Marten (2007), and Marten and Kula (2012) use related principles in their syntactic studies to account for various categories of syntactic variations. Examples of Bantu syntactic studies conducted using the above principles include the following; sentence structure, word order in simple and complex sentences, determination and modification, number patterns, questioning techniques, the noun phrase, and the verb phrase structure. The present study analyses nominal and verbal morphology, and syntax in LuMaNa languages using ideas presented in the above literature.

Marten and Kula (2012) account for object marking and morpho-syntactic variations in Bantu languages such as Bemba. The study subjects syntactic variations to theorisations which leads to the analysis of the noun phrase, questioning techniques, and sentence constituencies which are necessary aspects in the present study. The scholars analyse the study using morpho-syntactic principles. The present study uses morpho-syntactic principles to analyse the morphological and syntactic variations in LuMaNa languages.

Letsholo-Tafila and Mushayabasa (2019) use the Role and Reference Grammar framework (RRG) to account for the strategies for constructing complex sentences in Ikalanga and Shona. The scholars argue that the bifurcation of complex sentences into coordination and subordination has shown to be problematic when analysing complex sentences of languages beyond the Indo-European family. The study shows that emerging research reveals that the coordination and subordination dichotomy does not sufficiently describe the clause linkage relations of languages across the globe. During the comparison of sentence formation strategies in Ikalanga and Shona using RRG, the duo notes that the languages use coordination, subordination, and co-subordination strategies to form complex sentences. The scholars further note that although Ikalanga and Shona's complex sentences are similar in that they both form complex sentences through these three strategies, the languages nevertheless display two differences in consecutive constructions shown below; the first being that there is a morphological dependency in Ikalanga that does not exist in Shona consecutive, and secondly, the two languages also exhibit a difference in how they mark the subject of the dependent clauses in consecutive constructions. The duo also emphasises the important role played by prosody in the formation of complex sentences in the two languages in distinguishing between coordinate and subordinate constructions. The scholars further argue for the recognition of the important role that prosody plays in Bantu Grammar, specifically in the analysis of clause-linking relations in Bantu languages, an understanding that many of the contemporary theories of syntax tend to ignore when dealing with comparative Bantu studies. The literature enriches the present study in terms of sentence structure and word order in LuMaNa languages.

Chomsky (1982) shows that the typology of the noun phrases [NPs], overt NPs are divided into three types, namely; anaphors which are associated with reflexives and reciprocals, pronouns, and referring expressions. On the other hand, covert categories consider an empty category [EC]

as a position with an unarticulated determiner phrase [DP]. Radford (1997) argues that an empty category is a syntactic structure that contains empty or covert or null categories which have no overt phonetic form and hence are considered to be silent constituents. Holmberg (2005) states that the grammatical properties of ECs are functionally determined by the syntactic relations that it enters into especially the *ng* relation. Furthermore, Abney (1987) developed the Universal DP Hypothesis and postulates that in a functional projection, DP dominates noun phrases. Nonetheless, Bošković (2005, 2007, 2008, 2009, 2012), Despić (2011), Bošković and Gajewski (2011), and Bošković and Şener (2014) have proposed parameterised DP hypothesis and argue that the only languages that display a functional DP projection are the ones with overt definite determiners such as English and German. The above notions suggest that Bantu languages should use the NP. This review provides insights into the analysis into word order of the NP in LuMaNa languages.



Zentz (2016) analyses Wh-Questions in Shona. The study shows that Bantu languages permit *wh*-questions to be constructed in multiple ways, including *wh*-in-situ, full *wh*-movement, and partial *wh*-movement. The scholar argues that in Bantu languages, *wh*-in-situ questions are often taken to be derived via a non-movement relation which is similar to the following studies; Carstens (2005) for Kilega; Diercks (2010) for Lubukusu; Muriungi (2003) for Kĩtharaka; Sabel (2000) for Kikuyu and Duala; Sabel and Zeller (2006) for Zulu; and Schneider-Zioga (2007) for Kinande. The study reveals that Shona, prohibits *wh*-phrases prohibitsearing in the canonical preverbal subject position. Wasike (2007) adds that restriction applies to topicalised non-subjects as well as preverbal subjects. The author argues that results for Shona cast doubt on Sabel and Zeller's (2006) attempt to characterise the ban with an appeal to improper movement. Zentz argues that restrictions on the distribution of *wh*-in-situ in Bantu are tied to restrictions on the domain for focus licensing. The study shows that what appears to be full *wh*-movement in Shona

has a cleft: the *wh*-phrase moves to become the head of a relative clause, which is selected by a copula in the matrix clause. Additional evidence of the finding comes from the sensitivity of partial *wh*-movement to island boundaries below but not above the pronunciation site of the *wh*-phrase, a pattern that has been predicted by previous analyses such as Abels (2012a), Sabel (2000), Sabel and Zeller (2006) but for which empirical support has been lacking until now. The present study draws insights from the syntactic studies on Shona as a corpus to analyse mood and the word order in basic sentences in LuMaNa languages.

3.2 Chapter Summary

The chapter has provided an account of descriptive and comparative Bantu theories and how they relate to the analysis of variations in LuMaNa languages in terms of phonology, morphology, and syntax. The chapter has provided background information on descriptive and comparative Bantu linguistics and their application in the present study.

The comparative Bantu theory is used to analyse genetically related languages. The chapter has provided insights into the present study regarding the application of the comparative Bantu theory to analyse phonological, nominal, and verbal morphology as well as syntactic aspects of LuMaNa languages which are genetically related. The chapter also gives justifications for how the present study fits within descriptive and comparative Bantu theories.

The next chapter presents the research methodology adopted in the present study to account for grammatical variations in LuMaNa languages.

CHAPTER FOUR

METHODOLOGY

4.0 Introduction

The chapter presents the methodology applied during the analysis of a comparative descriptive study of LuMaNa languages in Zambia. The methodology has the following sub-headings: research paradigm, research design, research methods, research population, sampling techniques and procedure, data collection tools, comparative Bantu analysis, and ethical statement. The chapter closes with a summary.

4.1 Research paradigm used in the present study

This sub-heading has a two-fold dimension, namely, ontological and epistemological. The above phenomena lead to the positivist and interpretative or constructivist paradigms. For this reason, a paradigm should be seen as an umbrella that encompasses ontology and epistemology to determine the suitable research design and approaches or methods for a particular study (Dash, 2005; Mafofo and Banda, 2014).

According to Kaboub (2008:343), the positivism paradigm emerged as a “philosophical thought in the 19th Century with Auguste Comte’s rejection of the metaphysics and his assertion that only scientific knowledge can reveal the truth about reality”. Based on the above assertion, members of the Vienna Circle who included scholars such as Gustav Bergmann, Otto Neurath, and Hebert Feigl converged to consider the physical science methods as the blueprint for the establishment and documentation of reality and knowledge. Later, the above view regarding reality and knowledge was extended to the social sciences and incorporates the study of languages. Positivists hold the notion that knowledge is based on the experience of the senses

which is obtained through observation and experiment. The above notion is backed by the theory of Hume who postulates that reality and knowledge must be observable, testable, and be able to display the same outcomes by different observers (Hume, 1777) which is in agreement with the arguments of other scholars (cf. Cohen et al, 2000; Dash, 2005; and Kaboub, 2008). One notable example is that if one linguist establishes that the verbal structure of LuMaNa languages consists of the macro and micro-stem as attested by other Bantu languages, the subsequent studies by other scholars should produce related outcomes or findings.

To account for observable, testable, and verifiable reality and knowledge, the positivism dimension uses four major principles and assumptions concerning reality and knowledge. According to Cohen et al (2000) and Dash (2005), the first major principle of positivism is determinism which is scientifically understood as a principle of the assumption that events are caused by other circumstances hence scientists must establish the causal links between an event and the circumstance to have an informed prediction and control. Determinism sees reality as a constant variable and a vehicle for generating constant or stable knowledge. The second major principle of positivism is empiricism. Given Dash (2005:1), empiricism is described as a “collection of verifiable empirical pieces of evidence in support of the theories or hypotheses”. Based on the above assumption, the researcher argues that empiricism focuses on statistical data to validate truth, reality, and knowledge. The principle of empiricism demands that what is observed and experimented on must be backed by empirical evidence for the observed phenomenon to be ontologically and epistemologically valid. Positivists argue that numbers do not cheat and when you, therefore, talk in the language of numbers, factuality is guaranteed. Concerning empiricism, Dash (2005:1) also postulates that it is vital to stress that quantification is an essential component of positivism as it enhances “precision in the description of parameters and the discernment of the relationship among them”. It is the aspect of quantification in the

positivist principle of empiricism that stimulates quantitative methods of research enquiry in some research designs. The third major principle of positivism is called parsimony. Parsimony as a principle, is closely related to the principle of empiricism. Parsimony is described as the explanation of a phenomenon in the most economical way (Dash, 2005). Parsimony embraces a technocratic and scientific way of presenting a phenomenon in a manner that prioritises the economy of time and space and is concerned with the economy in the use of means (cf. Habermas, 1973; Dash, 1993; Dash, 2005; and Merriam-Webster, 2018). The fourth major principle of positivism is a generality which relates to generalising what has been observed about a particular phenomenon to the entire world. Regarding the principle of generality, the specific is applied to the general while the validity of such applications lies in consistent observations by other observers. Habermas (1973) and Dash (2005) argue that Observer 1 and Observer 2 should arrive at the same conclusion regardless of them conducting the research independently.

Apart from the positivist paradigm, there is also the interpretative or constructivist paradigm which stems from the philosophy of constructivism. Constructivism is a constellation of post-positivist philosophical rebel movements who reject the idea that reality and knowledge should only be obtained through sense data that is measurable. The major proponent of constructivism is believed to be Rene Descartes who argue in his publication titled *Discours de la Méthode Pour bien conduire sa raison, et chercher la vérité dans les sciences*, translated in English as “Discourse on the Method of Rightly Conducting One’s Reason and Seeking Truth in the Sciences” that *Je pense, donc je suis* or *Cogito, ergo sum*, that is, French and Latin phrases respectively translated in English as “I think, therefore I am” (Descartes, 1637). Descartes (1637) argues that reality is a construct of the mind hence it is subjective and therefore constructivism “distances itself ... from the strict epistemological position that a truly objective reality can be assessed or represented” (cf. Walsham, 1993:5). It can be argued that constructivism is a

rejection of the positivist principles of determinism, empiricism, parsimony and generality, and substitutes these principles with an overriding principle of relativity where everything is *Cogito, ergo sum* – ‘I think, therefore I am’. For instance, the present study is built on the genetic relatedness of LuMaNa languages which agrees with the constructivism principle of relativity because the three languages are closely related and are believed to have come from the same mother language, the Fipa in Southern Tanzania (Nurse, 1999).

A further argument of constructivism is that reality and knowledge can be established and documented in the absence of measurability as long as the data collection and analysis take into account the two factors. The first factor is that data collection and analysis should be systematic and transparent. The second factor is that the interpretation of reality and knowledge should be derived directly from the data being observed. Based on the above factors, Kapau (2021) argues that knowledge and reality do not need to be generated by scientific methods, but by the scientist who just needs to conduct his/her research in a systematic and transparent manner. The above argument is strengthened by Jimaima (2016) who critically observes that constructivism entails no particular truth: everyone has a particular truth which depends on how they see the world, a situation which is described as psychological constructivism whereas the experiences they might have passed through in their interactions with society is regarded as interpretive or social constructivism. Mafofo and Banda (2014:3) further argue in favour of constructivism by stating that social reality is individualistic as it is “a network of assumptions and inter-subjectively shared meanings” and that “the goal of interpretative research is thus to find the types of articulations or configurations of genres, discourses and styles, that is, the social structuring of semiotic differences or variation in social contexts.” From the foregoing, the goal of the present study is to establish comprehensive orthographies and grammars through the interpretation of the variations of discourses in LuMaNa languages in terms of phonology, morphology and syntax.

After a thorough examination of the paradigms discussed above, with regards to the ontological and epistemological dimensions, the researcher argues that the present study is influenced by the interpretative or constructivist paradigm to compare and analyse the phonology, morphology and syntax of LuMaNa languages. The interpretative paradigm is chosen because it favours collection and analysis of reality and knowledge without considering empirical evidence, but based on what is observed and the prevailing situation on the ground. Based on the above notion, it can be argued that the point of departure of interpretative or constructivist paradigm is based on non-empirical evidence as seen in (Carter and McCarthy, 1999; Dash, 2005). The researcher ascribes the choice of collecting and analysing reality and knowledge to the interpretative or constructivist paradigm because the research objectives of the present study are subjectively descriptive and non-numerical. The non-numerical research objectives point to qualitative research design which is chosen for the present study and is a product of interpretative or constructivist paradigm (cf. Miles and Huberman, 1994). Therefore, the research objectives of the present study on LuMaNa languages fit well within the interpretative frontiers of “What is-kind-of-objectives” which favours the qualitative and descriptive research designs.

4.2 Qualitative research design

It is cardinal to begin by stating that a research design is derived from the type of paradigm which is deemed fit and chosen for a particular study guided by the nature of objectives to be achieved. Paradigms provide information about the body of knowledge and reality informing the research. For this reason, a research design talks about how the identified type of reality and knowledge chosen, that is, research paradigms are specifically tailored to address the research problem (Yin, 1989). In view of Dawson (2002), a research design can be described as an outline of concepts which can be used to guide the manner of undertaking research. Dawson (2002),

further describes a research design as a systematic study strategy which the researcher uses to change the outlined questions for research into hypothesis. Riding on the assumption of Kothari (2004), a research design can be described as an outline of decisions made by the researcher before undertaking research which acts as a research master plan and specifies the methods and procedures for data collection and analysis on a particular topic. Kothari (2004) further postulates that the choice of a desired research design for a particular research problem to be resolved should critically consider the following aspects: research objectives during the study; adoption of method(s) to be used during data collection; source(s) of data collection; instruments to be used during data collection; as well as deciding whether the analysis of data will require either qualitative or quantitative approaches. Based on the criterion described above for the selection of a particular research design, the qualitative research design is ideal when objectives are meant to describe coupled with the analysis of language elements in the closely related varieties such as the LuMaNa languages in the present study.

From the foregoing, the present study is informed by the qualitative research design and backed by descriptive concepts. This study adopts and applies the qualitative design which the following scholars of comparative Bantu linguistics used in their works: Bickmore (2000 and 2004) studies on Cilungu and Namwanga phonology; Mtenje-Mkochi (2018) study on phonology; Mtenje (2016, 2018 and 2019) comparative studies on SuNdaLa in terms of phonology, morphology and syntax; Miti (2006) study on comparative Bantu phonology and morphology; Kula (2002) study on verbal derivation of Bemba; Nkolola (2010), Marten et al (2007), Mtenje-Mkochi (2018), Kula and Marten (2021) studies on nominal morphology; Nkolola (1997), Mwansa (2011), Mtenje-Mkochi and Mtenje (2019) studies on verbal morphology; and Mtenje (2011) and Kiso (2012) who also used the qualitative research design to conduct syntactic studies.

Therefore, qualitative research can be described as a holistic, one which does not require using numerals, inductive, subjective and requires process-oriented methods to understand, describe, interpret and develop a particular theory on what is being researched (cf. Burns and Grove, 1997; Miles and Huberman, 1994; Morse and Field, 1995; and Brink and Wood, 1998). Brink and Wood (1998) as well as Burns and Grove (1997) argue that qualitative research is a better way of understanding aspects which are difficult to count using numerical values, such as the sound system in LuMaNa languages. Furthermore, qualitative research focuses on understanding the whole and not the part. The application of the qualitative skills in the present study provides a holistic understanding of tenets of comparative analysis of closely related Bantu languages such as LuMaNa. By using abstract thinking processes during qualitative research, it influences the emergency of theoretical aspects to satisfy the notions of the design which should ultimately be flexible, special and evolve during the research process (cf. Burns and Grove, 1997).

When the researcher chooses to use the qualitative design, the findings of the study should be reported descriptively using words and sentences (cf. Mutch, 2005). Based on Mutch's assertion, the findings of the present study are reported descriptively using sentential expressions to justify the phonological, morphological and syntactic variations in LuMaNa languages.

4.3 Research methods

The present study adopts and applies three major methods to account for the phonological, morphological and syntactic variations in LuMaNa languages, namely; comparative, elicitation and document analysis methods. The comparative method is backed by lexicostatistics and mass comparison (Greenberg, 2001; Ringe, 1995; Fox, 1995; Nurse, 1999; Campbell, 2004); elicitation method (Mtenje, 2016, 2018 and 2019; Miti, 2006; Bickmore and Kula, 2013; Marten and Kula, 2012); and document analysis method (Chaleunvong, 2009; Nurse; 1999; Mtenje-

Mkochi, 2018; Bickmore, 2000 and 2007; Miti, 2006; Merrifield, 2010). The insights of the above methods are explicitly illustrated in the subsequent discussions.

4.3.1 Comparative method

The comparative method is the major approach which has been used in the present study to collect and document substantial data. The fundamental technique of comparative linguistics is to compare phonological and morphological systems, syntax and the lexicon of two or more related languages using techniques such as the comparative method (Greenberg, 2001). Based on the assertion of Greenberg (2001), the choice of comparative method fits within the fundamental concept of comparative linguistics since the present study confines itself to phonology, morphology and syntax. Greenberg (2001) further argues that the Proto-Bantu languages which are reconstructed by the comparative method are hypothetical which shows that the reconstruction requires the predictive power.

Ringe (1995) notes that the comparative method becomes impracticable for use during the analysis of languages which are derived from a very distant ancestor, and are thus more distantly related. The above expression qualifies the use of the comparative method to analyse the present study on LuMaNa languages because the objectives fit within the frontiers of comparative method on the basis of genetic close relatedness and that the three languages under study belong to zone M in their classification (Guthrie, 1948). Fox (1995) adds that the comparative method is not historical, but provides evidence of linguistic relationships for historical interpretation. The comparative method best suits the comparative analysis of the phonology, nominal and verbal morphology as well as the syntactic variations in LuMaNa languages which are believed to have the common ancestor, the Fipa in Tanzania (Nurse, 1999).

The application of the comparative method in the present study is premised on the two assumptions proposed by Jeffers and Lehiste (1972). Jeffers and Lehiste (1972) postulate that the comparative method is based on two basic assumptions, namely; the relatedness hypothesis and the regularity hypothesis. The relatedness hypothesis shows that if two or more languages resemble each other to such an extent that it cannot be accounted for by borrowing from other languages, then the resemblance can only be explicable by historical connection of the languages involved in the analysis (Jeffers and Lehiste, 1972). Resemblances can be interpreted to be later developments of an earlier parent language, such as, the Fipa in the case of LuMaNa languages, where the daughter languages always have some attributes of the mother language (cf. Nurse and Philippson, 1999). The researcher of the present study argues that the languages that are presumed to be descendants of a single parent or ancestor language are called daughter languages. The researcher also argues that LuMaNa languages are daughter languages of the Fipa in Southern Tanzania. The researcher further argues that LuMaNa languages are sister languages because of their close genetic relationship. Jeffers and Lehiste (1972) further argue that any feature present in common in the daughter language(s) must have been present in the parent language and those features that disagree can be attributed to borrowing from other languages.

The second assumption of the comparative method is regularity hypothesis. Jeffers and Lehiste (1972) argue that regularity hypothesis provides the linguist with the ability to reconstruct the language forms in the parent language. Jeffers and Lehiste (1972) also state that the hypothesis is used to examine words with similar form and meanings in languages assumed to be related by common ancestry which is used to discover the sound correspondences and reconstruct the parent language. It is important to state that the above scholars compared sounds in particular positions and environments of words which were considered to be cognates. In the present study,

sound patterns are addressed under phonological variations using the regulatory hypothesis. Jeffers and Lehiste (1972) also argue that when using the regulatory hypothesis, it is advisable that during the actual establishment of the corresponding sound patterns, the linguist should consider the phonetic environments in which the corresponding sounds occur.

Jeffers and Lehiste (1972) further argue that the reconstruction of all of the parent language proceeds after the sound correspondences have been established. Bloomfield (1933) argues that the comparative method holds the assumption that after a parent language has split up into daughter languages, the speakers of these respective daughter languages lose linguistic contact and develop independently, and are only restructured when the system of phonological contrasts is changed to such an extent that old sound contrasts are lost and new ones are introduced or realigned. Based on the above hypothesis, it can be argued that the change cannot be reversed and as such a phonological system of the cognate languages should be established. The above description qualifies the application of the comparative method in the analysis of the variations that exist in the phonology and morpho-syntax of LuMaNa languages in the present study.

Although the comparative method was originally developed to establish the relationship between Indo-European languages, it has been applied successfully in the comparative studies of Bantu language families (Hachipola, 2017). Hachipola argues that what is known today about the Bantu language family is largely dependent on the comparative studies undertaken within this paradigm, more especially when we consider great works done by scholars such as Bleek (1860). The present study draws insights about the compatibility of the comparative method and comparative studies from scholars which include: Bleek (1860), Meinhof (1932), Guthrie (1948 and 1967-71), Greenberg (2001), Mtenje (2016), Hachipola (2017) as well as Mtenje (2018). The present study overcomes the challenges faced by using the comparative method by incorporating

lexicostatistics and mass comparison methods during the analysis of phonology, morphology and syntax in LuMaNa languages. Furthermore, elicitation and document analysis methods have also been used to strengthen the comparative method. The application of the lexicostatistics and mass comparison methods are discussed below.

4.3.1.1 Lexicostatistics

Lexicostatistics is a backup method of the comparative method in the present study. Lexicostatistics is based on statistical analysis of vocabulary which has been developed to try and overcome limitations of the comparative method (Campbell, 2004). Campbell (2004) shows that lexicostatistics uses lexical cognates, an attribute which is similar to the comparative method. The theoretical basis of lexicostatistics method is that vocabulary items can be matched without a detailed language reconstruction and that comparing enough vocabulary items negate individual inaccuracies. Ringe (1995) adds that lexicostatistics is used during the comparative analysis of languages to determine how they are related to each other based on their ancestor origin but not to determine the Proto-language. The lexicostatistics method has been used in the present study besides the comparative method to analyse the phonology, morphology and syntax of LuMaNa languages which are closely related and all belong to zone M.

Lexicostatistics method was developed in the twentieth century as an alternative method to the comparative method which is mainly associated with Swadesh (1955), although it is based on earlier works on comparative linguistics. The lexicostatistics uses a short wordlist of basic vocabulary to compare various languages. Swadesh (1955) uses 100 to 200 items that are assumed to be cognate on the basis of phonetic similarity in the languages being compared. Based on the above notion, lexicostatistics method backs the comparative method in the present study by using a limited and modified 100 Swadesh wordlist to analyse lexical items in LuMaNa

languages. From the foregoing, the researcher can confidently mention that the effective application of the limited and modified 100 Swadesh wordlist discussed under data collection tools in this chapter in 4.6 was of great help during the establishment of the variations of the lexical items in the present study.

4.3.1.2 Mass comparison

This is another backup method of the comparative method. Mass comparison is another controversial method which was developed by Joseph Greenberg (2001) to back the comparative method during comparative Bantu linguistic studies. Campbell (2004) shows that mass comparison method is based on statistical analysis of vocabulary which has been developed to try and overcome limitations of the comparative method when conducting comparative studies. Campbell (2004) adds that mass comparison uses only lexical similarity to differentiate languages. The theoretical basis of the above method is that vocabulary items can be matched without a detailed language reconstruction. The present study adopts the mass comparison notion to account for similarities in LuMaNa languages and consequently establish phonological, morphological and syntactic differences.

Campbell (2004) argues that mass comparison method does not have any ability to promote language developments, but rather aims simply to show which languages are more and less close to each other. Greenberg (2001) claims that the mass comparison method is useful for preliminary grouping of languages known to be closely related as a first step towards a more in-depth comparative analysis. The above claim fits in the present study because the LuMaNa languages are believed to be closely related. Ringe (1993) further argues by indicating that based on the fact that mass comparison deliberately avoids the establishment of regular changes, the majority of historical linguists do not accept its usage in comparative studies.

Greenhill et al (2010) establish that in the recent past, computerised statistical hypothesis comparative language testing techniques have been developed which are related to both the comparative and lexicostatistical methods. Character based methods are similar to the former while distance based methods are similar to the latter with regard to quantitative comparative linguistics. Greenhill et al (2010) argue that the characters used to compare linguistic similarity can be morphological or grammatical as well as lexical. Since the mid-1990s, these more sophisticated tree and network based phylogenetic methods have been used to investigate the relationships between languages and to determine approximate dates for Proto-languages. The above aspects are useful when analysing the grammatical and lexical items in the present study.

Gray and Atkinson (2003) assert that the comparative method has been considered by many to show promise but is not completely accepted by traditionalists. Greenhill and Gray (2009) argue that this method is not intended to replace the older method, that is, the comparative method, but to supplement it. Greenhill and Gray (2009) further argue that such statistical methods cannot be used to derive the features of a Proto-language, apart from the fact of the existence of shared items of the compared vocabulary like the LuMaNa languages in the present study.

4.3.2 Elicitation method

The present study uses the elicitation method to back up the comparative method as the chosen core approach. In this study, elicitation method is used to collect and verify information provided by the informants as well as the data accessed from local radio stations in the study areas in Zambia without social and physical contact. Elicitation is viewed as the act of obtaining language data by discovering or testing particular phonemes, words and sentences (Mtenje, 2016; 2018 and 2019). This method is especially used when exploring and analysing the elements of language, such as; phonology, syntax, language learning, vocabulary and lexical relations

(www.01.sil.org/linguistics/glossary.com). The researcher elicited the unadulterated information from six native informants (speakers) of LuMaNa languages. Each language had two informants who also worked as verifiers of the collected data.

The present study elicited data using unstructured oral interviews which acted as sources of data collection and verification (cf. Dyer, 1995). Data were also elicited using online sources through Electronic mails (Emails), WhatsApp calls, voice calls and Zoom cloud meetings. In addition, primary data were collected through local broadcasting activities such as; news, plays, poetry and drama from the following radio stations; Walamo for Lungu, Luswepo for Mambwe, as well as Chete and ISO FM for Namwanga languages respectively. In order to collect substantial, correct phonetic and phonemic sound system in LuMaNa languages in terms of the basic vowels as in Miti (2006) and tonology in nominal and verbal systems as in Bickmore and Kula (2013), the researcher recorded radio programmes in local languages for determination of distinctiveness of sound patterns, nominal, verbal and syntactic structures which are in line with Marten and Kula (2012).

4.3.3 Document analysis method

The document analysis method was used during data collection and analysis. The study heavily depended on secondary sources of data to back the primary information as a way of observing Covid-2019 health regulations. This method was comprehensively used to justify the topic and descriptive objectives using the existing secondary data. According to Chaleunvong (2009), the systematic starting point of efficient data collection lies in the identification and retrieval of secondary sources of data needed for a particular study. The retrieved secondary data became the major source of information during the comparative analysis of phonology, morphology and syntax in LuMaNa languages.

The documents which were analysed were accessed from libraries which include; University of the Western Cape, the University of Zambia and Kabwe Municipal Library. The study also used Bibles in LuMaNa languages, internet and published works on the comparative Bantu linguistics within and outside Zambia, studies on LuMaNa languages as well as related studies within and outside Zambia. The secondary sources were important because they supplemented my understanding of the study concepts in terms of the background to the study, literature review, methodologies applicable in qualitative studies, theoretical perspective of comparative Bantu as well as principles governing the analysis of data during the development of the thesis. The above sources provided comprehensive information which made the comparative analysis of LuMaNa languages a success.

4.4 Research population

Based on the CSO (2010) Census of Population and Housing conducted in Zambia, Lungu language had 0.8% out of 12, 526, 314 total population of Zambians which represent 100, 211 mother tongue speakers and Mambwe language had 2.5% out of 12, 526, 314 total Zambians representing 313, 158 native speakers spread across the country. On the other hand, Namwanga language had 2.8% out of 12, 526, 314 total population of Zambians representing 350, 737 mother tongue speakers. The analysis shows that Namwanga language had the highest percentage of mother tongue speakers (2.8%) in 2010 in the LuMaNa languages cluster which the Central Statistics Office in Zambia described as the Mambwe language group (CSO, 2010:65/68). Based on the CSO (2010) Census of Population and Housing, the target population for the comparative analysis of phonological, morphological and syntactic variations in LuMaNa languages in the present study is 764, 106 native speakers.

4.5 Sampling techniques and procedure

The present study used two sampling techniques, namely; purposive and snowball. A purposive sampling criterion was chosen and used to identify the mother tongue speakers of LuMaNa languages who were required to participate in the study. In addition, a snowball technique was equally used to identify the missing informants in respective languages to meet the target number of informants.

The purposive sampling procedure was as follows: Firstly, the residents who are native speakers of LuMaNa languages proposed one informant from each language. The proposed native speakers had worked as translators from either English to LuMaNa languages or vice versa. Secondly, the first informant in each of the LuMaNa languages helped the researcher of the present study to identify the second informant using the snowball approach. The two informants for each of the LuMaNa languages worked as primary sources of information as well as verifiers of the collected data. Therefore, the preference of the selected informants for the present study was towards those who had worked in Translation companies or Bible translators such as those who participated in the translation of the English-Mambwe New Testament Bible (Halemba, 1991) and the formulation of the English-Mambwe Dictionary (Halemba, 2007). Only male mother tongue speakers of LuMaNa languages participated in the study because females excused themselves.

4.6 Data collection tools

The study used the following data collection tools; a notebook, a diary, a checklist, a recording device, Swadesh 100 wordlist and SIL Comparative African Wordlist.

4.6.1 A notebook and a diary

As pointed out by Chrispin (1988), a notebook and a diary are necessary research instruments when qualitative research design is chosen. Therefore, this study used a notebook and a diary for jotting down important research materials to enhance effective data collection and storage of viable information. The above tools acted as permanent records of the collected data from the primary sources such as music, radio stations and oral interviews which subsequently acted as reference materials for the study. During data analysis, information was easily retrieved and documented in terms of phonology, morphology and syntax in LuMaNa languages.

4.6.2 A checklist

This tool was used to collect the information which was needed from the primary sources. A checklist is a data collection instrument which contains facts, names, verbs and other words to be referred to in order to verify the collected, for instance, during an interview (America Heritage Dictionary, 2016). The words, expressions, sentences and paragraphs were prepared in English and the informants were required to translate into LuMaNa languages. Checklists were prepared in line with the five objectives of the study using the English language and informants were asked to translate into LuMaNa languages. Therefore, the first checklist had information on the sound system of some aspects of LuMaNa languages. The second checklist contained words referring to the nominal structure in LuMaNa languages. The third checklist contained words for the verbal structures in LuMaNa languages. The fourth checklist contained the syntactic structures which included the word order of the noun and verb phrase including sentences which were written in English language and the informants provided the equivalents of the expressions in LuMaNa languages for the purposes of analysis to determine the variations of the three closely related languages. The fifth checklist contained information on the implications of data on

checklists from one to four on grammar and the orthographic designs of the present study in LuMaNa languages.

4.6.3 A recording device

A recording device was used to speed up the process of data collection. The device was used to store the main points captured from radio stations, music, the traditional sources as well as oral interviews on radio programmes and individual informants for future reference during data analysis. During the recording of data, the researcher observed confidentiality of individual responses. Although the study was not harmful, respect was given to informants by treating individual responses confidential. Nonetheless, the purpose of the study was specifically meant to analyse LuMaNa languages and had nothing to do with privacy of the informants.

4.6.4 Swadesh 100 wordlist

The present study adopted and used a limited and modified “Swadesh 100 wordlist” introduced by Swadesh (1955) to collect phonemes, verbal, nominal and syntactic aspects from primary and secondary sources. Swadesh as a data collection tool was also adopted by Mtenje (2016 and 2018) among other scholars to collect and analyse the comparative data regarding the phonology, morphology and syntax of SuNdaLa languages in Malawi. The above mentioned data collection instrument was used to gather data, especially lexical items which were used to account for phonological and morpho-syntactic variations in LuMaNa languages.

The table below shows a sample of the limited and modified Swadesh 100 wordlist for LuMaNa language varieties and the detailed list is attached to Appendix A:

Table 4.1: Limited and modified Swadesh 100 wordlist for LuMaNa varieties

S/N	Lungu	Mambwe	Namwanga	Proto-Bantu	English Gloss
01	<i>umúntu</i>	<i>umúntu</i>	<i>umúúntu</i>	<i>m̩-ntu (1/2)</i>	Human being/person
02	<i>inkanda</i>	<i>inkanda</i>	<i>inkánda</i>	<i>kánda (3/4)</i>	skin of body
03	<i>umutwe</i>	<i>umutwe</i>	<i>umútwe</i>	<i>mu-t̩we</i>	Head
04	<i>ilinso</i>	<i>ilinso</i>	<i>ilínso</i>	<i>i-jíco</i>	Eye

Source: Field Data (2022)

4.6.5 SIL Comparative African Wordlist

The study further adopted and used the SIL Comparative African Wordlist introduced by Snider and Roberts (2006) to collect, analyse and document the various home utensils in LuMaNa languages. Snider and Roberts used this data collection tool to explore, establish and document other forms of nouns which include, food items, home utensils, domesticated animals, wild animals, body parts, birds and plants.

The present comparative study explored, analysed and documented the home utensils and other forms of nouns using Snider and Roberts's (2006) comparative principles to determine nominal variations in LuMaNa languages. The table below illustrates a sample of the SIL comparative African wordlist in LuMaNa languages and the detailed list is attached to Appendix B:

Table 4.2: SIL comparative African wordlist for home utensils in LuMaNa varieties

SN	Item in English	Lungu	Mambwe	Namwanga
01	Relish	<i>icífwa</i>	<i>icífwa</i>	<i>inyányi</i>
02	Bread	<i>umukááte</i>	<i>umukááte</i>	<i>umukááte</i>
03	Milk	<i>umukáká</i>	<i>umukáká</i>	<i>umukááka</i>
04	cooking oil	<i>amafúta yakwélékéla</i>	<i>amafúta yakwélékéla</i>	<i>amafúúta yakutendela</i>
05	fireplace	<i>pípémbo, pízíko</i>	<i>pípémbo, pízíko</i>	<i>pípémbo, pízíko</i>

Source: Field Data (2022)

4.7 Data analysis

The present comparative study on phonological and morpho-syntactic variations in LuMaNa languages adopts and applies the comparative Bantu analysis strategies which were used by the following scholars in their studies; Nurse (1999), Kula (2012), Mtenje (2016), Swadesh (1955), Mungenda and Mugenda (1999), Kershner's (2001) and Merriam (1998). In this study, the qualitative data collected from the primary and secondary sources are transcribed, translated and analysed thematically using descriptive and comparative Bantu analysis concepts to justify phonological and morpho-syntactic variations in LuMaNa languages. In addition, figures and tables are points of reference for elements of language which require elaborations for better understanding of comparative concepts in LuMaNa cluster.

The present study uses phonetic and phonemic charts to account for phonological variations in LuMaNa languages with special attention to vowel and consonantal systems. The study also uses lexicostatistics and mass comparison analyses to establish variations at phonology, vocabulary and syntax levels which were adopted by renowned scholars of comparative Bantu linguistics such as; Nurse (1999), Kula (2012) and Mtenje (2016). On the other hand, Nurse (1999), Kula (2012) and Mtenje (2016) also adopted the lexicostatistical analysis developed by Swadesh (1955) in their comparative analysis studies to account for phonological, morphological and syntactic aspects of language. For this reason, the present study adopts the above analysis concepts to account for phonological and morpho-syntactic variations in LuMaNa languages.

Comparative data analysis starts during the data collection period because data collection and analysis go hand in hand when qualitative research approach is used (Mugenda and Mugenda, 1999). Kershner's (2001) analysis of the various morpho-syntactic systems of the verb in Sukwa provides insights for the comparative analysis of verbs, nouns and their corresponding morpho-

syntactic relations, namely; phrases and sentences. The comparative analyses were also subjected to the researcher's intuitive perception and the descriptive research objectives in order to determine variations in LuMaNa languages (Merriam, 1998).

Comparative analysis needs to be distinguished from the descriptions when it comes to language variations because it deals with varieties that have genetic relatedness and are believed to come from the common or ancestor language (Guthrie, 1948). The above expression shows that the LuMaNa languages fit within the frontiers of comparative Bantu analysis whose main aim is to establish the similarities and differences of the closely related languages which are believed to have come from the Fipa (Nurse, 1999).

It is worth noting that while sequential presentations of descriptive information are usually informative about the languages involved, they are only comparative in the weak sense of making the reader aware of differences and similarities (Smelser, 1976). Smelser argues that comparative analysis needs to be separated from the sense in which all analysis is comparative, that is to say, all attempts involving differences, rather similarities should as well be raised to spice up the comparative analysis and make linguists have a clear view or understanding of the languages in question as well as account for reasons leading to the absence of certain linguistic features. In view of Prezworski and Teune (1970), there are two features that define comparative analysis, namely; an interest in the explanatory question of why the observed similarities and differences between languages exist, as well as reliance on the data collected on two or more languages, which ideally correlate with the comparative Bantu theoretical framing.

The primary purpose of adopting the comparative Bantu analysis in the present study is that it has the explanatory interest of gaining a better understanding of the linguistic features involved in the production and establishment of the relationship among LuMaNa language varieties (cf.

Prezworski and Teune, 1970). Prezworski and Teune argue that comparative analysis of languages, in particular the Bantu, achieves the objective by establishing the variations in the explanatory variable(s), such as the LuMaNa languages in the present study.

Prezworski and Teune (1970) show that the strength of comparative analysis strategy lies in its ability to provide the additional explanatory variables, and to show that relations are more or less general than had been initially presupposed by the linguist [researcher]. On the other hand, the above scholars argue that comparative analysis has weaknesses in that it requires the commensurability of concepts across cases such as in verbal and nominal perspectives and the introduction of new variables which bring with it unknown variation too. In addition, like all non-experimental research, comparative analysis has to rely on naturally occurring linguistic variations in which the differences outnumber the similarities as the centre of analysis in a particular study. While using the comparative analysis, the researcher incorporated the lexicostatistical and mass comparison principles by analysing both differences and similarities in LuMaNa languages as a way of overcoming the above stated weaknesses.

The researcher of the present study supports Prezworski and Teune (1970) who argue that conventional types of comparative analysis discussed above focus on the explanation of differences as well as the explanation of existing similarities. The above situation arise due to the fact that what is considered as either a similarity or a difference depends not only on the observed linguistic elements but also on the intuition and introspection of the linguist and should consequently become a social construct instead of an objective reality. The conclusion concerning whether the linguist has noticed differences or similarities in a piece of comparative discourse primarily depends on the parameters applied to analyse the elements of the languages being compared. It is a common trend that the comparative research which begins by analysing

the similarities always come across some of the existing differences or vice versa. Arguably, comparative analysis of the similarities of language varieties also points to differences. The above arguments show that in comparative analysis of languages, there is an interface between similarities and differences and as such the two aspects of language should go hand in hand. Due to the above arguments, neither similarities nor differences should be considered insignificant or ignored during the comparative analysis of languages. Given the above scenario, the researcher argues that both similarities and differences are accounted for during the analysis of LuMaNa languages in the present study.

Prezowski and Teune (1970) establish that there are two strategies that can be used to identify and create similarities in language varieties. The first strategy is called empirical. This strategy requires ignoring some of the evidence as being exceptional in order to focus on the rest of the evidence which shows similarities. The above strategy is accounted for by selecting from the available linguistic evidence in order to come up with a new starting point for the comparison in which similarities are identified and analysed. The second strategy is called conceptual. The conceptual strategy also achieves a new starting point of similarity. However, in conceptual strategy, the starting point of comparison is at a higher level of abstraction. According to Prezowski and Teune (1970), the conceptual strategy can alternatively be applied in order to fulfil the objectives of the comparative study by re-conceptualising similarities and differences of elements of language at a higher level of abstraction. The above expression shows that the differences in linguistic discourse are usually at a higher level and as such conceal the similarities. Based on the above strategies, the researcher infers that comparative analysis deals either with similarities or differences and in some instances both similarities and differences are addressed during the analysis of selected levels of linguistics. The researcher argues that when either similarities or differences are analysed in any given linguistic discourse, the comparison is

more complex than analysing both similarities and differences and whatever decision made is subject to criticism because the readers might have no idea about what happens on the other side.

The detailed classification of the types of comparative analysis is presented by Tilly (1984) who establishes the four types of comparative analysis, namely; individualising, universalising, variation-finding and encompassing. Tilly (1984) shows that individualising comparative analysis contrasts a small number of cases in order to grasp the peculiarities of each case and is linguistically very useful when dealing with differences of language varieties. On the other hand, the aim of universalising comparative analysis is to establish that every given situation follows a particular rule which is helpful when it comes to the establishment of similarities, for instance, in LuMaNa languages. Tilly (1984) also establishes variation-finding comparative analysis which seeks to unearth a principle that governs the establishment of variation which is the degree of a particular phenomenon through examining systematic language differences between given situations. Tilly further establishes encompassing as the fourth type of comparative analysis which strives to place various situations in various places within the same language zone as a criterion to explain the characteristics as a function of their varying relationships to the entire system. For instance, LuMaNa languages in the present study are placed in zone M.

The present study adopts individualising and universalising forms of comparative analysis to account for LuMaNa languages. Individualising comparative analysis is chosen to account for differences in LuMaNa languages at phonological, morphological and syntactic levels of the comparative Bantu linguistic analysis. On the other hand, universalising comparative analysis is responsible for the analysis of similarities in LuMaNa languages. In view of Tilly (1984), individualising comparative analysis involves discovering how different two or more cases. For instance, the establishment of variations in the three closely languages in the present study. The

above is an essential pre-condition of comparative analysis which leads to the establishment of accurate discourses that are necessary during comparative studies. It can be urged that individualising comparative analysis is further used to decide whether the two or more languages being compared belong to the same family and language zone or not. For instance, all the LuMaNa languages in the present comparative Bantu analysis or study belong to zone M, where Lungu is classified as M14, Mambwe as M15 and Namwanga as M22 (cf. Guthrie, 1948).

Pickvance (2005) argues that the individualising model of expressing comparison goes beyond the level of ordinary comparative analysis in the sense that it proceeds the specific boundaries of establishing the similarities by also incorporating generalities. The major rationale behind the individualising comparison lies in its descriptive nature rather than explanatory means which is considered to be the useful first step towards comparative analysis. Pickvance (2005) further argues that individualising is used to establish the substantive difference of the phenomena and not necessarily a methodological difference, hence the author concludes that encompassing comparison is best seen as a subtype of variation-finding comparison.

The foregoing elaborations regarding comparative analysis suggest that Tilly (1984) who is the major proponent has not advanced further than the two common types of comparative analysis, that is, those which seek to explain variation and those which seek to explain commonality. The researcher argues that Pickvance (2005) simply modified what Tilly (1984) described as the model of comparative analysis and called it 'differentiating comparative analysis' and the comparison which explains commonality 'universalising comparative analysis'. Considering that the starting point of comparative analysis is the explanation of similarities and differences, the researcher argues that any linguist of comparative studies can draw two major conclusions, namely; the universalising comparative analysis is used to account for similarities while the

differentiating comparative analysis is used to explain the existing linguistic differences (Pickvance, 2005). The present study adopts the two most familiar types of comparative analysis, namely; differentiating and universalising comparative analysis because the objectives of the research require establishing both similarities and differences that exist in LuMaNa languages.

The table below summarises conclusions which Pickvance (2005) makes when discussing varieties of comparative analysis. It provides principles to consider when using differentiating comparative analysis to analyse differences and universalising comparative analysis to account for similarities in closely related languages such as the LuMaNa languages as illustrated below:

Table 4.3: Types of comparative analysis according to the starting point

		<i>End point: Explanation in terms of;</i>	
		Principle of variation	Principle of universality
<i>Starting point:</i>	Observed or constructed differences	<i>Differentiating comparative analysis</i>	
	Observed or constructed similarities	<i>Universalising comparative analysis</i>	

Adopted from: Varieties of Comparative Analysis (Pickvance, 2005)

Prezowski and Teune (1970) further outlines the two strategies which should be considered when choosing the cases to be analysed by classifying them as the ‘most different systems’ and ‘most similar systems’ designs. By the ‘most different systems’, the duo refers to differentiating comparative analysis and by the ‘most similar systems’, they point to universalising comparative analysis. The researcher argues that differentiating comparative analysis is synonymous to individualising analysis. Furthermore, the first design in the table above shows that logic is a relationship which is invariant across highly different conditions and is thereby shown to be valid irrespective of these conditions. The second design is based on preference to compare similar

elements of languages which are assumed to be familiar to the researcher where intuition and introspection are used with less difficulty.

Moreover, what differentiates universalising comparative analysis from other forms is its commitment to look for underlying universal relations of the varieties available, for instance, LuMaNa languages. The above expression shows that universalising comparative analysis starts from surface level similarities and implies that they are explained by a deeper level common process. The researcher argues that universalising comparative analysis is the conventional model which is adopted when the scholar seeks an understanding of similar processes involved in linguistic analysis in general, language families, branches and finally zones. The above situation of commonality achieved by the universalising comparative analysis also justifies that LuMaNa languages in the present descriptive study belong to the common zone M. Finally, differentiating comparative analysis is very much concerned with collection and analysis of data to establish variations of selected languages like LuMaNa in the present study where the analysis seeks to establish whether the differences between given languages can be explained or not.

Therefore, the present study employs the universalising comparative analysis to account for similarities and differentiating comparative analysis to establish variations in phonology, nominal morphology, verbal morphology and syntax in LuMaNa languages in Zambia.

4.8 Ethical statement

The present study heavily depends on the secondary sources of data which include university libraries, internet publications and other valid textbooks or hardcopies such as Bibles in LuMaNa languages. Nevertheless, supplementary data were collected from limited primary sources which did not require physical and social contact with informants such as music and poetry from local radio stations in LuMaNa languages, unstructured oral interviews, phone calls, Electronic mails,

WhatsApp and Zoom cloud meetings. Therefore, the study is not contiguous to the informants and their privacy in any way as the purpose of the study is not to explore humans, but linguistic features of LuMaNa languages in order to establish their variations.

4.9 Chapter summary

The chapter has discussed the methodology applied in the present study. An interpretative or constructivist research paradigm was chosen to address the ontological and epistemological dimensions regarding the reality and knowledge during data collection and analysis. Qualitative research design was used to account for language variations backed by the descriptive approach. The choice of the research design is based on the descriptive research objectives and was also adopted by Mtenje (2016) during the analysis of the SuNdaLa languages in Malawi.

The chapter also presents the research methods that were used to collect substantial data, namely; comparative method, document analysis and elicitation. The comparative method as the central method in the present study is greatly employed and is complemented by lexicostatistics and mass comparison methods. Document analysis method also has played a major role in the present study in order to come up with this formidable document. On the other hand, elicitation method is a backup method to verify and justify the findings from document analysis and oral sources such as data from the four radio stations mentioned in this chapter.

The chapter also documents tools which were used to collect data, namely; a checklist for oral interviews, notebook, diary, recording device, limited and modified Swadesh 100 wordlist and the SIL comparative African wordlists of LuMaNa languages. The chapter has also presented the comparative Bantu analysis focusing on individualising and differentiating principles.

The next chapter presents the phonological variations in LuMaNa languages in Zambia.

CHAPTER FIVE

SOME ASPECTS OF PHONOLOGY IN LUNGU, MAMBWE AND NAMWANGA LANGUAGES

5.0 Introduction

This chapter presents an analysis of some aspects of segmental and suprasegmental phonology in LuMaNa languages in Zambia. The chapter endeavours to compare, analyse and document information under the following sub-titles: segmental and suprasegmental phonemes in Bantu languages, segmental phonemes in LuMaNa languages which include, the vowel system, approximants and consonantal segments. It also deals with tone and length as suprasegmental features. The chapter further deals with syllabification and the prominent phonological processes which are used as hiatus resolution strategies in LuMaNa languages. The chapter closes with a summary.

5.1 Segmental and suprasegmental phonemes in Bantu languages

A number of studies have been conducted on Bantu phonology. Some studies focus on single languages and structural features of Bantu phonology such as; issues in the non-linear phonology of Chewa (Mtenje, 1986), phonology of verbal derivation of Bemba (Kula, 2002), the verbal phonology and morphology of Ndebele (Sibanda, 2004), and strong accent constituents in Tonga (Mkochi, 2014). Other studies focus on comparative Bantu phonology of languages, such as; vowel copying in Dciriku and Mwenyi languages (Kula and Marten, 2019), phonetics of intonation in South African Bantu languages (Zerbian and Barnard, 2008) and, segmental and suprasegmental variations in SuNdaLa languages (Mtenje, 2016). Studies such as, Mtenje-Mkochi (2018), Kadenge and Simango (2014), and Chiona (2005) focus on comparative Bantu morpho-phonology of two languages. Conversely, very few comparative Bantu phonology

studies involving three genetically related languages are documented, such as, the SuNdaLa cluster (Mjenje, 2016). The present study on LuMaNa languages rides on the scarcity of comparative Bantu phonological studies involving three genetically related languages and mirrors Mtenje (2016) to account for short vowels, long vowels, tone, approximants, consonantal segments, syllabification and vowel hiatus resolution strategies.

5.1.1 Vowel system in LuMaNa languages

This part presents the short and long vowel systems which are used in the phonology of the LuMaNa languages. Bantu phonology shows that some languages have five vowel system, such as Swahili (Batibo, 2021), others have seven vowel system like Lingala, Mongo and Wongo (Miti, 2006) and very few have nine vowel system such as Phuti language (Donnelly, 2009). The LuMaNa languages have a five vowel system which uses short vowels and their counterparts.

5.1.1.1 Short vowels in LuMaNa languages

The LuMaNa languages have an underlying five short vowel system which is common in other Bantu languages, such as; Chiikuhane (Mathangwane, 2018), SuNdaLa (Mtenje, 2016), Shona (Mudzingwa, 2010), Tshivenda (Poulos, 1990), Chewa (Hyman, 2003) and Bemba (Kula, 2002). Short vowels in LuMaNa languages can appear in all positions, such as, stem initial and internal vowel positions in verbs; stem initial, internal and final vowels in nouns. The distribution of short vowels in LuMaNa languages is shown in the figure below:

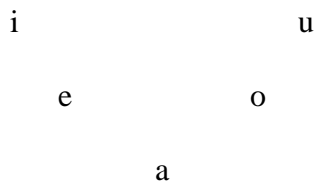
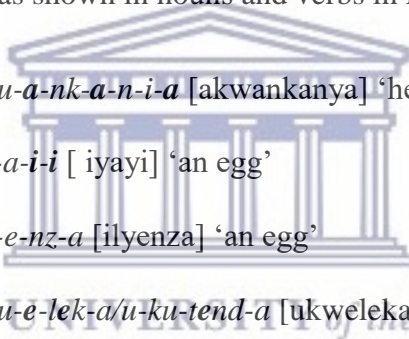


Figure 5.1: Short vowels in LuMaNa languages

While Mtenje (2016) attests that the high back vowel /u/ can occur as stem initial and final vowel position in nouns in SuNdaLa languages, in LuMaNa languages the high back vowel /u/ can appear in the stem initial, internal and final positions in verb stems as well as in augment, prefix, and stem initial, internal and final vowel position in nouns. The low front vowel /a/ in verbs can occur in the augment, prefix, and the verb root or suffix positions as well as in stem initial, internal and final positions. The high front vowel /i/ can occur in the augment, prefix, the verb root or suffix positions in verbs as well as in stem initial, internal and final positions in nouns. The mid-high vowel /e/ can occur in the stem initial and stem internal and final positions in verbs while in nouns, the vowel can occupy the stem initial and stem final vowel. The mid-back vowel /o/ can appear in the stem initial, internal and final vowel in nouns and in stem initial and stem internal vowel positions in verbs as shown in nouns and verbs in LuMaNa below:

- 
- (1) LuMaNa: *a-ku-a-nk-a-n-i-a* [akwankanya] ‘he/she is sharing/dividing things’
 - (2) LuMa: *i-i-a-i-i* [iyayi] ‘an egg’
 - (3) Na: *i-li-e-nz-a* [ilyenza] ‘an egg’
 - (4) LuMaNa: *u-ku-e-lek-a/u-ku-tend-a* [ukweleka/ukutenda] ‘to cook’,
 - (5) LuMaNa: *u-a-mi-zil-e* [wamizile] ‘he/she swallowed’
 - (6) LuMaNa: *u-mu-e-nz-o* [umwenzu] ‘heart’
 - (7) LuMaNa: *i-li-u-e* [iliwe] ‘stone’
 - (8) LuMaNa: *u-mu-on-o* [umoono] ‘fishing trap’
 - (9) LuMa: *u-mu-t-o* [umuto] ‘sibling’
 - (10) Na: *u-mu-zun-a* [umuzuna] ‘sibling’
 - (11) LuMaNa: *u-ku-lot-a* [ukulota] ‘to dream’
 - (12) LuMaNa: *u-mu-sol-e* [umusole] ‘disciple’
 - (13) LuMaNa: *u-u-nt-u* [uwuntu] ‘humanity’

Example (1) shows that the low front vowel /a/ occurs in the pre-prefix, stem initial vowel, internal vowel and final vowel position in the verb in LuMaNa languages. In (2) the high front vowel /i/ appears in the augment, prefix, stem internal and the suffix position in the noun *iyayi* ‘an egg’ in LuMa languages while in (3) in Namwanga language, the vowel only appears in the augment and prefix position. In example (4), the mid-front vowel /e/ occupies the stem initial and stem internal vowel positions in verbs as well as in the final position of the verb in example (5). Example (6) shows that the mid-front vowel /e/ appears in the stem initial position as well as in the suffix position in example (7) in nouns. In (8), the mid-back vowel /o/ appears in the noun stem initial and the noun stem final (suffix) position. Example (9) shows that LuMa languages use mid-back vowel /o/ in the final position of the nouns, such as; *umuto* ‘sibling’ while in (10), Namwanga does not use mid-back vowel /o/ anywhere in the equivalent noun *umuzuna* ‘sibling’. Example (11) shows that mid-back vowel /o/ appears in the verb stem internal position while in (12) it appears in the noun stem internal position in LuMaNa languages. Example (13) shows that high back vowel /u/ takes the augment, noun class prefix and noun stem final vowel positions in nouns in LuMaNa languages.

The above described short vowels are summarised in the table below:

Table 5.1: Description of short vowels in LuMaNa varieties

Short vowel	Position of the vowel
/i/	high front vowel
/e/	mid-front vowel
/a/	low front vowel
/u/	high back vowel
/o/	mid-back vowel

The description and position of the five short vowel system in LuMaNa languages is as attested by other earlier studies on Bantu languages.

5.1.1.2 Long vowels in LuMaNa languages

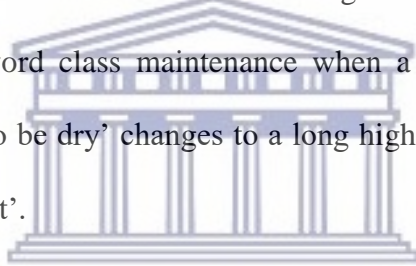
Long vowels which are the counterparts of the five short vowels discussed in 5.1.1.1 are attested in LuMaNa languages. Sloat et al, (1978) describes vowel length in terms of the number of vowels in speech sounds. Lumwanga (2015) contends that vowels in Bemba in syllables such as /pe/ which immediately precede nasal compounds like [-nd-] as in: *ukupenda* ‘to count’ as well as vowels in the syllables like /pya/ as in: *ukupyanga* ‘to sweep’ which immediately follow the semi-vowels, are long. Many Bantu languages such as; Kinyarwanda (Zerbian and Barnard, 2008), SuNdaLa (Mtenge, 2016) and Chiikuhane (Mathangwane, 2018) attest that vowel length is phonemic. However, there are Bantu languages where vowel length is not phonemic. For example, Mtenje (2010, 2012) claims that vowel length in Sukwa language is not contrastive. Similarly, Kadenge and Simango (2014) also claim that vowel length in Nsenga and Shona is non-contrastive in these languages, but is predictable before nasals. Bickmore (2000) claims that vowel length is not contrastive in Namwanga instead there is a predictable process by which a penultimate vowel of a phonological phrase becomes lengthened. However, this study provides evidence that vowel length is phonemic in Namwanga language. Consider the contrastive analysis of short and long vowels in LuMaNa languages as illustrated below:

Table 5.2: Contrastive analysis of short and long vowels in LuMaNa varieties

S/N	Language	Short vowel	Long vowel
i	LuMaNa	/i/ in <i>lila</i> ‘to cry’	/i:/ in <i>li:la</i> [liila] ‘to enjoy’
ii	LuMaNa	/e/ in <i>lenga</i> ‘to ask for arms’	/e:/ in <i>le:nga</i> [leenga] ‘to draw’
iii	LuMaNa	/a/ in <i>kanya</i> ‘to sow seeds’	/a:/ in <i>ka:nya</i> [kaanya] ‘to forbid someone from doing something’

iv	LuMaNa	/o/ in <i>lota</i> ‘to quench fire to ashes’	/o:/ in <i>lo:ta</i> [loota] ‘to dream’
v	LuMaNa	/u/ in <i>kuza</i> ‘rat’	/u:/ in <i>ku:za</i> [kuuza] ‘rub against something’
vi	LuMaNa	/a/ in <i>ukupama</i> ‘to slap, beat’	/a:/ in <i>ukupama</i> [ukupama] ‘courageous’
vii	LuMaNa	/u/ in <i>ukuma</i> ‘to be dry’	/u:/ in <i>uku:ma</i> [ukuuma] ‘to beat’

Table 5.2 shows that long vowels in (i-vii) in nouns and verbs in LuMaNa languages lead to change in morphology of the words. Example (v) reveals that LuMaNa languages use vowel length to distinguish nouns and verbs which makes the feature to be contrastive. On the other hand, example (vi) shows that vowel length can also be used to distinguish verbs and nouns. In examples (i-vii), vowel length leads to both semantic and grammatical differences in words. In (i-iv, vii), the verbs undergo word class maintenance when a short high back vowel in the syllable [u] in [ku] in: *ukuma* ‘to be dry’ changes to a long high back vowel [u:] in the syllable [kuu] in the verb *ukuuma* ‘to beat’.



5.1.2 Consonantal segments in LuMaNa languages

Trask and Stockwell (2007) states that a consonant is a speech sound which is produced by significantly blocking the movement of air. LuMaNa languages have six types of consonantal segments which are classified as; plosives, nasals, fricatives, semi-vowels or glides or approximants, affricates and laterals respectively. LuMaNa languages have twenty consonantal segments which are; /b/, /d/, /v/, /z/, /m/, /n/, /l/, /w/, /j/, /p/, /t/, /tʃ/, /dʒ/, /k/, /f/, /s/, /ʃ/, /g/, /ŋ/ and /ñ/, and are described in the following examples:

(14) LuMaNa: /b/ a voiced bilabial plosive as in: *imbazu* [imbazu] ‘ribs’

(15) LuMaNa: /p/ a voiceless bilabial plosive as in: *ipaalo* [ipa:lo] ‘blessing’

- (16) LuMaNa: /m/ a voiced bilabial nasal as in: *mala* [mala] ‘to finish something’
- (17) LuMaNa: /d/ a voiced alveolar plosive as in: *ponda* [ponda] ‘to pound’
- (18) LuMaNa: /k/ a voiceless velar plosive as in: *konga* [konga] ‘one small thing’
- (19) LuMaNa: /g/ a voiced velar plosive as in: *impanga* [impaŋga] ‘sheep, bush’
- (20) LuMaNa: /ñ/ a voiced velar nasal as in: *ing’ombe* [iñombe] ‘cow, cows’
- (21) LuMaNa: /ʃ/ voiceless post-alveolar fricative as in: *ukusha* [ukuʃa] ‘to grind’
- (22) LuMaNa: /j/ a voiced palatal approximant as in: *yula* [jula] ‘to open’
- (23) LuMaNa: /f/ a voiceless labio-dental fricative as in: *fuuka* [fu:ka] ‘humble’
- (24) LuMaNa: /t/ a voiceless alveolar plosive as in: *temwa* [temwa] ‘to love’
- (25) LuMaNa: /s/ a voiceless alveolar fricative as in: *insota* [insota] ‘nipples’
- (26) LuMaNa: /tʃ/ a voiceless post-alveolar affricate as in: *incito* [intʃito] ‘work’
- (27) LuMaNa: /l/ a voiced alveolar lateral as in: *lola* [lola] ‘to see’
- (28) LuMaNa: /dʒ/ a voiced post-alveolar affricate as in: *ukucenjela*
[ukutʃeɲdʒela] ‘to be craft, wise’
- (29) LuMaNa: /w/ a voiced bilabial approximant as in: *wenga* [wenga]
‘one, alone’
- (30) LuMaNa: /ɲ/ a voiced alveolar-palatal nasal as in: *ukufunya* [ukufuɲa]
‘to scratch’

The place and manner of articulation of consonantal segments are summarised below:

Table 5.3: The consonantal segments of LuMaNa varieties

	Bilabial	Labio-dental	Alveolar	Post-alveolar	Palatal	Velar	Labio-velar
Plosive	p b		t d			k g	

Nasal	m		n		ɲ	ɳ	
Fricative		f v	s z	ʃ			
Affricate				tʃ dʒ			
Lateral			l				
Glide	w				j		

The LuMaNa languages have variations in the realisation of the sibilant sounds based on the consonants which follow them. Sibajene (2013) states that glottalisation affects the voiceless labio-dental fricative [f], voiced labio-dental fricative [v], voiceless post-alveolar fricative [ʃ], voiceless alveolar fricative [s] and voiced alveolar fricative [z] phonemes. The above scholar argues that the voiceless labio-dental fricative [f] in Valley Tonga manifests as a glottal fricative [h] in Plateau Tonga while the voiced labio-dental fricative [v] in valley Tonga is realised as a voiced glottal fricative [ɦ] in plateau Tonga. In LuMaNa languages, the voiceless post-alveolar fricative /ʃ/ manifests as [sh] in Lungu language while in Mambwe and Namwanga languages, it is realised as [sy] as shown in the examples below:

(31) Lungu (Lu): *ukusha* [u-ku-ʃ-a] ‘to grind’

(32) MaNa: *ukusya* [u-ku-ʃ-a] ‘to grind’

The study shows that in examples (31-32), the voiceless post-alveolar fricative /ʃ/ manifests as [sh] in Lungu and [sy] in Mambwe and Namwanga (MaNa) languages. Example (31) reveals that in the voiceless post-alveolar fricative /ʃ/ which is realised as [sh] in Lungu language, the voiceless alveolar fricative /s/ goes towards the voiceless glottal affricate [h] while in (32), the voiceless alveolar fricative /s/ goes towards the voiced palatal glide [y] in the verb root. Although the morphology of the two words in (31-32) is different, their semantics and

consonantal sound representation is the same, that is, voiceless post-alveolar fricative /ʃ/. Mambwe and Namwanga languages permit the voiced palatal glide [y] to follow the voiceless alveolar fricative [s] to form the sibilant while Lungu permits a voiceless glottal affricate [h] to follow the voiceless alveolar fricative [s] and never vice versa. In (32), voiced palatal glide [y] combines with the voiceless alveolar fricative [s] to form the voiceless post-alveolar fricative cluster [sy] in Mambwe and Namwanga languages.

LuMaNa languages have restrictions concerning the position and combination of homorganic nasals. Spitulnik and Kashoki (1996, 1998) argue that the post-alveolar affricate [dʒ] and the voiced velar plosive [g] sounds are always preceded by a homorganic nasal in nasal clusters in Bemba language and never occur word initially or between vowels which can be represented orthographically as [nj] and [ng] in: *njeba* [ɲdʒeba] ‘tell me’ and *ngupa* [ŋgupa] ‘marry me’. In like manner, the post-alveolar affricate [dʒ] and the voiced velar plosive [g] never occur word initially or between vowels in LuMaNa languages, but are always preceded by a homorganic nasal in nasal clusters as illustrated below:

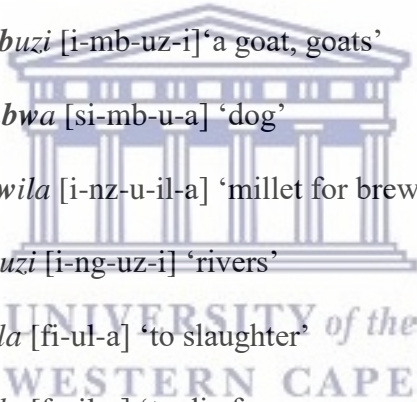
(33) LuMaNa: /i-ɲdʒ-el-u-a/ → /iɲdʒelwa/ [ɲjɛlwa] ‘bricks’

(34) LuMaNa: /ng'-un-z-a/ → /ng'unza/ [ŋg'unza] ‘hamming’

Examples (33-34) reveal that homorganic nasals always precede the post-alveolar affricate [dʒ] and the voiced velar plosive [g] in LuMaNa languages. Further analysis shows that the post-alveolar affricate [dʒ] and the voiced velar plosive [g] does not occur in the initial position of a word or between vowels in LuMaNa languages, but follow homorganic nasals in nasal clusters. In example (33), the post-alveolar affricate /dʒ/ manifests as [j] in LuMaNa languages while voiced velar plosive /g/ is realised as [g]. For this reason, the orthographic representation of

homorganic nasals in nasal clusters in LuMaNa languages is as follows: in (33) /dz/ → [-nj-] while in (34) /g/ → [ng-] respectively.

Mann (1999) shows that in Bemba, homorganic nasals precede other consonants in clusters. On the other hand, Zemba (2015) argues that approximants in Kunda combine with nasals, but never precede them. In LuMaNa languages, all obstruent are preceded by nasals although they are never preceded by approximants as can be seen in the most common consonant combinations below: *mb, mbw, mp, mpw, mf, mfw, fw, fy, nd, ndw, nt, ntw, ng, nk, nk, nk, vw, nw, nz, nzw, ns, nsw, nsh, sy, sw, nj, lw, ch, nch, ny, zy* and *zw*. For this reason, all consonants in LuMaNa languages can take nasals and approximants during consonant combinations as shown in the examples below:

- 
- (35) LuMaNa: *imbuzi* [i-mb-uz-i] ‘a goat, goats’
- (36) LuMaNa: *simbwa* [si-mb-u-a] ‘dog’
- (37) LuMa: *inzwila* [i-nz-u-il-a] ‘millet for brewing beer’
- (38) LuMaNa: *inguzi* [i-ng-uz-i] ‘rivers’
- (39) LuMaNa: *fyula* [fi-ul-a] ‘to slaughter’
- (40) LuMaNa: *fwila* [fu-il-a] ‘to die for someone or something’
- (41) LuMaNa: *pwela* [pu-el-a] ‘mouse’

In examples (35) and (38), the clusters are formed by combining a nasal + a consonant (NC) while in (36-37) and (39-41), the clusters are formed by consonant + glide (CG) combination respectively. Examples (35-38) show that the consonant combinations in LuMaNa languages are headed by nasals, namely, voiced alveolar nasal [n], voiced bilabial nasal [m] and voiced palatal nasal /ɲ/ realised as [ng]. On the contrary, consonant combinations in (39-40) are headed by the voiceless labio-dental fricative segment [f], while example (41) is headed by the voiceless

bilabial plosive [p]. The consonant combinations in LuMaNa languages in examples (36-37) as well as (39-41) are influenced by gliding either using the high front vowel [i] which is realised as voiced palatal glide [y] or the high back vowel [u] realised as voiced bilabial glide [w]. On the other hand, example (38) shows that the voiced alveolar nasal [n] is followed by the voiced velar stop [g] in the consonant combination and is neither influenced by vowel length nor gliding.

5.1.3 Approximants in LuMaNa languages

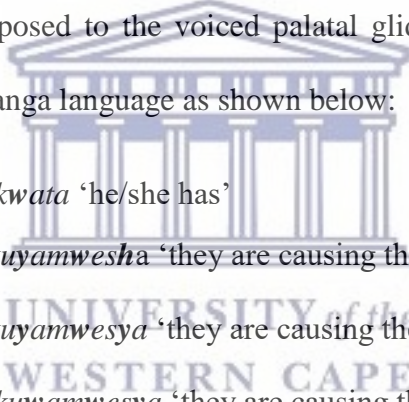
Zemba (2015:28) shows that Kunda language has three approximants, namely; the lateral approximant /l/, the palatal approximant /j/ and the velar approximant /w/. Miti (2009) describes /y/ as palatal glide and /w/ as labial glide. The LuMaNa languages have two approximants, namely; the voiced palatal glide [y] and the voiced bilabial glide [w]. The voiced palatal glide (approximant) [y] is a realisation of the high front vowel /i/ while the voiced bilabial glide (approximant) [w] is realisation of a high back vowel /u/ during their production (cf. Hyman, 2003). Approximants in LuMaNa languages behave differently when either the voiced bilabial glide [w] or the voiced palatal glide [y] takes the initial position in the singular and plural words as shown below:

- (42) LuMaNa: *wafwa!* [u-a-fu-a] ‘He/she is dead!’
- (43) LuMa: *wafwa!* [u-a-fu-a] ‘He/she is dead!;
yafwa! [i-a-fu-a] ‘They are dead!’
- (44) Na: *wafwa!* [u-a-fu-a] ‘He/she is dead!;
wafwa! [u-a-fu-a] ‘They are dead!’

The examples (42-44) show that the voiced bilabial glide [w] and the voiced palatal glide [y] are used to express surprise or shock when they take the first position in the word in LuMaNa languages. Examples (42-44) reveal that when words begin with the voiced bilabial glide [w] in

LuMaNa languages, they express exclamations in singular form. On the other hand, Namwanga language in example (44) uses the voiced bilabial glide [w] to express exclamation in the plural form of nouns. In order to express surprise, expressions end with an exclamation mark. In addition, the voiced bilabial glide [w] and the voiced palatal glide [y] in examples (42-44) head the first syllables in both singular and plural nouns. The variation is that LuMa languages in example (43) begin the word with the voiced palatal glide [y] to express the exclamation in the plural while Namwanga in (44) uses [w] to express both singular and plural exclamations.

Zemba (2015) shows that approximants can take various positions in words or statements. The LuMaNa languages have variations in positions which approximants can take in words, phrases, clauses or mere statements. The voiced bilabial glide [w] can take all positions in words, phrases or statements in LuMaNa as opposed to the voiced palatal glide [y] which does not take the initial syllable position in Namwanga language as shown below:

- 
- (45) LuMaNa: *wakwata* ‘he/she has’
 (46) Lu: *yakuyamweshha* ‘they are causing them to drink’
 (47) Ma: *yakuyamwesya* ‘they are causing them to drink’
 (48) Na: *wakuwamwesya* ‘they are causing them to drink’

Example (45) shows that the LuMaNa languages begin statements expressing the single entity with the voiced bilabial glide [w]. Lungu language in (46) and Mambwe language in (47) begin plural statements with the voiced palatal glide [y]. Examples (47-48) show that Mambwe and Namwanga languages use the voiced palatal glide [y] in the last syllables of the statements. In examples (46-47), LuMa languages begin their plural statements with the voiced palatal glide [y] as opposed to Namwanga language which uses the voiced bilabial glide [w] in example (48). Examples (45-47) also reveal that LuMa languages begin statements expressing the single entity

with the voiced bilabial glide [w] and those expressing the plural with the voiced palatal glide [y] as opposed to Namwanga in (45) and (48) which begin with the voiced bilabial glide [w] to express both the singular and plural statements. Example (48) shows that the voiced palatal glide [y] in Namwanga language takes the final syllable position which counters Lungu language in example (46) where it takes the initial and middle positions and Mambwe language in (47) where it takes the initial, middle and final positions to express plural statements. Example (46) also shows that Lungu language does not permit voiced palatal glide [y] in the syllables of word finality as opposed to Mambwe and Namwanga languages. The analysis of examples (45-48) further reveals that there is consonantal distribution in LuMaNa languages because the consonants occur before vowel phonemes in the syllables.

5.1.4 Tone in LuMaNa languages

Tone is a suprasegmental feature which is used to establish the distinctiveness of meaning. According to Bickmore and Doyle (1995), a tonal language is a language which uses tone as a distinctive feature of the lexicon in order to determine the prescribed pitches for syllables or sequences of pitches for morphemes or words. For this reason, pitch distinguishes the meanings of words through tone marking hence it is a grammatical marker in Bantu languages. Guérois (2015) shows that Cuwabo is a tonal language with a binary distinction although nouns and verbs constitute the main word classes in that language. Halemba (1994) shows that Mambwe is a tonal language and testifies that tone marking and other phonological features of language have not been documented. In LuMaNa languages, tone is phonemic and is used to express distinctiveness of words with short vowels which affect the morphology and semantics of words. For this reason, tone marking in LuMaNa languages can be used to differentiate word meaning on short vowels as shown below:

- (49) LuMaNa: *íká* [íká] ‘to put something where it should be’;
iká [iká] ‘to come down from the tree, building, bed, etc’
- (50) LuMaNa: *pámá* [pámá] ‘to be courageous’;
pàmá [pàmá] ‘to slap someone’
- (51) LuMaNa: *tíná* [tíná] ‘to be scared or afraid of something’;
tìná [tìná] ‘to press something’

Examples (49-51) show that LuMaNa are tonal languages which have two basic tones, namely, high and low. In (49-51), the LuMaNa languages use high tone to mark an acute accent whereas low tone is usually unmarked. Examples (49-51) reveal that tone as a musical pitch is a functional marker which is used to express morphological and semantic distinction between words. Examples (49-51) further reveal that tone is marked on short vowels to make the words in the minimal pairs phonemic or contrastive. The analysis of examples (49) and (51) shows that the first pairs of words have their vowels in the first syllables marked with high tone as well as the last vowels in the second pairs in LuMaNa languages.

Spitulnik and Kashoki (1996, 1998) and Mann (1999) show that tone is used to express distinctiveness of sound on long vowels. While tone in LuMaNa languages is phonemic or contrastive on short vowels, the suprasegmental is also grammatical on long vowels and is used to express contrast of words, phrases, clauses, sentences and questions as shown below:

- (52) LuMaNa: *akúúlya* [akú:lja] ‘he/she is eating’
- (53) LuMa: *Amáályá caaní?* [amá:lja ca:ní] ‘What shall he/she eat?’
- (54) Na: *Wááandi alyé caaní?* [wááandi alje ca:ní] ‘What shall he/she eat?’
- (55) LuMa: *Aláályá caaní?* [alá:lja ca:ní] ‘What will he/she eat?’
- (56) Na: *Alíílyá caaní?* [alí:lja ca:ní] ‘What will he/she eat?’

The analysis shows that at phrase, clause, question or sentence level, the tense markers (TMs) [-maa-] in example (53) and [-laa-] in (55) in LuMa languages as well as [-lii-] in (56) in Namwanga language carry a high tone on long vowels followed by [-a] in the suffix markers which also carry a high tone when they are used in question form. Example (52) shows that the TM [-kuu-] in LuMaNa languages is followed by a low tone in the suffix marker if the expression is a mere statement. In examples (53-56), the long vowel [a:] in *caani* ‘what’ has a low tone followed by the vowel [-i] which carries a high tone in the suffix marker in the three languages. In (54), Namwanga allows gliding, vowel length and high tone in the subject marker (SM) [-twaa-] followed by [-i-] and [-u-] which are unmarked and ends with a high tone on the vowel [-e] like LuMa languages. Based on the above reason, examples (52-56) demonstrate that LuMaNa languages use both high and low tones on long and short vowels to show contrast which in turn affects the morphology and semantics of the words as well as sentences.

5.1.5 Nasalisation in LuMaNa languages

Nasalisation is a phonological process that involves a nasal and a following consonant which is referred to as Nasal Consonant (NC) sequence (cf. Mtenje, 2016; Odden, 2013; and Kula, 2002). The present study analyses nasalisation in LuMaNa languages paying particular attention to homorganic nasal assimilation, post-nasal stop voicing, and post-nasal stop aspiration, nasal deletion before fricatives, post-nasal consonant hardening and nasal clusters respectively.

5.1.5.1 Homorganic nasal assimilation in LuMaNa languages

Mtenje (2016) shows that homorganic nasal assimilation is a phonological process in Bantu languages where a nasal copies the place of articulation features of a following consonant and thus becomes homorganic with that consonant. To account for this phenomenon, Mtenje (2016) uses an abstract nasal consonant as the underlying sound that changes according to the place of

articulation of the following consonant in a particular word. To justify the above claim, Mtenje provides examples below for nouns in Cl.9 with a nasal as the prefix in Sukwa and Ndali: *í-m-bepo* ‘wind’ and *í-n-dondwa* ‘stars’ and in Lambya: *í-m-p^hepo* ‘wind’ and *i-n-t^hóndwa* ‘stars’.

Homorganic nasal assimilation is attested in LuMaNa languages and is expressed using the nasal prefixes [n] and [m] in Cl.9 in which the nasal copies the place of articulation characteristics of a following permissible consonant of the noun stem which can either be voiceless or voiced and consequently becomes homorganic with that consonant as illustrated in the examples below:

Table 5.4: Homorganic nasal assimilation in LuMaNa varieties

SN	Homorganic nasal assimilation		
	Lungu (Lu)	Mambwe (Ma)	Namwanga (Na)
i.	<i>i-n-kwi</i> [inkwi] ‘firewood’	<i>i-n-kwi</i> [inkwi] ‘firewood’	<i>i-n-k^huni</i> [ink ^h uni] ‘firewood’
ii.	<i>i-n-guzi</i> [inguzi] ‘rivers’	<i>i-n-guzi</i> [inguzi] ‘rivers’	<i>i-n-guzi</i> [inguzi] ‘rivers’
iii.	<i>i-m-penzu</i> [impenzu] ‘cockroaches’	<i>i-m-penzu</i> [impenzu] ‘cockroaches’	<i>i-m-p^henzu</i> [imp ^h enzu] ‘cockroaches’
iv.	<i>i-m-bezu</i> [imbezu] ‘seeds’	<i>i-m-bezu</i> [imbezu] ‘seeds’	<i>i-m-beyu</i> [imbeyu] ‘seeds’

Example (i) shows that in LuMaNa languages, the voiced alveolar nasal [n] takes the place of articulation features of the voiceless velar stop [k] which follows it where the nasal becomes voiceless due to the following consonant stop in [nk]. In example (ii), the voiced alveolar nasal [n] takes the place of articulation characteristics of the voiced velar stop [g] which follows it and consequently, the nasal becomes voiced in [ng]. Example (iii) shows that a voiced bilabial nasal [m] takes the place of articulation features of the noun stem initial sound of the voiceless bilabial stop [p] and the nasal gets assimilated and copies the voiceless characteristics of the following

consonant [p] in [mp]. Example (iv) reveals that a voiced bilabial nasal [m] takes the place of articulation features of the noun stem initial sound of the voiced bilabial stop [b] and the nasal gets assimilated and copies the voiced characteristics of the following consonant [b] in [mb]. In examples (i) and (ii), Namwanga language uses aspiration on voiceless consonants which follow the nasal such as voiceless velar plosive [k] and voiceless bilabial plosive [p].

Homorganic nasal assimilation in LuMaNa languages is influenced by either the voiceless sounds of the initial stem consonant following the nasal such as the voiceless velar plosive [k] and the voiced bilabial plosive [p] to produce voiceless nasal sounds or the voiced sound following the nasal such as the voiced velar plosive [g] and the voiced bilabial stop [b] to have the voiced nasal sound.

5.1.5.2 Post-nasal stop voicing in LuMaNa languages

Mtenje (2002), Kula (2002) and Ngunga (2000) postulate that post-nasal stop voicing is a process where a voiceless stop becomes voiced when it follows a nasal. Mtenje (2016) shows that Sukwa and Ndali languages have voiced stops after nasals in the nouns such as *u-lu-tondwa* ‘star’ where the voiceless alveolar stop /t/ in the stem *tondwa* becomes a voiced alveolar stop /d/ in *i-n-dondwa* ‘stars’ when the plural nasal noun class prefix [n-] in Cl.10 is attached to it.

In LuMaNa languages, post-nasal stop voicing is not attested after voiceless stops, but only occurs when noun stems that are originally voiced come after the nasal prefix in plural formation hence the process does not make a voiceless initial segment in the stem to adopt the voiced features from a nearby voiced nasal segment through feature copying as illustrated in the example in the table below:

Table 5.5: Post-nasal stop voicing in LuMaNa varieties

SN	Post-nasal stop voicing		
	Lungu (Lu)	Mambwe (Ma)	Namwanga (Na)
i	<i>u-lu-kusa</i> [ulukusa] 'fibre'(SG) → <i>i-n-kusa</i> [inkusa] 'fibres'(PL)	<i>u-lu-kusa</i> [ulukusa] 'fibre'(SG) → <i>i-n-kusa</i> [inkusa] 'fibres'(PL)	<i>u-lu-kusa</i> [ulukusa] 'fibre'(SG) → <i>i-n-kusa</i> [inkusa] 'fibres'(PL)
ii	<i>u-lu-tanda</i> [ulutanda] 'star'(SG) → <i>i-n-tanda</i> [intanda] 'stars' (PL)	<i>u-lu-tanda</i> [ulutanda] 'star'(SG) → <i>i-n-tanda</i> [intanda] 'stars' (PL)	<i>u-lu-tanda</i> [ulutanda] 'star'(SG) → <i>i-n-tanda</i> [intanda] 'stars' (PL)

The study shows that in (i), LuMaNa languages in Cl.10 in the plural noun *inkusa* 'fibres' has the voiced alveolar nasal /n/ followed by voiceless velar stop /k/ which is the initial sound in the stem and forms a voiceless cluster /nk/ instead of the voiced cluster /ng/ which the post nasal voicing principle propagates. In (ii), a similar phenomenon happens in Cl.10 in the plural noun *intanda* 'stars' where the voiceless alveolar stop /t/ maintains its voiceless status when preceded by a voiced alveolar nasal /n/ and forms the voiceless cluster /nt/ as opposed to taking on a voiced alveolar plosive /d/ to form the voiced cluster /nd/ which counters the principle of post-nasal voicing where a voiceless consonant changes to a voiced one when it follows a nasal (cf. Mtenje, 2002; Kula, 2002; Ngunga, 2000).

5.1.5.3 Post-nasal stop aspiration in LuMaNa languages

Mtenje (2016) argues that post-nasal stop aspiration is a phonological process where a stop is aspirated when it comes after a nasal in a particular word. Mtenje shows that post-nasal stop aspiration is attested in Lambya language in the SuNdaLa cluster in Malawi such as in *u-lú-paso* 'fence' → *í-m-p^haso* 'fences' where the voiceless bilabial stop [p] is aspirated [p^h]. Similarly, in

the LuMaNa cluster, only Namwanga uses post-nasal stop aspiration in the plural as demonstrated shown below:

Table 5.6: Post-nasal stop aspiration in LuMaNa varieties

SN	Post-nasal stop aspiration		
	Lungu (Lu)	Mambwe (Ma)	Namwanga (Na)
i	<i>u-lu-penzu</i> [ulupenzu] 'cockroach'(SG) → <i>i-m-penzu</i> [impenzu] 'cockroaches' (PL)	<i>u-lu-penzu</i> [ulupenzu] 'cockroach'(SG) → <i>i-m-penzu</i> [impenzu] 'cockroaches' (PL)	<i>u-lu-penzu</i> [ulupenzu] 'cockroach'(SG) → <i>i-m-p^henzu</i> [imp ^h enzu] 'cockroaches' (PL)
ii	<i>u-lu-tanda</i> [ulutanda] 'star'(SG) → <i>i-n-tanda</i> [intanda] 'stars' (PL)	<i>u-lu-tanda</i> [ulutanda] 'star'(SG) → <i>i-n-tanda</i> [intanda] 'stars' (PL)	<i>u-lu-tanda</i> [ulutanda] 'star'(SG) → <i>i-n-t^handa</i> [int ^h anda] 'stars' (PL)

Examples (i-ii) show that LuMa languages do not aspirate stops such as [p] and [t] in plural nouns after the nasal. Only Namwanga language aspirates the voiceless stops after a nasal in the plural nouns in example (i) where the voiceless bilabial plosive [p] becomes [p^h] as in *u-lu-penzu* 'cockroach' → *i-m-p^henzu* 'cockroaches' and in (ii) where a voiceless alveolar plosive [t] aspirates to [t^h] as in *u-lu-tanda* 'star' → *i-n-t^handa* 'stars'.

5.1.5.4 Nasal deletion before fricatives in LuMaNa languages

Mkochi (2005) and Kula (2002) posit that nasal deletion before fricatives is a phonological process in Bantu languages which allows a nasal to delete when it is followed by a fricative. Mtenje (2016) observes that in Ndali and Sukwa, a nasal is deleted when it is followed by a fricative hence NCs of a nasal and a fricative never occur in these varieties such as: /i-n-fula/ → íí-fula 'rain'. Nasal deletion before fricatives from singular to plural are not attested in LuMaNa.

LuMaNa languages only undergo nasal maintenance in both singular and plural nouns in which /n/→/n/. Nasal deletion before fricatives in LuMaNa languages is only possible when the reverse formation of nouns is applied in which a plural noun is converted to singular form as illustrated in the examples below:

Table 5.7: Nasal deletion before fricatives in LuMaNa varieties

SN	Nasal deletion before fricatives		
	Lungu (Lu)	Mambwe (Ma)	Namwanga (Na)
i.	<i>i-n-zovu</i> [inzovu] 'elephant'(SG)→ <i>i-n-zovu</i> [inzovu] 'elephants'(PL)	<i>i-n-zovu</i> [inzovu] 'elephant'(SG)→ <i>i-n-zovu</i> [inzovu] 'elephants'(PL)	<i>i-n-zoovu</i> [inzo:vu] 'elephant'(SG)→ <i>i-n-zoovu</i> [inzo:vu] 'elephants'(PL)
ii.	<i>i-m-fine</i> [imfine] 'pimples' (PL)→ <i>u-lu-fine</i> [ulufine] 'pimple' (SG)	<i>i-m-fine</i> [imfine] 'pimples' (PL)→ <i>u-lu-fine</i> [ulufine] 'pimple' (SG)	<i>i-m-fine</i> [imfine] 'pimples' (PL)→ <i>u-lu-fine</i> [ulufine] 'pimple' (SG)
iii.	<i>i-n-swi</i> [inswi] 'fish' (PL) → <i>u-lu-swi</i> [uluswi] 'fish'(SG)	<i>i-n-swi</i> [inswi] 'fish' (PL) → <i>u-lu-swi</i> [uluswi] 'fish'(SG)	<i>i-n-swi</i> [inswi] 'fish' (PL) → <i>u-lu-swi</i> [uluswi] 'fish'(SG)

Example (i) shows that nouns with the nasal prefixes [n] and [m] in LuMaNa languages in Cl.9 for singular and Cl.10 for plural forms do not allow nasal deletion before fricatives in noun stems whether voiced or voiceless such as; voiced alveolar fricative [z] and a voiceless labio-dental fricative [f] when converting them from singular to plural forms. In example (i), a nasal is not deleted when it follows the voiceless labio-dental fricative [z] in both the singular and plural forms of the noun *inzovu* 'elephant(s)' which undergoes form retention in the plural as well as nasal maintenance. On the other hand, examples (ii-iii) show that a nasal in LuMaNa languages can only be lost during a reverse formation when converting a noun from a plural to singular form before the voiceless labio-dental fricative [f] and the voiceless alveolar fricative [s]. The

present study counters the results of earlier studies on Bantu languages such as Tonga and Bemba languages where nasal deletion is attested in nominal stems when they are converted from singular to plural nouns (cf. Mkochi, 2005; Kula, 2002).

5.1.5.5 Post-nasal consonant hardening in LuMaNa languages

Mtenje (2016) posts that post-nasal consonant hardening is a phonological process in Bantu languages which changes voiced continuants into non-continuants. Kula (2002) adds that a number of Bantu languages such as Kikuyu and Bemba apply the post-nasal consonant hardening rule. For instance, in the Bemba, *ululimi* ‘tongue’ → *indimi* ‘tongues’. Spitulnik and Kashoki (2014) argue that the voiceless bilabial fricative /β/ in Bemba sounds like a cross between the voiced bilabial plosive [b] and the voiced bilabial glide [w] which partially explains why LuMaNa use the voiced bilabial glide /w/ instead of the voiceless bilabial fricative /β/ in singular nouns. LuMaNa languages apply the post-nasal consonant hardening principle by converting /l/ → /d/, /n/ → /m/ and /w/ → /b/ in the plural formation of nouns as shown below:

Table 5.8: Post-nasal consonant hardening in LuMaNa varieties

SN	Post-nasal consonant hardening		
	Lungu (Lu)	Mambwe (Ma)	Namwanga (Na)
i.	<i>u-lu-limi</i> [ululimi] ‘tongue’ (SG) → <i>i-n-dimi</i> [indimi] ‘tongues’ (PL)	<i>u-lu-limi</i> [ululimi] ‘tongue’ (SG) → <i>i-n-dimi</i> [indimi] ‘tongues’ (PL)	<i>u-lu-límí</i> [ululímí] ‘tongue’ (SG) → <i>i-n-dímí</i> [indímí] ‘tongues’ (PL)
ii.	<i>i-n-bwele</i> [i*n*bwele] → <i>i-m-bwele</i> [imbwele] ‘should I come back?’	<i>i-n-bwele</i> [i*n*bwele] → <i>i-m-bwele</i> [imbwele] ‘should I come back?’	<i>i-n-bwele</i> [i*n*bwele] → <i>i-m-bwele</i> [imbwele] ‘should I come back?’
iii.	<i>u-lu-u-anzi</i> [uluwanzi] ‘rafter’ (SG) → <i>i-m-banzi</i> [imbanzi] ‘rafters’ (PL)	<i>u-lu-u-anzi</i> [uluwanzi] ‘rafter’ (SG) → <i>i-m-banzi</i> [imbanzi] ‘rafters’ (PL)	<i>u-lu-u-anzi</i> [uluwanzi] ‘rafter’ (SG) → <i>i-m-banzi</i> [imbanzi] ‘rafters’ (PL)

Example (i) shows that the stem-initial voiced alveolar lateral /l/ in the singular form changes to a voiced alveolar plosive [d] in the plural formation in all LuMaNa languages causing the non-continuant consonant [d] to be hardened after a voiced alveolar nasal [n]. Example (i) also shows that Namwanga language uses high tone in the stem both in singular and plural nouns. In example (ii), the non-continuant consonant [b] in LuMaNa languages only occurs when preceded by the homorganic nasal [m] which is derived from [n-] (the 1st person singular), [-bwel-] (the verb root), and [-e] (the subjunctive); where a voiced alveolar nasal [n] becomes a voiced bilabial nasal [m] in homorganic harmony with the following consonant [b] thereby rendering it to be hardened. The analysis further shows that in example (iii) there is no equivalence or overt occurrence of the voiceless bilabial fricative [β] in LuMaNa hence there is a phonetic shift in direction of the organs of speech in singular form from the voiceless bilabial fricative [β] continuant to a voiced bilabial glide [w] in *uluwanzi* ‘rafter’ instead of [*u-lu-βanzi*] as attested in many other Bantu languages. The above phenomenon causes the attested non-continuant voiced bilabial plosive [b] to be hardened in the plural form after a voiced bilabial nasal [m] in *imbanzi* ‘rafters’. Example (iii) further shows that the realisation of the second vowel /u/ as /w/ in the singular noun *uluwanzi* [u-lu-u-anzi] ‘rafter’ in LuMaNa signifies that the languages apply gliding as a vowel hiatus resolution strategy to resolve the VV sequences where the voiced bilabial glide /w/ acts as a variant of [β] in other Bantu languages (cf. Mtenje, 2016).

5.1.5.6 Nasal clusters in LuMaNa languages

Kula (2002) argues that prefixation with the 1st person singular subject or object nasal prefix which is denoted as N, results in the formation of nasal consonant (NC) clusters in a language that has a strictly CV syllable structure type. Following Kula (2002), Mtenje (2013) argues that Nasal Consonant sequences (henceforth, NCs) of languages should be analysed as clusters based

on distribution patterns which are depended on permissible environments as well as certain phonological processes that occur in the language. Kula had argued that NC clusters are treated as sequences rather than units in Bemba language, such as, where the complete set of consonants appear in word-initial position, NC clusters do not, but are rather only found in the second consonant (C2) or third consonant (C3) position. Kula observes that NC clusters only appear in initial position if they are part of a morphologically complex structure involving prefixation which consequently suggests that their structure cannot be identical to that of unitary segments.

Kula (2002) also counters the above argument by stating that NC clusters should be treated as unitary segments. She outlines the four major considerations for regarding NC clusters as unitary segments, namely; the nasal and the following stop are always homorganic, the presence of surface duration of simple segments, the presence of the CV syllable pattern, and the real intuition of native speakers who regard syllable patterns to be unitary. Kula (2002) contends that homorganicity between a nasal and the following consonant in NC clusters is considered to be the evidence for a unit segment analysis particularly in feature geometric models in which the nasal and consonant share a single place node which results from articulated single segment. In a unit segment analysis it would be possible to represent the syllabicity of the nasal in an NC cluster using a simple spreading analysis where some feature spreads from the stem-final nasal to the following onset within the feature configuration of the prenasalised segment. Herbert (1975, 1986) confirms that NC clusters undergo a process of unification at some late stage in the derivation. Zemba (2015) also posits that prenasalised and aspirated consonant clusters should be treated as unitary clusters.

Although the above debate is not the focus of this study, the researcher takes sides with Kula (2002) and Zemba (2015) and argue that LuMaNa languages have unitary NC clusters due to

homorganicity, surface duration of simple segments, the CV syllable pattern, and the real intuition of native speakers who regard syllable patterns of prenasalised segments to be units as opposed to sequences of sound. For this reason, a unitary nasal cluster in LuMaNa is a sequence of phonemes where a nasal heads the cluster and is followed by either a consonant [NC] or a glide [N + glide, henceforth, NG] as shown in the table below:

Table 5.9: Nasal clusters in LuMaNa varieties

Nasal clusters			
SN	Lungu (Lu)	Mambwe (Ma)	Namwanga (Na)
a	<i>i-mb-ezu</i> [imbezu] ‘seeds, seedlings, tubers’	<i>i-mb-ezu</i> [imbezu] ‘seeds, seedlings, tubers’	<i>i-mb-eyu</i> [imbeyu] ‘seeds, seedlings, tubers’
b	<i>u-kwa-nk-a-ny-a</i> [ukwankanya] ‘to divide or share things’	<i>u-kwa-nk-a-ny-a</i> [ukwankanya] ‘to divide or share things’	<i>u-kwa-nk-a-ny-a</i> [ukwankanya] ‘to divide or share things’
c	<i>nk-u-ng-u-lupy-a</i> [nkungulupya] ‘whirlwind’	<i>nk-u-ng-u-lupy-a</i> [nkungulupya] ‘whirlwind’	<i>e-nk-u-ng-u-lupy-a</i> [nkungulupya] ‘whirlwind’

Examples (a-b) show that unitary nasal clusters in LuMaNa languages exist both in nouns and verbs. In (c) the unitary nasal cluster [nk] takes the initial position in the word/phrase in LuMa languages which counters Kula’s (2002) analysis that NC clusters in Bemba do not occur in word-initial position in which the entire set has consonants, but are rather only to be found in the second consonant (C2) or third consonant (C3) position which only correlates with Namwanga language which starts with an augment. All segments shown in bold in examples (a-c), such as; [mb], [nk], [ng] and [ny] show that a nasal heads the cluster in LuMaNa languages.

The analysis of examples (a-c) also reveals that all obstruent in LuMaNa languages can come after a nasal such as [mb] in *imbezu* ‘seeds’ where the obstruent [b] comes after a nasal. Other

examples of obstruent in LuMaNa languages which come after the nasal include; [p] in *mpanga* ‘bush’, [d] in *indao* ‘weeds’, [t] in *intanta* ‘grain store’(LuMa), [g] in *inguzi* ‘rivers’, [k] in *inkoma* ‘grain store’ (Namwanga), [v] in *invula* ‘rain’, [f] in *imfwasi* ‘space’, [z] in *inzala* ‘hunger’, [s] in *insota* ‘nipples’ and [c] in *incito* ‘work, job’. Example (b) further shows that nearly any consonant in LuMaNa languages can be followed by either a voiced palatal glide [y] or a voiced bilabial glide [w] in the output.

5.2 Syllabification in LuMaNa languages

Katamba (1993) describes syllable identification as being neither grammatical nor a semantic unit which shows that syllables do not show or possess any meaningful function in a language.

5.2.1 Syllable structure in LuMaNa languages

Katamba (1993) defines a syllable as the heart of phonological representations which is a unit in terms of how phonological systems are organised in a word. In view of the above, the basic syllable structure in LuMaNa languages has six syllable patterns, namely; V, CV, CVV, CCV, CGV and CCGV as demonstrated below:

Table 5.10: Common syllable structure patterns in LuMaNa varieties with examples

S/N	Syllable type	Lungu	Mambwe	Namwanga
a	V	<i>u-kukoma</i> ‘to be strong, hard’	<i>u-kukoma</i> ‘to be strong, hard’	<i>u-kuwoma</i> ‘to be strong, hard’
b	CV	<i>ku-za</i> ‘rat’	<i>ku-za</i> ‘rat’	<i>ku-za</i> ‘rat’
c	CVV	<i>kuu-za</i> ‘to scrub’	<i>kuu-za</i> ‘to scrub’	<i>kuu-za</i> ‘to scrub’
d	CCV	<i>ulupa-mba</i> ‘thigh’	<i>ulupa-mba</i> ‘thigh’	<i>ulupa-mba</i> ‘thigh’
e	CGV	<i>ici-fwa</i> ‘relish’	<i>ici-fwa</i> ‘relish’	<i>inya-nyi</i> ‘relish’
f	CCGV	<i>i-mfwa</i> ‘death’	<i>i-mfwa</i> ‘death’	<i>i-mfwa</i> ‘death’

The following are the representations of the symbols used in Table 5.10 above: V = vowel, C = consonant and G = glide or semi-vowel or approximant. The LuMaNa languages in examples (a-f) have unchecked syllables. Examples (a-f) reveal that LuMaNa languages form the syllables using six patterns, namely; V, CV, CVV, CCV, CGV and CCGV syllable structures.

The syllable structure in (a) in LuMaNa languages is formed by a vowel (V) as in *u-kukoma/u-kuwoma* ‘to be strong, hard’. The V syllable structure in (a) takes the initial position in the word structure and plays the role of a pre-prefix, augment or prefix. The variation in (a) is in the verb root in the V syllable structure in which LuMa languages use the voiceless velar plosive /k/ while Namwanga uses a voiced bilabial glide /w/.

In example (b), LuMaNa languages form the CV syllable structure by combining a consonant and a vowel as in the noun *kuza* ‘rat’ which has two syllables. The CV syllable pattern in example (b) can take the initial, middle and final position in the word structure in LuMaNa.

Example (c) shows that the syllable structure is formed by a consonant and long vowels. For this reason, a consonant can be followed by quantity of vowels to form a CVV syllable as in the verb *kuu-za* ‘to scrub’. The omission of one vowel in the CVV pattern in LuMaNa cluster leads to semantic and grammatical difference in which a verb changes to a noun *kuza* ‘rat’ with CV syllable pattern. Example (d) shows that the syllable structure CCV is formed by a nasal consonant cluster followed by a vowel as in *ulupa-mba* ‘a thigh’. In the nasal position which heads the cluster, LuMaNa languages can use either the voiced alveolar nasal [n] or voiced bilabial nasal [m] depending on the nature of the following consonant.

Example (e) reveals that the CGV syllable pattern is formed by a consonant such as the voiceless labio-dental fricative [f], followed by a semi-vowel and ending with a vowel. In the CGV syllable structure, LuMa languages use the voiceless labio-dental fricative [f] followed by the

voiced bilabial glide [w] and end with a vowel as in *ici-fwa* ‘relish’ while Namwanga uses the voiced alveolar nasal [n] followed by a voiced palatal glide [y] and ends with a vowel as in *inya-nyi* ‘relish’. Example (f) reveals that the CCGV syllable pattern with a voiced bilabial glide [w] is preceded by C1 and C2 as in *i-mfwa* ‘death’. The voiced bilabial glide [w] in (f) is influenced by gliding hence is realised as a high back vowel [u].

5.2.2 Open syllables in LuMaNa languages

In view of Rubanza (2009), the general rule of open syllable structure in Bantu languages such as Swahili is consonant + vowel. Similarly, LuMaNa languages create an open syllable by combining a consonant and a vowel to form a CV syllable pattern as illustrated below:

(57) LuMaNa: *ku/za* [kuza] ‘rat’ → *ku* [C₁V₁]-*za* [C₂V₂] = *kuza* [C₁V₁C₂V₂]

Example (57) shows that open syllables in LuMaNa languages end in a vowel (V) which is usually a nucleus, thereby obeying the rule: Consonant + Vowel (CV). In addition, a word in LuMaNa such as *kuza* ‘rat’ can have more than one syllable as shown by the syllable structure [C₁V₁-C₂V₂] where [C₁V₁] forms one syllable while [C₂V₂] forms another syllable respectively.

5.3 Phonological processes in LuMaNa languages

Guérois (2015) documents that the grammar of Cuwabo language has few morphophonological processes which include vowel coalescence, vowel deletion, and vowel harmony. It must be pointed out that phonological processes influence the verbal and nominal structure in LuMaNa languages. The present study on LuMaNa languages analyses the following phonological processes: vowel hiatus, gliding, vowel and consonant harmony, deletion, zero modification, assimilation and coalescence. In the present study, vowel hiatus is the umbrella phonological process while others work as vowel hiatus resolution strategies.

5.3.1 Vowel hiatus in LuMaNa languages

Mtenje-Mkochi (2018) posits that vowel hiatus is a phonological process in which gliding and vowel deletion are used to resolve most instances of an underlying vowel followed by another vowel (Henceforth, VV) in verbal complexes (cf. Kadenge and Simango, 2014). Vowel hiatus happens when either the first vowel is underlying long or there is an underlying consonant between the two vowels which is later lost. For this reason, LuMaNa languages apply the following types of vowel hiatus resolution strategies to resolve the VV sequences; deletion (cf. Bickmore, 2004; Mtenje-Mkochi, 2018), gliding (cf. Mtenje-Mkochi, 2018), coalescence (cf. Mtenje, 2021) and, vowel and consonant harmony.

5.3.1.1 Vowel deletion in LuMaNa languages

Bickmore (2004) and Mtenje-Mkochi (2018) show that deletion is a vowel hiatus resolution strategy in Bantu languages involve the vowel, vowel (VV) sequences. LuMaNa languages on the other hand resolve surface VV hiatus by vowel deletion which eventually changes the morphology or word form, meaning and in some instances the word class as shown in:

- (58) LuMa: *ukutiina* [u-ku-ti-in-a] ‘to fear/be afraid’ → *ukutina* [u-ku-tin-a] ‘to press something’
- (59) Na: *ukuluuka* [u-ku-lu-uk-a] ‘to vomit’ → *ukuluka* [u-ku-luk-a] ‘to plait/weave’

Examples (58-59) reveal that vowel deletion works as a vowel hiatus resolution strategy in LuMaNa languages. In (58), LuMa languages lose a vowel in the tense marker (TM) [-tii-] in *ukutiina* ‘to fear, to be afraid’ in which the TM remains [-ti-] in *ukutina* [u-ku-tin-a] ‘to press’. Similarly, in (59), Namwanga loses a vowel in the TM [-luu-] in *ukuluuka* ‘to vomit’ which

becomes *ukuluka* ‘to plait/weave’. The researcher of the present study concludes that vowel deletion in LuMaNa languages is used to express grammatical and semantic differences.

5.3.1.2 Gliding in LuMaNa languages

Mtenje (2016) posits that glide formation is a phonological process in which a vowel changes into a glide. Mtenje-Mkochi (2018) shows that gliding is a repair strategy that is used to resolve vowel hiatus in verbal complexes in Bantu languages in which the high front vowels /i/ and the high back vowels /u/ change into the voiced palatal glide [y] and the voiced bilabial glide [w] respectively (cf. Hyman, 2003). Mtenje (2016) argues that vowel lengthening does not happen in the SuNdaLa languages, except when there is secondary articulation. On the other hand, the LuMaNa languages have verbal forms which undergo gliding to resolve vowel hiatus sequences which is followed by vowel lengthening that takes place either between the prefix and the noun stem or between the prefix and the verb root as shown below:

- (60) LuMaNa: *umwau* [u-mu-a-u] ‘yawn’ (SG);
imyau [i-mi-a-u] ‘yawns’ (PL)
- (61) LuMa: *akwaaazwa* [aku-a-azu-a] ‘he/she is helping’ (SG);
yakwaaazwa [i-a-ku-a-azu-a] ‘they are helping’ (PL)
- (62) Na: *akwiimba* [aku-i-imba] ‘he/she is digging’ (SG);
wakwiimba [u-a-ku-i-imba] ‘they are digging’ (PL)
- (63) LuMaNa: *umweezi* [u-mu-e-ezi] ‘moon, month’ (SG);
imyeezi [i-mi-e-ezi] ‘moons, months’ (PL)
- (64) LuMaNa: *umoono* [umu-o-ono] ‘fishing trap’ (SG);
imyoono [imi-o-ono] ‘fishing traps’ (PL)

The analysis shows that in example (60), gliding in LuMaNa languages helps to maintain the difference in vowel length as well as tone in verb roots. Example (60) also shows that the verbal morphology creates a VV sequence where the hiatus is repaired by an alteration of the first V in the sequence where [-u-] in *umwau* [u-mu-a-u] ‘yawn’ in the singular form glides to a voiced bilabial [w] and [-i-] in *imyau* [i-mi-a-u] ‘yawns’ is realised as a voiced palatal glide [y] in the plural form. The analysis of examples (61-64) reveals that gliding and vowel length in LuMaNa languages are expressed simultaneously in one verbal form to resolve the hiatus of the vowel [u] which is realised as a voiced bilabial glide [w] as well as examples (63-64) where the vowel [i] is realised as voiced palatal glide [y] in the plural forms. In (61-62), the glided parts in the tense markers (TMs) do not change their morphology when converting the present progressive tense from singular to plural formation.

Examples (63-64) further reveal that gliding influences assimilation during the formation of plural nouns by changing the vowel [-u-] realised as a voiced bilabial glide [w] in the singular form to [-i-] in the plural which is realised as a voiced palatal glide [y] in order to have vowel harmony in the prefix and the stem. Example (64) shows that gliding affects the morphology of words where the vowel [-u-] glides to a voiced bilabial glide [w] and is deleted in the singular form of the noun. The effect of gliding is also seen in (64) where the voiced bilabial glide [w] which is deleted in the singular form of the noun is harmonised into a voiced palatal glide [y] during plural formation. The variation lies in the plural of the Subject Marker (SM) where LuMa languages use the voiced palatal glide [y] in example (61) as in *yakwaaazwa* ‘they are helping’ while Namwanga language uses a voiced bilabial glide [w] in (62) to pluralise as in *wakwiimba* ‘they are singing’.

5.3.1.3 Coalescence in LuMaNa languages

Mtenje (2021) states that coalescence is a vowel hiatus resolution strategy in Bantu languages where vowel sequences are not tolerated and are separated by glide formation, vowel deletion or consonant insertion in both reduplicated and non-reduplicated constructions. Coalescence is attested in the LuMaNa languages. However, there are variations in the realisation of coalescence in LuMaNa languages when a high front vowel [i] is preceded by a low front vowel [a] where the fusion of a low front vowel /a/ and a high front vowel /i/ produces either a high front vowel /i/ or a low front vowel /a/ in the output as illustrated below:

(65) Na: /*ma-**in**so*/ [m**in**so] ‘eyes’

(66) LuMa: /*ma-**in**so*/ [m**a**nso] ‘eyes’

Examples (65-66) show that LuMaNa languages use the same vowels and order /a/ + /i/ in the input of the above provided plural nouns during coalescence. The coalescence of a low front vowel [a] and a high front vowel [i] leads to deletion of either the first or second vowel to produce either /a/ + /i/ → /i/ in Namwanga or /a/ + /i/ → /a/ in LuMa languages during plural formation. The above deletion process during coalescence in (65) can be attributed to assimilation where the low front vowel /a/ in Namwanga language is assimilated by the high front vowel /i/ to produce a high front vowel [i] as in *aminso* ‘eyes’ in the output. On the other hand, in LuMa in (66), the high front vowel /i/ is assimilated by a low front vowel /a/ to produce a low front vowel [a] in the output as in *amanso* ‘eyes’.

Coalescence in LuMaNa produces other morphophonological processes which include gliding, assimilation, vowel maintenance, vowel deletion and zero modification as shown below:

(67) LuMa: *wiza* [u-iz-a] ‘he/she has come’ (SG);

yiza [i-iz-a] ‘they have come’ (PL)

- (68) Na: *wiza* [u-iz-a] ‘he/she has come’ (SG);
wiza [u-iz-a] ‘they have come’ (PL)
- (69) Lu: *ukusisha* ‘to remove’ + *ivikwi* ‘dirty’ [*ukusisha ivikwi* ‘to remove dirty’] → *ukusishivikwi* ‘to clean the place’
- (70) Ma: *ukusisya* ‘to remove’ + *ivikwi* ‘dirty’ [*ukusisya ivikwi* ‘to remove dirty’] → *ukusisiivikwi* ‘to clean the place’
- (71) Na: *ukufumya* ‘to remove’ + *ivikwi* ‘dirty’ [*ukufumya ivikwi* ‘to remove dirty’] → *ukufumiiivikwi* ‘to clean the place’
- (72) LuMa: *ukuvyala* ‘to reproduce’+ *umwana* ‘child’ [*ukuvyala umwana* ‘to reproduce child’] → *ukuvyalumwana* ‘to give birth’
- (73) Na: *ukukwata* ‘to reproduce’+ *umwana* ‘child’ [*ukukwata umwana* ‘to reproduce a child’] → *ukukwatumwana* ‘to give birth’

The analysis of example (67) reveals that the fusion of a voiced bilabial glide [w] and a high front vowel [i] in the singular form in LuMa languages leads to assimilation in plural formation where /w/ → /y/ and in (71), Namwanga language equally undergoes assimilation when the low front vowel [-a-] fuses with [-i-] and the output is vowel length represented as; /a/ +/i/ → /ii/ which is a vowel hiatus resolution strategy in LuMaNa languages. The study shows that in (69-71), coalescence produces three other morphophonological processes, namely, gliding, deletion and vowel lengthening respectively. In examples (67-68), the fusion of the weaker low front vowel [a] with the high back vowel [u] leads to deletion of a low front vowel [a] in all LuMaNa languages.

The variation is in (67) where LuMa languages use the voiced palatal glide [y] to convert singular verbs which start with the voiced bilabial glide [w] to the plural form while in (68), the

voiced bilabial glide [w] in Namwanga language in the prefix undergoes zero modification to change verbs from singular to plural. In example (69), Lungu language undergoes deletion of the low front vowel [a] during the fusion of /a+/i/→/i/ in the output while in Mambwe and Namwanga in (70-71), a similar form leads to deletion of voiced palatal glide [y] followed by assimilation during the fusion of /a+/i/→/ii/ to produce vowel length in the output. In (73), the low front vowel [a] deletes during coalescence in LuMa languages when it is followed by a strong vowel such as the high front vowel [-i-] and the high back vowel [-u-].

5.3.1.4 Vowel and consonant harmony in LuMaNa languages

Bickmore (2004) shows that vowel harmony is a phonological process that assimilates the vowel in the tense marker (TM) in order to be the same with the suffix. LuMaNa languages attest the concept of vowel harmony which is expressed when converting monosyllabic to disyllabic [bisyllabic] verbs using the suffix marker [-ni]. On the other hand, LuMaNa languages also have consonant harmony which takes place when converting tenses from one form to another using the suffix marker [-ile] as illustrated in the examples below:

- (74) LuMa: *lya!* [li-a] ‘eat!’ (SG form); *lyini!* [li-i-ni] ‘eat!’ (PL form)
- (75) Na: *lya!* [li-a] ‘eat!’ (SG form); *lyani!* [li-a-ni] ‘eat!’ (PL form)
- (76) LuMa: *mwa!* [mu-a] ‘drink!’ (SG form); *mwiini!* [mu-i-i-ni] ‘drink’ (PL)
- (77) Na: *mwa!* [mu-a] ‘drink!’ (SG form); *mwaani!* [mu-a-a-ni] ‘drink!’ (PL)
- (78) LuMaNa: *vwanga* [vu-ang-a] ‘talk’ (present tense); *vwanzile* [vu-anz-ile] ‘talked’ (past simple/past participle)

Examples (74-77) show that when expressing the imperative mood, monosyllabic verbs in LuMaNa languages in singular form violate the attested Bantu language minimality preference for bisyllabic verb roots and only meet the prosodic stem minimality requirement in the plural

forms. During plural formation in (74-77), the verbal form in LuMaNa languages first undergoes gliding of either a high front vowel [i] to a voiced palatal glide [y] in examples (74-75) or a high back vowel [u] to a voiced bilabial glide [w] in (76-77) which is later followed by the vowel that is in harmony with the suffix in the suffix marker [-ni]. Examples (74-77) further show the manifestation of the suffix marker [-ni] which influences vowel harmony by changing verbs from monosyllabic to bisyllabic. During vowel harmony in (74) and (76), LuMa languages achieve the plural formation by changing the final vowel (FV) [-a] in the singular form to [-i] before adding the suffix marker [-ni]. On the contrary, in (75) and (77), Namwanga language maintains the FV [-a] in the singular form before adding the suffix marker [-ni] and as such the harmonising vowel [a] is not affected by the final vowel [-i] or the voiced palatal glide [y] or the voiced bilabial glide [w] during plural formation of verbs.

In example (78), LuMaNa languages undergo consonant harmony which influences the change of the prenasalised velar sound /ŋg/ in the root of the present tense to prenasalised alveolar fricative sound /ŋz/ in the root of the past simple or past participle tense. The analysis further shows that during consonant harmony, the present verb *vwanga* ‘talk’ in example (78) drops off the final vowel [-a] before taking on the suffix marker [-ile] during the formation of *vwanzile* ‘talked’ in both singular and plural forms of the past simple and past participle tenses.

5.4 Chapter summary

The chapter has presented some aspects of segmental and suprasegmental features in LuMaNa languages. The three languages are related in the description, position and use of a five vowel system where long vowels are contrastive. The languages also express distinctiveness using tone on both short and long vowels. The long vowels are affected by the quantity of vowels which leads to change in morphology and semantics.

The nasal homorganic assimilation, post-nasal stop voicing, post-nasal consonant hardening and unitary consonant clusters are attested in LuMaNa languages while post-nasal stop aspiration is only present in Namwanga language. Nasal deletion before fricatives only occurs in the reverse formation from plural to singular in all the three languages. The LuMaNa languages have six common syllable structures namely; V, CV, CVV, CCV, CGV and CCGV. The three languages only have open syllables.

Vowel length in LuMaNa languages influences the change of tenses and converts nouns to verbs. On the other hand, vowel harmony influences monosyllabic verbs to express the imperative mood through plural formation by making them bisyllabic, thereby obey the minimality principle in the stem during plural formation. The application of vowel hiatus in LuMaNa influences other morphophonological processes, such as; gliding, deletion and assimilation of vowels which promote the change of verbal forms from one state to another. Coalescence influences the formation of other morphophonological processes such as gliding, zero modification, vowel length, vowel maintenance and assimilation to change a singular verb to plural.

The variation is that LuMa languages allow both the voiced bilabial glide [w] and the voiced palatal glide [y] glides to take all the positions in the word while Namwanga (Na) has restrictions more especially for the voiced palatal glide [y] which rarely takes the first position in the word and does not precede syllables containing the voiced bilabial glide glide [w]. While high tones are attested in the tense marker (TM) in all LuMaNa varieties, Namwanga also allows gliding, vowel length and high tone in the subject marker (SM). During vowel harmony in the plural form, the vowel [-i-] in the suffix marker [-ni] in LuMa languages harmonises all the vowels in the root including the glide as opposed to Namwanga language which uses the vowel [-a-].

The next chapter presents the nominal structure of Lungu, Mambwe and Namwanga languages.

CHAPTER SIX

NOMINAL STRUCTURE OF LUNGU, MAMBWE AND NAMWANGA LANGUAGES

6.0 Introduction

The chapter presents a comparative analysis of nominal morphological variations in terms of the noun structure in LuMaNa languages in Zambia. The study addresses the set research objective by answering the research question below: What are the nominal morphological variations in Lungu, Mambwe and Namwanga languages in Zambia? The study compares, analyses and presents the findings using the following sub-titles: a brief background to the nominal class system of Bantu languages, the nominal structure, noun class prefixes, noun class pairings and concord in LuMaNa languages. The chapter closes with a summary.

6.1 A brief background to the nominal class system of Bantu languages

The term nominal is derived from noun. Miti (2009:109) says “noun class systems of Bantu languages are assumed to be derivations of those systems that existed in the parent language of all present day languages.” The parent language of the Bantu languages in this case refers to the Proto-Bantu [henceforth, PB). The most salient structural properties or features of Bantu languages constitute the nominal class system where this chapter anchors (cf. Miti, 2006; Petzell, 2008; Möller, 2011; Robinson, 2016; and Mtenje, 2016). Miti (2009) posits that the grammatical structure of Bantu languages is defined by the characteristic of the nominal class system which exists in all the languages. The concordial agreement of the morphological and syntactic systems in Bantu languages are dependent on the nominal class.

The reconstructions of a PB noun class system propose that it had 23 classes (cf. Meinhof, 1932; Meeussen, 1967; Welmers, 1973; Maho, 1999). Nonetheless, none of the present-day Bantu

languages use all the 23 PB noun classes where the numbers of classes vary from one language group to another. Maho (1999) shows that in the reconstructed Bantu noun class system, Ganda language has 21 noun classes and is regarded to be the highest number of classes in modern Bantu languages. The variations in noun classes are determined by noun class prefixes which are sets of class specific agreement markers as well as to some extent, the particular semantic content of given nominal classes. Crisma et al (2011) suggest that Bantu noun classes are semantically motivated, but not to the extent that predictions about class membership for specific nouns can be made on semantic grounds. Noun classes in Bantu languages incorporate principles of plural marking to show an intermediate influence of the status between syntax and semantics.

To sum up, Maho (1999) presents the reconstruction of the PB noun class prefixes below:

Table 6.1: Proto-Bantu nominal classes

Noun class	Noun class prefix	Meanings
1	<i>mú</i>	humans
1a	\emptyset	kins, proper names, personified animals
2	<i>βá</i>	honorific, plural to 1, 1a
2x	<i>βa – βo</i>	honorific, plural to 1a
3	<i>mu</i>	trees, plants, inanimates
4	<i>mi</i>	plural to 3
5	<i>li</i>	miscellaneous, paired things, augmentatives
6	<i>ma</i>	liquids, masses, collectives, plural to 5, 9, 11, 14, 15
7	<i>ki</i>	inanimates, manner/style, diminutives, augmentatives
8	<i>βi</i>	plural to 7
9	<i>ni</i>	animals
10	<i>li-ni</i>	plural to 9, 11
11	<i>lu</i>	long and/or thin things, abstracts
12	<i>ka</i>	diminutives
13	<i>tu</i>	plural to 12

14	<i>βu</i>	abstracts, mass nouns, plural to 12
15	<i>ku</i>	infinitives
16	<i>pa</i>	locatives, „near“ or „explicit“
17	<i>ku</i>	locatives, „remote“ or „general“
18	<i>mu</i>	locatives, „inside“
19	<i>pi</i>	diminutives
20	<i>yu</i>	augmentatives, diminutives
21	<i>yi</i>	augmentatives, pejoratives
22	<i>ya</i>	plural to 20
23	<i>ɪ</i>	locative, unspecified

6.2 The nominal structure of LuMaNa languages

Miti (2009) posits that Proto-Bantu languages are monosyllabic which shows that they have the consonant followed by vowel (CV) nominal prefix type. It can be argued that a vowel determines a syllable. Some Bantu languages such as the SuNdaLa and Bemba have augments (vowels) hence have bisyllabic nominal structure with VCV prefix type while other languages like Nyanja do not have augments hence use CV prefix type (cf. Mtenje, 2016; Kula, 2002). In contrast, LuMaNa languages use both the CV (monosyllabic) and VCV (bisyllabic) prefix types in the nominal structure where the latter structure uses the augment or a pre-prefix or initial vowel as an optional marker, a noun prefix and a stem (cf. Robinson, 2016; and Mtenje, 2016). For this reason, LuMaNa languages have two nominal structures, namely, prefix + stem as well as augment + prefix + stem which are discussed in the subsequent titles.

6.2.1 Prefix + Stem nominal structure in LuMaNa languages

The prefix + stem nominal structure in LuMaNa languages is formed using two morphemes, namely, prefix and the stem. The monosyllabic prefixes in LuMaNa languages form the prefix +

stem using the noun class singular and plural dichotomy of Cl.1/2, Cl.7a/8a as well as Cl.12a/13a where Cl.1/2 use CV, Cl.7a/8a use CV, CVV and CCV while Cl.12a/13a use CVV and CCV as illustrated below:

- (53) LuMa: *cii-cuula* [ciicuula] Cl.7a ‘big/huge/bad/ugly frog’;
vii-cuula [viicuula] Cl.8a ‘big/huge/bad/ugly frogs’
- (54) Na: *ca-cula* [cacula] Cl.7a ‘big/huge/bad/ugly frog’;
vya-cula [vyacula] Cl.8a ‘big/huge/bad/ugly frogs’
- (55) LuMa: *kaa-kuza* [kaakuza] Cl.12a ‘small rat’;
tuu-kuza [tuukuza] Cl.13a ‘small rats’
- (56) Na: *ka-kuza* [kakuza] Cl.12a ‘small rat’;
twa-kuza [twakuza] Cl.13a ‘small rats’
- (57) LuMa: *mu-onsi* [moonsi] Cl.1 ‘man, male’;
ya-onsi [yonsi] Cl.2 ‘men’
- (58) Na: *mu-onsi* [moonsi] Cl.1 ‘man, male’;
wa-onsi [wonsi] Cl.2 ‘men’

The researcher of the present study observes that all prefixes in LuMaNa languages in examples (53-58) begin with a consonant which is followed by a vowel hence the three languages have open syllables. In example (53), LuMa languages use vowel length in both singular and plural in the nominal prefixes in [cii-] in Cl.7a and [vii-] in Cl.8a as well as in example (55) in [kaa] in Cl.12a and [tuu-] in Cl.13a while Namwanga language in (54), (56) and (58) uses the short vowel in both singular and plural nominal prefixes. Both singular and plural prefixes in LuMaNa languages in examples (53-58) are monosyllabic as they are formed from one syllable and belong to Cl.1/2, Cl.7a/8a and Cl.12a/13a respectively. The analysis shows that Namwanga language uses vowel length in the singular prefixes in examples (54) and (56) and undergoes gliding

followed by coalescence in plural prefixes where the high back vowel [u] is realised as a voiced bilabial glide [w] before fusing with the low front vowel [a]. Examples (57-58) show that the prefix [mu-] in LuMaNa languages is affected by coalescence which leads to the assimilation of a high back vowel [u] to a mid-back vowel [o] resulting into vowel length when attached to the stem of the singular noun whose initial vowel is a mid-back vowel [o], where; /u/+/o/→/oo/. In addition, coalescence in the plural prefixes in (57-58) leads to deletion of the low front vowel [a] when it is followed by mid back vowel [o] as the initial vowel in the stem, where; /a/+/o/→/o/. Examples (57-58) further reveal that LuMaNa languages use the CV prefix which is described as a simple prefix type in both singular and plural prefixes (cf. Miti, 2009). The plural prefixes in LuMa languages in (57) use the high front vowel [i] which is realised as a voiced palatal glide [y] while Namwanga in (58) uses the high back vowel [u] which is realised as a voiced bilabial glide [w] in the same environment.

6.2.2 Augment + Prefix + Stem nominal structure in LuMaNa languages

A language whose nominal structure is headed by an augment is described as an augment language. An augment, initial vowel or a pre-prefix is usually a vowel which is followed by the class prefix and stem, and is present in many Bantu languages (Mtenje, 2016; Robinson, 2016). Augments are attested in LuMaNa languages as initial vowels which are attached before the prefix of the nominal structure in singular and plural dichotomy in Cl.3/4, Cl.7/8 and Cl.12/13 respectively as shown in the examples provided below:

- (59) LuMaNa: *i-ci-pangano* [icipangano] Cl.7 ‘agreement’;
i-vi-pangano [ivipangano] Cl.8 ‘agreements’
- (60) LuMaNa: *u-mu-se* [umuse] Cl.3 ‘reed basket’;
i-mi-se [imise] Cl.4 ‘reed baskets’

- (61) LuMa: *a-ka-unyi* [akuunyi] Cl.12 ‘small bird’;
u-tu-unyi [utuunyi] Cl.13 ‘small birds’
- (62) Na: *a-ka-nyunyi* [akanyunyi] Cl.12 ‘small bird’;
u-tu-nyunyi [utunyunyi] Cl.13 ‘small birds’

As attested by Miti (2009), Mtenje (2016) and Robinson (2016), examples (59-62) show that LuMaNa languages have the VCV prefix type in the nominal structure whose order includes; augment followed by the prefix and finally the stem. Examples (59-62) also show that the augment takes the initial position in the noun in LuMaNa languages. Further analysis of (59-62) shows that the LuMaNa languages use the compound, bisyllabic or disyllabic prefix type which is formed from two syllables in both singular and plural nouns. The disyllabic prefix type in the three languages is headed by the vowel which forms the first syllable and is followed by the CV as the second syllable. Examples (59-62) also reveal that there is vowel harmony in both singular and plural nouns. For instance, in example (60), the augment of the single noun is [u-] and the vowel [-u-] is in the prefix while [i-] is the augment of the plural noun whose prefix is [-mi-]. The above analysis of example (60) shows that there is concordial agreement between the vowel in the prefix of the noun and the augment, determiner, modifier and predicate in all LuMaNa languages. Examples (61-62) reveal that during segmentation of morphemes in LuMaNa languages, some morphophonological processes act on nouns such as gliding in the stem where the high front vowel [i] is realised as a voiced palatal glide [y] before the suffix. LuMa languages in example (61) undergo coalescence which results into assimilation in the singular noun where the weaker low front vowel [a] in the prefix is affected by the stronger high back vowel [u] in the root thereby creating vowel length which can be represented as; /a+/u/→/uu/. On the contrary, example (62) shows that the same noun and class in Namwanga language has a different form and is not affected by both coalescence and assimilation as opposed to the one in (61) for LuMa

languages. The morphology in (59-62) in the stem of the noun structure both in the singular and plural dichotomy is the same. Examples (59-62) further show that LuMaNa languages use the bisyllabic prefix type where the first syllable comprises the augment (V) while the second syllable consists of a consonant (C) followed by a vowel (V).

6.3 Nominal prefixes in LuMaNa languages

The LuMaNa languages use the mixed prefix type in the formation of the nominal structures which incorporate the monosyllabic (CV) and bisyllabic prefix types (VCV) respectively.

The study by Halemba (2007) shows that Mambwe language has nine nominal prefixes. The present study rides on Halemba's literature and comes up with eighteen (18) nominal prefixes in Mambwe language in particular and LuMaNa languages in general. The researcher used the Swadesh in Appendix A to collect 100 words, mostly nouns to determine the class prefix pattern and the agreement-class pattern in LuMaNa languages in which classes with singular prefix patterns agree with plurals as illustrated in the nominal prefix system below:

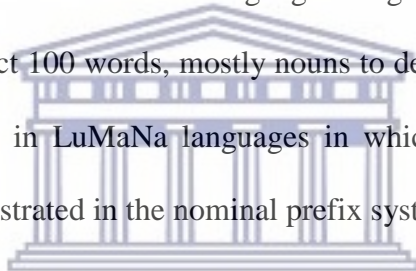


Table 6.2: Nominal prefixes in LuMa varieties

Noun Class	Augment	Noun Prefix		Examples of Nouns	Gloss
		Lu	Ma		
1	u	mu	mu	u-mu-ntu → umuntu	person
1a	∅	∅	∅	yaama	uncle
2	∅	a	a	a(ya)-ntu → a(ya)ntu	people
2a	∅	yaa	yaa	yaa-maayo → yaamaayo	mother (in-law)
3	u	mu	mu	u-mu-twe → umutwe	head
4	i	mi	mi	i-mi-twe → imitwe	heads
5	∅	i	i	i-tete → itete	reed
	i	li	li	i-li-nso → ilinso	eye
5a	∅	lii	lii	lii-maama → liimaama	huge woman

6	a	ma	ma	a-ma-tete → amatete	reeds
7	i	ci	ci	i-ci-ntu → icintu	thing
7a	i	cii	cii	i-cii-mutwe → iciimutwe	big/huge/bad/ugly head
	∅	cii	cii	cii-cuula → ciicuula	big/huge/bad/ugly frog
8	i	vi	vi	i-vi-ntu → ivintu	things
8a	i	vii	vii	i-vii-mitwe → iviimitwe	big/huge/bad/ugly heads
	∅	vii	vii	vii-cuula → viicuula	big/huge/bad/ugly frogs
9	i	n	n	i-n-koko → inkoko	chicken
9a	∅	∅	∅	paani	pan
10	i	n	n	i-n-koko → inkoko	chickens
11	u	lu	lu	u-lu-se → uluse	mercy
12	a	ka	ka	a-ka-nu-a → akanwa	mouth
12a	∅	kaa	kaa	kaa-kuza → kaakuza	small rat
13	u	tu	tu	u-tu-nu-a → utunwa	mouths
13a	∅	tuu	tuu	tuu-kuza → tuukuza	small rats
14	u	wu	wu	u-wu-ntu → uwuntu	humane/humanity
14a	∅	wuu	wuu	wuu-kateeka → wuukateeka	presidency, leadership
15	u	ku	ku	u-ku-fwa → ukufwa	to die
16	(a)	pa	pa	(a)pa-pela → (a)pa pela	on top, on high
	∅	pali	pali	pa-li-motoka → pali motoka	at, near, on the car
17	(u)	ku	ku	(u)ku-muzi → (u)ku muzi	in the village
17a	∅	kuli	kuli	kuli-yaso → kuli yaso	to your father
18	(u)	mu	mu	(u)mu-ilindi → (u)mwi lindi	in the grave
18a	∅	mu	mu	mu-ilindi → mwi lindi	in the grave

The noun prefixes in LuMa languages in Table 6.2 above shows that the languages have eighteen (18) noun class prefixes as opposed to nine (9) which were established by Halemba (2007). The nominal prefixes in Namwanga language are presented below:

Table 6.3: Noun prefixes in Namwanga (Na) language

Noun Class	Augment	Noun Prefix	Examples of Nouns	Gloss
1	u	mu	u-mu-ntu → umuntu	person
1a	∅	(e)	e-mujomba → emujomba	uncle
2	a	wa	awa-ntu → awantu	people
2a	∅	wa	wa-mama → wamama	mother (in-law)
3	u	mu	u-mu-twe → umutwe	head
4	i	mi	i-mi-twe → imitwe	heads
5	∅	i	i-tete → itete	reed
	i	li	i-li-nso → ilinso	eye
5a	∅	lya	lya-maama → lyamaama	huge woman
6	a	ma	a-ma-tete → amatete	reeds
	a	mi	a-mi-nso → aminso	eyes
7	i	ci	i-ci-sakati → icisakati	a door
7a	i	cii	i-cii-mutwe → iciimutwe	big/huge/bad/ugly head
	∅	ca	ca-cula → cacula	big/huge/bad/ugly frog
8	i	vi	i-vi-ntu → ivintu	things
8a	i	vii	i-vii-mitwe → iviimitwe	big/huge/bad/ugly heads
	∅	vya	vya-cula → vyacula	big/huge/bad/ugly frogs
9	i	n	i-n-koko → inkoko	chicken
9a	∅	e	e-paani → epaani	pan
10	i	n	i-n-koko → inkoko	chickens
11	i	n	i-n-kumbu → inkumbu	mercy
12	a	ka	a-ka-nu-a → akanwa	mouth
12a	∅	ka	ka-kuza → kakuza	small rat
13	u	tu	u-tu-nu-a → utunwa	small mouths
13a	∅	twa	twa-kuza → twakuza	small rats
14	u	wu	u-wu-ntu → uwuntu	humane/humanity
14a	∅	wuu	wuu-kateeka → wuukateeka	leadership, presidency
15	u	ku	u-ku-fwa → ukufwa	to die

16	(a)	pa	(a)pa-pela→(a)pa pela	on top, on high
	∅	pe	pe-motoka→pe motoka	at, near, on the car
17	∅	ku	ku-kaya → ku kaya	in the village
17a	∅	kwe	kwe-nyinasenje→kwe nyinasenje	to his/her aunt
18	∅	mu	mu-nkungwe → munkungwe	in the grave
18a	∅	mu	mu-nkungwe → munkungwe	in the grave

Table 6.2 and 6.3 show that LuMaNa languages have eighteen noun prefixes and use the V, C, CV, CCV, CVV, CVCV and VCV noun prefix types. Both Cl.9 and 10 use the prefix [-n-] as in *i-n-koko* ‘chicken/chickens’ to express both the singular and plural nouns. LuMa languages only have the CV prefix type in Cl.18a in the locative [mu] while Namwanga has CV prefix types which include [wa-] in Cl.2a, [ka-] in Cl.12a, [pe-] in Cl.16, [ku-] in Cl.17, [mu-] in Cl.18 and 18a. Table 6.2 shows that in [lii-] in Cl.5a, LuMa languages use the CVV prefix type while Namwanga language in the prefix [lya-] uses CCV. Table 6.2 also shows that the CVCV prefix types are only found in LuMa languages in the locatives [pali] in Cl.16 and [kuli] in Cl.17a respectively. Table 6.2 and 6.3 further reveal that Cl.1a and 9a have empty (∅) augments in LuMaNa languages.

The classification of nouns into singular and plural dichotomy in Bantu languages depends on their class prefixes and syntactic characteristics excluding the locatives in Cl.16, 17 and 18 (cf. Crisma et al, 2011). Tables 6.2 and 6.3 suggest that noun prefixes in LuMaNa languages are paired where the first pair denotes singular while the second one represents the plural class prefix as can be observed in the following pairs: 1/2, 1a/2a, 3/4, 5/6, 5a/6, 7/8, 9/10, 11/10, 12/13, 14/6 and 15/6. For this reason, noun prefixes in LuMaNa languages have a derivative function in

which plural prefixes have corresponding singular prefixes during their formation as illustrated in the example below:

- (63) LuMaNa: *umuntu* (Cl.1)‘person’;
a(ya)ntu (Cl.2)‘people’
- (64) LuMaNa: *umunwe* (Cl.3)‘finger’;
iminwe (Cl.4)‘fingers’
- (65) LuMaNa: *inkoko* (Cl.9)‘chicken’;
inkoko (Cl.10)‘chickens’

Examples (63-65) show that in LuMaNa languages, the same noun class prefix [mu-] is used in various noun class prefixes to express the singular form, such as, in Cl.1 in *umuntu* ‘person’ and Cl.3 in *umutwe* ‘head’. There is a derivative function of the noun class prefixes in example (65) where [n-] is used in Cl.9 [singular] and Cl.10 [plural] in *inkoko* ‘chicken or chickens’. Further analysis of (65) reveals that the single noun in Cl.9 undergoes zero modification to produce a plural noun in Cl.10 which shows that descriptions and meanings of noun classes are signaled by their respective class prefixes.



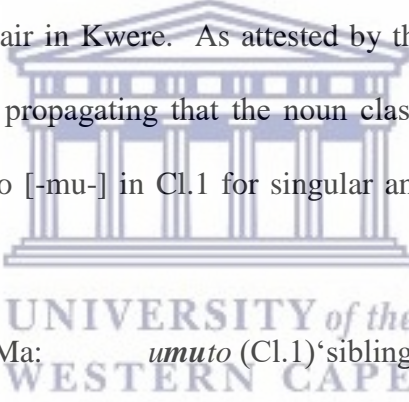
6.4 Noun classes in LuMaNa languages

Noun classes are categories to which different noun prefixes of Bantu languages belong. Crisma et al (2011) shows that the relations between pairs of classes is used to indicate the importance of grammatical number for noun classes. Zemba (2015) adds that pairing of the noun classes is done to express grammatical number. Crisma et al (2011) further posit that paired nominal classes in Bantu languages have both inflectional and derivational functions. Put in other words, in Bantu languages such as LuMaNa, some of the noun classes are in established singular-plural dichotomy while others are not. Noun class pairings dichotomy is attested in most Bantu

languages where the first pair denotes singular while the second one represents the plural noun class. For this reason, noun class pairings in LuMaNa languages are used to express grammatical-inflectional relationships of number. In LuMaNa languages, Cl.14, 15 and the locative classes are not paired while noun classes from Cl.1 to 13 are paired.

6.4.1 Noun class 1 and 2 in LuMaNa languages

In view of Halemba (2007), the first noun class (Cl.1) is made up of all intelligent beings, either human or not, agents which include foods and foreign words and is headed by the (pre-prefix) and prefix [(u)mu-] for singular nouns and [(y)a-] for plural nouns. In view of Halemba (2007), nouns in both Cl.1 and 2 belong to class 1. Human beings always occur in distinctive noun classes, namely; Cl.1 and 2. Möller (2011) shows that almost all terms referring to human beings are assigned to this noun class pair in Kwere. As attested by the duo above, the present study counters Halemba's analysis by propagating that the noun class category of human beings in LuMaNa languages is paired into [-mu-] in Cl.1 for singular and [(y)a-/wa-] in Cl.2 for plural nouns as illustrated below:

- 
- (66) LuMa: *umuto* (Cl.1) 'sibling';
ato (Cl.2) 'siblings'
- (67) Na: *umuzuna* (Cl.1) 'sibling';
awazuna (Cl.2) 'siblings'
- (68) LuMa: *yaama* (Cl.1a) 'maternal uncle';
yaayaama (Cl.2a) 'maternal uncles'
- (69) Na: *(e)mujomba* (Cl.1a) 'maternal uncle';
wamujomba (Cl.2a) 'maternal uncles'

Examples (66-67) show that the LuMaNa languages have a common augment [u-] and the prefix [-mu-] for singular nouns in Cl.1 where LuMa languages use the stem [-to] ‘sibling’ while Namwanga language uses [-zuna] ‘sibling’ respectively. Example (66) reveals that the plural in Cl.2 in LuMa languages has an empty augment with the prefix [a-] while Namwanga in example (67) uses [a-] as an augment with the prefix [-wa-] which is affected by gliding. Examples (68-69) show that LuMaNa languages undergo gliding in Cl.2a where a high front vowel [i] in the prefix [ya] in LuMa languages glides to a voiced palatal [y] and a high back vowel [u] in Namwanga is realised as a voiced bilabial glide [w]. The LuMa languages in (68) neither take augments nor prefixes in Cl.1a in singular nouns, but have the prefix [yaa-] in Cl.2a in the plural nouns as opposed to Namwanga language in example (69) which has an optional augment [e-] in Cl.1a. Further analysis of example (68) also shows that the plural prefix in LuMa languages in Cl.2a uses [yaa] which is affected by gliding and vowel length as opposed to Namwanga language which is only affected by gliding in (69) which uses [wa] where the short high back vowel [u] is realised as a voiced bilabial glide [w].

6.4.2 Noun class 3 and 4 in LuMaNa languages

Halemba (2007) classifies nouns which are found in Cl.3 and 4 in Bantu languages in Cl.2. Möller (2011) observes that in Kwere, Cl.3 and 4 include some names of body parts and also some plants, among other things where the noun prefix of Cl.3 [m(u)-] is substituted by the prefix of Cl.4 [mi-] in plural nouns. As attested by Mann (1999) and Möller (2011), what Halemba describes as noun Cl.2 in Mambwe language is in fact a pair of nouns in Cl.3 and 4 which are classified to be animate, agentive or plants. Similarly, in LuMaNa languages, [mu-] in Cl.3 and [mi-] in Cl.4 belong to both the inanimate such as objects and animate such as plants

which are used to describe singular and plural dichotomy of nouns respectively as shown in the example below:

- (70) LuMaNa: *umuse* (Cl.3) ‘reed basket’;
imise (Cl.4) ‘reed baskets’

Example (70) shows that the singular inanimate nouns with the prefix [-mu-] belong to Cl.3 while nouns with the prefix [-mi-] are found in Cl.4 and are plurals. The analysis reveals that Cl.3 nouns use the singular augment [u-] while nouns in Cl.4 have the plural augment [i-]. Example (70) also reveals that the prefix is headed by a homorganic nasal [m] in both singular and plural nouns in Cl.3 and 4 respectively. The example further shows that LuMaNa undergo vowel harmony in the prefix which is determined by the augments in singular and plural nouns.

6.4.3 Noun class 5 and 6 in LuMaNa languages

In Bantu languages, nouns in Cl.5 and 6 represent things that are paired or are in multiples. However, Halemba (2007) puts nouns in this pair in Cl.5 in Mambwe language. Möller (2011) shows that in Kwere language, the majority of nouns in Cl.5 have a zero prefix [∅-] while the plural is formed using the Cl.6 prefix [ma-]. In LuMaNa languages, nouns in Cl.5 are expressed using the singular prefix [i-/li-] and the plural prefix [ma-/mi-] for nouns in Cl.6 to describe things that are in pairs or multiples such as body parts of human beings and non-human things as shown in the examples below:

- (71) LuMaNa: *itama* (Cl.5) ‘cheek’;
amatama (Cl.6) ‘cheeks’
- (72) LuMa: *ilinso* (Cl.5) ‘eye’;
amanso (Cl.6) ‘eyes’

- (73) Na: *ilinso* (Cl.5) ‘eye’;
aminso (Cl.6) ‘eyes’

Example (71) is a pair of noun class for non-human beings in LuMaNa languages where the prefix [i-] in Cl.5 in the noun *itama* ‘cheek’ signifies singular while [ma-] in Cl.6 in the noun *amatama* ‘cheeks’ is plural. In example (73), there is vowel harmony between the augment [i-] and the prefix [-li-] in Cl.5 as well as in Cl.6 between the augment [a-] and the prefix [-ma-]. The singular noun in example (71) in Cl.5 has an empty augment as can be seen in, *itama* ‘cheek’ where [i-] is a prefix and as such LuMaNa languages use the V prefix type. On the other hand, Namwanga in example (73) in Cl.6 has the vowel [-i-] in the prefix [mi-] which is not in harmony with the augment [a-] as opposed to (72) in LuMa languages where the vowel in the prefix [ma-] in Cl.6 is in harmony with the augment [a-]. In (72-73), LuMaNa languages use the voiced alveolar lateral /l/ in nouns in Cl.5 which head the singular noun class prefixes while the voiced bilabial nasal /m/ in nouns in Cl.6 heads the prefix for nouns which express plurality.

6.4.4 Noun class 7 and 8 in LuMaNa languages

As exemplified in Kwere and Bemba, in Bantu languages, nouns in Cl.7 and 8 are associated with diminutive nouns instead of augmentatives (cf. Möller, 2011; Mann, 1999). Halemba (2007) classifies this pair of nouns in Mambwe language in Cl.4 and claims that they are used to form augmentative and pejorative nouns. Halemba’s classification does not agree with Maho (1999) and Mann (1999) who classify augmentatives and pejoratives in Cl.7 and 8 respectively. For this reason, LuMaNa languages use [ci-/cii-] in Cl.7/7a and [vi-/vii-] in Cl.8/8a to express augmentative and pejorative nouns as shown below:

- (74) LuMaNa: *icisote* (Cl.7) ‘hat’;
ivisote (Cl.8) ‘hats’

- (75) LuMaNa: *iciimutwe* (Cl.7a) ‘big/huge/bad/ugly head’;
iviimitwe (Cl.8a) ‘big/huge/bad/ugly heads’
- (76) LuMa: *ciipwela* (Cl.7a) ‘big/huge/bad/ugly mouse’;
viipwela (Cl.8a) ‘big/huge/bad/ugly mice’
- (77) Na: *capwela* (Cl.7a) ‘big/huge/bad/ugly mouse’;
vyapwela (Cl.8a) ‘big/huge/bad/ugly mice’

Example (74) shows relatedness of the singular prefix [ci-] in Cl.7 and the plural prefix [vi-] in Cl.8 which are used to describe the normal and original state of nouns in LuMaNa. Examples (75) and (76) reveal that LuMaNa use vowel length [i:] in prefixes in the dichotomy while Namwanga in (77) uses a short low front vowel [a] in the singular nouns to form augmentatives in Cl.7a and pejoratives in Cl.8a respectively. In examples (74) and (75), LuMaNa use the same augment [i-] in both singular and plural noun prefixes in Cl.7/7a and 8/8a which is attested in many other Bantu languages such as Bemba (cf. Mann, 1999). In (76-77), the singular prefix [cii-] in Cl.7a in LuMa languages and [ca-] in Cl.7a in Namwanga as well as the plural prefix [vii-] in Cl.8a in LuMa languages and [vya-] in Cl.8a in Namwanga have empty augments. Example (77) also shows that the prefix [vya-] in Cl.8a in Namwanga is affected by gliding followed by a short vowel when expressing the plural pejorative nouns while LuMa languages in (76) are influenced by vowel length in the pejorative plural prefix [-vii-] in Cl.8a. Example (76) further reveals that LuMa languages use vowel length in the singular prefix [-cii-] in Cl.7a while Namwanga in (77) in [-ca-] in Cl.7a uses a short vowel to form singular augmentatives.

6.4.5 Noun class 9 and 10 in LuMaNa languages

Halemba (2007) did not account for this category of noun classes in Mambwe language. Möller (2011) shows that Cl.9 and 10 are used to describe a different range of nouns, and loan words.

On the other hand, Mann (1999) shows that Cl.9 and 10 in Bemba represent animals. LuMaNa languages use the noun prefix [-n-] in Cl.9 and 10 respectively to express the nominal dichotomy of inanimate and animate nouns in Cl.9/10 and Cl.9a/10a as shown in the examples below:

- (78) LuMa: \emptyset *paani* (Cl.9a) ‘pan’;
yapaani (Cl.10a) ‘pans’
- (79) Na: *epaani* (Cl.9a) ‘pan’;
wapaani (Cl.10a) ‘pans’
- (80) LuMaNa: *inzovu* (Cl.9) ‘elephant’;
inzovu (Cl.10) ‘elephants’

In example (78), LuMa languages in Cl.9a do not have the augments and the nouns come into existence through direct borrowing from English in which the sound of the source language is maintained in the target language. Example (80) demonstrates that both Cl.9 and 10 use the same prefix [-n-] to describe singular and plural nouns in LuMaNa languages. The analysis also shows that in example (80), the dichotomy of nouns in Cl.9 and 10 in LuMaNa languages undergo form retention when converting singular to plural nouns as both classes use the prefix [-n-]. The plurals in examples (78-79) in Cl.10a have a CV prefix pattern which is affected by gliding where LuMa languages use a voiced palatal glide [y] while Namwanga uses a voiced bilabial glide [w]. Further analysis of (78-79) shows a variation in Cl.9a in the singular form where LuMa languages have an empty prefix while Namwanga uses the prefix [e-] in singular nouns.

6.4.6 Noun class 10 and 11 in LuMaNa languages

Halemba (2007) puts this pair of nouns in Mambwe in Cl.3 and posits that this class is used to describe the quantity and variety of nouns. On the contrary, the present study shows that abstract nouns and plurals of birds in LuMaNa belong to Cl.10 and 11 as attested by other Bantu

languages. The nouns in Cl.10 are expressed using the prefix [-n-] and Cl.11 uses [-n-/-lu] as demonstrated in the examples below:

- (81) LuMaNa: *inkoko* (Cl.10) ‘chickens’
 (82) Na: *inkumbu* (Cl.10) ‘mercy’
 (83) LuMa: *uluse* (Cl.11) ‘mercy’

Example (81) shows that LuMaNa languages use [-n-] in Cl.10 to form plural nouns of singular birds in Cl.9. Examples (82-83) reveal that prefixes in Cl.10 and Cl.11 represent abstract nouns which do not have plurals in LuMaNa languages. Example (81) further shows that LuMaNa languages use the augment [i-] in the prefix [-n-] in Cl.10 to describe the plural form of the nouns and corresponds to (82) in Namwanga language which uses the same prefix [-n-] to describe abstract nouns in Cl.10. Example (83) further shows that LuMa languages attach the augment [u-] to the prefix [-lu-] in Cl.11 to express the abstract noun *uluse* ‘mercy’ which is in tandem with Halemba’s (2007) Cl.7 while Namwanga language in example (82) attaches the augment [i-] to the prefix [-n-] in Cl.10 to refer to the same noun *inkumbu* ‘mercy’.

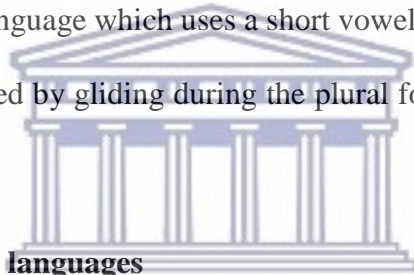
6.4.7 Noun class 12 and 13 in LuMaNa languages

This is a pair of nouns which are used to express the dichotomy of diminutive nouns. Halemba (2007) groups diminutive nouns in Mambwe languages in Cl.6. Comparatively, Möller (2011) reports that Kwere language does not have nouns in Cl. 12 and 13. As has been attested by Mann (1999), diminution of nouns in LuMaNa languages is expressed by [ka-/kaa-] in Cl.12/12a for singular nouns, and [tu-/tuu-/twa-] in Cl.13/13a for plurals as illustrated below:

- (84) LuMaNa: *a-ka-nwa* [akanwa] Cl.12 ‘small mouth’;
u-tu-nwa [utunwa] Cl.13 ‘small mouths’

- (85) LuMa: *kaa-mususwe* [kaamususwe] Cl.12a ‘small lizard’;
tuu-mususwe [tuumususwe] Cl.13a ‘small lizards’
- (86) Na: *ka-mukolwe* [kamukolwe] Cl.12a ‘small cock’;
twa-mukolwe [twamukolwe] Cl.13a ‘small cocks’

Example (84) shows that LuMaNa languages use the augment [a-] in Cl.12 and [u-] in Cl.13 respectively to express diminution of nouns. Examples (85-86) reveal that LuMaNa languages do not use augments in Cl.12a and 13a to express diminution of nouns. The analysis also shows that the prefix [ka-] in Cl.12 in example (84) in LuMaNa languages is equally used in example (86) in Cl.12a in Namwanga language to express singularity of nouns. In example (85), the prefixes [kaa-] in Cl.12a and [tuu-] in Cl.13a in LuMa languages are affected by vowel length as opposed to example (86) in Namwanga language which uses a short vowel in the prefix [ka-] in Cl.12a for singular diminution and is affected by gliding during the plural formation in [twa-] in 13a which is realised as [tu-a].



6.4.8 Noun class 14 in LuMaNa languages

Halemba (2007) classifies nouns in this class in Mambwe in Cl.7. Mann (1999) shows that nouns in Cl.14 are attested in Bemba which uses the prefix [-bu-] as in: *bukateeka* ‘leadership’ to denote nouns of abstract nature which represent humanity. The present study counters Halemba’s classification and places abstract nouns with the prefix [wu-] in Cl.14 to represent nouns that express humane characteristics and are neither paired nor pluralised as shown below:

- (87) LuMaNa: *u-wu-ntu* [uwuntu] Cl.14 ‘humanity’
- (88) LuMaNa: *wuu-kateeka* [wuukateeka] Cl.14a ‘presidency,
leadership’

Example (87) shows that LuMaNa languages attach augments to nouns in Cl.14. On the other hand, example (88) reveals that [wuu-] in Cl.14a has an empty augment in LuMaNa languages. The analysis also shows that example (88) which is augmentless is affected by vowel length in all the three languages. Examples (87-88) show that the nominal class prefixes [wu-] in Cl.14 and [wuu-] in Cl.14a do not have plurals when expressing abstract nouns. The prefixes in both Cl.14 and 14a in examples (87-88) are affected by gliding where a high back vowel [u] is realised as as voiced bilabial glide [w].

6.4.9 Noun class 15 in LuMaNa languages

Mann (1999) shows that in Bemba, nouns in this class use the prefix [-ku-] to denote verbal infinitives that are used morphosyntactically as nouns. As has been attested by other studies such as Mann (1999), Möller (2011) and Mtenje (2016), Cl.15 in LuMaNa languages denotes verbal infinitives which are expressed by the prefix [-ku-] and is not paired as shown below:

(89) LuMaNa: *u-ku-fwa* [ukufwa] ‘to die’

Example (89) shows that all LuMaNa languages use the prefix [-ku-] ‘to’ in Cl.15 to express verbal infinitives in nominal morphology. Example (89) also shows that the verbal infinitive prefix [-ku-] ‘to’ in Cl.15 is headed by the augment [u-].

6.4.10 Noun class 16, 17 and 18 in LuMaNa languages

Crisma et al (2011) posit that noun classes 16, 17 and 18 are locative class prefixes. Crisma et al (2011) further report that a locative class prefix is attached to an already inflected noun. Halemba (2007) classifies locatives [(u)mu-], [(u)ku-] and [(a)pa-] in noun class nine (Cl.9) in Mambwe language. The present study counters Halemba’s classification of locative prefixes in Mambwe language in Cl.9 and reconstructs the category of locatives in LuMaNa languages into

independent noun classes as follows; [pa] in Cl.16, [ku] in Cl.17 and [mu] in Cl.18 respectively. Kavari and Marten (2009) report the existence of multiple prefixation in Otjiherero during locative inversion. Mtenge (2016) also attests the existence of multiple prefixation in SuNdaLa varieties in classes that denote augmentation and diminution. Multiple prefixation exists in LuMaNa languages in the locative nouns which are formed by combining a noun with its inherent noun class prefix as well as the locative prefix as illustrated below:

- (90) LuMaNa: *pa-ka-nwa* [**pa**kanwa] Cl.16 ‘on the mouth’
 (91) LuMaNa: *ku-ka-nwa* [**ku**kanwa] Cl.17 ‘at the mouth’
 (92) LuMaNa: *mu-ka-nwa* [**mu**kanwa] Cl.18 ‘in the mouth’

Examples (90-92) show that the nominal locative prefixes morphologically reflect their derivational nature of locatives in Cl.16, 17 and 18 and the concatenate function with the inherent class prefix with reference to [pa-] in (90), [ku-] in (91) and [mu-] in (92) which are attached before the inherent prefix in Cl.12. Example (90) reveals that the locative prefix [pa-] in Cl.16 concatenates with the inherent Cl.12 prefix [ka-] to create *pakanwa* ‘on the mouth’. In example (91), the locative prefix [ku-] in Cl.17 concatenates with the inherent Cl.12 prefix [ka-] to form *kukanwa* ‘at the mouth’ while example (92) shows that the locative prefix [mu-] in Cl.18 concatenates with the inherent Cl.12 prefix [ka-] to form *mukanwa* ‘in the mouth’. In (90-92), the locative class prefixes in the three languages can be used to derive functional meaning and can either take the place of the basic class prefix or behave as secondary prefix during noun formation. The analysis of examples (90-92) also shows that locative nouns in LuMaNa languages provide an allowance for multiple prefixation. Prefixation in locative classes in LuMaNa languages is an additive feature rather than substitutive because in examples (90-92), locative nouns with concatenated inherence appear with more than one class prefix in order to

allow for multiple prefixation. In examples (90-92), all the locative classes in LuMa languages have optional augments as follows; [a-] in Cl.16, and [u-] in Cl.17 and 18 which counters the findings of Mtenje (2016) who establishes that all SuNdaLa locatives have no augments. In examples (91-92), LuMaNa languages use the same vowel in locatives, namely; [u-] in Cl.17 and [u-] in Cl.18 while Cl.16 in example (90) uses the vowel [a-]. The locative noun classes in LuMaNa languages have similar semantics and can be used to distinguish nearness, distance and incidences in which [pa-] in Cl.16 is used to indicate the general place or direction, [ku-] in Cl.17 shows specific place and [mu-] in Cl.18 describes an enclosed place or environment.

Mann (1999) shows that some locative class prefixes in Bantu languages can be used to derive functional meaning by either taking the place of the basic class prefix or behaving as secondary prefix on the noun form such as Bemba: *mwitumba* ‘in the pocket’ which is realised as [mu-itumba] in Cl.18. As attested in Bemba, the locative prefixes in LuMaNa languages function in analogous manner except in Cl.18 as shown in the examples below:

- (93) LuMaNa: *pa-mwamba* (Cl.16) → *pa mwamba* ‘on the mountain’
- (94) LuMa: *ku-muzi* (Cl. 17) → *ku muzi* ‘to the village’
- (95) Na: *ku-kaya* (Cl. 17) → *ku kaya* ‘to the village’
- (96) LuMa: *mu-ilindi* (Cl. 18) → *mwilindi* ‘in the grave’
- (97) Na: *mu-nkungwe* (Cl. 18) → *mu nkungwe* ‘in the grave’

Examples (93-97) have the same pattern and morphology in the use of the analogous manner in LuMaNa languages for all the locatives. The variation is observed in Cl.17 in example (94) where the locative [ku-] in LuMa languages is followed by Cl.3 [mu-] while in (95) in

Namwanga language, the same locative [ku-] is followed by Cl.12a [ka-] which has the same referent and semantics ‘to the village’.

Example (96) shows that in Cl.18, the class prefix [mwi-] in LuMa languages undergo three phonological processes namely, vowel fusion which takes place between a high back vowel [u] and a high front vowel [i], gliding where a high back vowel [u] is realised as a voiced bilabial glide [w] and form retention where a high front vowel [i] retains its morphology after fusing with a preceding vowel [u] which glides to [w]. On the contrary, Namwanga in example (97) in Cl.18 simply attaches the locative [mu-] to the stem [-nkungwe] ‘the grave’ to form *munkungwe* ‘in the grave’.

The table below summarises the dichotomy of the seven noun class pairings in LuMaNa:

Table 6.4: Summary of paired noun classes in LuMaNa varieties

Gender	Paired Classes	Singular/Plural Examples			Paired glosses
		Lu	Ma	Na	
1	1 and 2	<i>umuntu/antu</i>	<i>umuntu/antu</i>	<i>umuntu/awantu</i>	person/persons
2	3 and 4	<i>umutwe/imitwe</i>	<i>umutwe/imitwe</i>	<i>umutwe/imitwe</i>	head/heads
3	5 and 6	<i>iluwa/amaluwa</i>	<i>iluwa/amaluwa</i>	<i>iluwa/amaluwa</i>	flower/flowers
4	7 and 8	<i>icintu/ivintu</i>	<i>icintu/ivintu</i>	<i>iciintu/iviintu</i>	thing/things
5	9 and 10	<i>inkoko/inkoko</i>	<i>inkoko/inkoko</i>	<i>inkoko/inkoko</i>	chicken/chickens
6	11 and 10	<i>ulukusa/inkusa</i>	<i>ulukusa/inkusa</i>	<i>ulukusa/inkusa</i>	fibre/fibres
7	12 and 13	<i>akanwa/utunwa</i>	<i>akanwa/utunwa</i>	<i>akanwa/utunwa</i>	smallmouth /small mouths

Table 6.4 shows that LuMaNa languages have the same morphology of the noun class pairings in the following genders; 2, 3, 5, 6 and 7 in both singular and plural nouns. The examples in the table further reveal that genders 1 and 4 have morphological variations in LuMaNa languages.

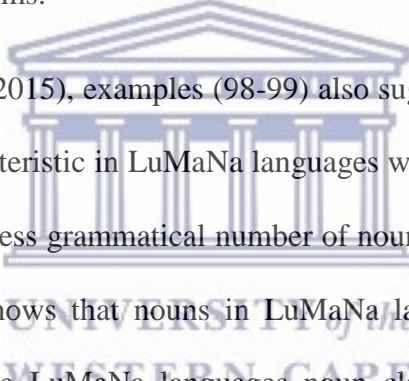
6.5 Noun class concord in LuMaNa languages

Miti (2006) shows that concordial agreement system in noun classes is one of the salient linguistic key features shared by most Bantu languages (cf. Meeussen, 1967; Meinhof, 1932; Nurse and Philippson, 2003). Some Bantu languages such as Kituba, Duala, Kele and Mpongwe have lost the concord system and do not have concordial agreement on certain adnominal which include objects (cf. Maho, 1999; Marten et al, 2007). The LuMaNa languages on the other hand have concord in their original nominal prefix system where the noun classes express agreement using the noun class prefixes as opposed to other Bantu languages such as Kagulu whose agreement is typically with the derivational class and not with the original class (cf. Petzell and Hammarström, 2013). LuMaNa languages express the concordial agreement in both singular and plural nouns between the augment and the vowel in the prefix in all paired classes such as 1/2, 3/4, 5/6, 7/8, 9/10 and 10/11 as shown in the examples below:

- (98) LuMa: *u-mu-zwa* [umuzwa] Cl.3 ‘cooking stick’;
i-mi-zwa [imizwa] Cl.4 ‘cooking sticks’
- (99) Na: *i-ci-mbwi* [icimbwi] Cl.7 ‘lion’;
i-vi-mbwi [ivimbwi] Cl.8 ‘lions’

Examples (98-99) show that concordial agreement in LuMaNa languages is expressed using grammatical gender, that is, singular and plural dichotomy. In (98), the high back vowel [u] in the prefix agrees with the augment in the singular form while the augment [i-] agrees with the vowel in the prefix [mi] in the plural form in LuMa languages. Similarly, in Namwanga

language, the augment [i-] in example (99) agrees with the vowel in the prefix [ci-] in singular form and [vi-] in the plural noun. LuMaNa languages have concordial agreement in the stems of the class pattern which are in dichotomy as can be seen in LuMa languages in example (98) which has the singular prefix [mu-] in Cl.3 → the plural [mi-] in Cl.4 where the stem is the same [-zwa]. In the same way, Namwanga language in (99) shows agreement between the prefix of the singular noun [ci-] in Cl.7 and the plural noun prefix [vi-] in Cl.8 by using the same stem [-mbwi]. Examples (98-99) show that noun classes in LuMaNa languages are formed from the nominal class prefixes. The pairs of the nouns in example (98), namely, *umuzwa* ‘a cooking stick’ and *imizwa* ‘cooking sticks’ as well as *icimbwi* ‘lion’ and *ivimbwi* ‘lions’ in (99) are a manifestation of the class system which suggest that nouns have a semantic content and regular patterns of singular and plural forms.



As has been attested by Zemba (2015), examples (98-99) also suggest that pairing of numbers of noun classes is a common characteristic in LuMaNa languages which is used to show concord of singular and plural nouns to express grammatical number of nouns according to derivational and semantic function. The study shows that nouns in LuMaNa languages take augments which precede nominal prefixes. In the LuMaNa languages noun class system, the augment is an optional element. Example (99) shows that there is vowel harmony [i] in the prefix of Namwanga language and the augment in both singular and plural nouns in Cl.7 and 8 as opposed to LuMa languages in (98) where the singular noun prefix and augment in Cl.3 use the high back vowel [u] and in the plural in Cl.4, the high front vowel [i] is used in both the augment and the prefix respectively. As attested by Mann (1999), LuMaNa languages also use a complex Bantu languages noun class system which contains relevant plural formation patterns, agreement marking and patterns which have pronominal reference. For this reason, the augment in LuMaNa languages agree with the vowel in the prefix of the noun such as; Cl. 3/4 and 7/8.

The LuMaNa languages express concordial agreement of gender such as in Cl.1/2 which correlates with Maho (1999) and Petzell (2008) who use the term concord of Cl.1 to express the singular form and Cl.2 for the plural to describe all animates, irrespective of their inherent noun class, as general animate concords as illustrated below:

- (100) LuMa: *u-mu-ana* [umwana] Cl.1 ‘child’;
 a-na [ana] Cl.2 ‘children’
- (101) Na: *u-mu-ana* [umwana] Cl.1 ‘child’;
 a-wa-na [awana] Cl.2 ‘children’

The analysis shows that in examples (100-101), Cl.1 uses a VCV prefix type in all the LuMaNa languages. Example (100) shows that LuMa languages use the vowel [a-] as a prefix in Cl.2 in the plural nouns while Namwanga language in (101) uses the prefix [wa-] in Cl.2 in the plural which is preceded by the augment [a-] in the same class and for the same referent. Example (100) also shows that LuMa languages in Cl.2 are augmentless [empty augments] while Namwanga language in (101) has an augment [a-] in Cl.2 which is used to express the plural.

Mann (1999) shows that Cl.9 and 10 in Bemba represent animals and undergo zero modification when expressing concord from the singular prefix [n-] in Cl.9 to the plural prefix in Cl.10. The LuMaNa languages express concord which is embedded in using the same noun prefix [n-] with an augment [i-] in Cl.9 to express the singular and Cl.10 for the plural nouns as shown below:

- (102) LuMaNa: *i-n-kunda* [inkunda] Cl.9 ‘dove’;
 i-n-kunda [inkunda] Cl.10 ‘doves’

Example (102) shows that the nominal class prefixes in LuMaNa languages are not differentiated by observing the physical concord of Cl.9 and 10 to express singular and plural nouns because

the classes have the same morphology. Classes 9 and 10 are distinguished semantically which is only achieved and understood in context which is expressed by using the dichotomy.

6.6 Chapter summary

The chapter has addressed the research question: What are the nominal morphological variations in Lungu, Mambwe and Namwanga languages in Zambia? LuMaNa have two nominal structures, namely; prefix + stem, and augment + prefix + stem. This shows that the three languages use both monosyllabic and bisyllabic prefix types which are attested in many other Bantu languages. LuMaNa have eighteen noun class prefixes with seven pairings which express the singular and plural dichotomy as well as concordial agreement, namely; 1/2, 3/4, 5/6, 7/8, 9/10, 11/10 and 12/13. The languages have mixed category of the nominal class prefixes which include; V, C, CV, CCV, CVV, CVCV and VCV prefix types. The prefix types V in Cl.2 and CVCV in Cl.16 and 17 only exist in LuMa languages. Noun classes in LuMaNa with the V, CV, CCV, CVV and CVCV prefix types have empty augments while C and VCV have augments.

Nominal prefixes in LuMaNa are affected by gliding, vowel length, and vowel harmony and form retention. The LuMa languages are affected by gliding in Cl.2a, 14, and 14a while Namwanga language undergoes gliding in Cl.2, 5a, 8a, 13a and 17a. On the other hand, Namwanga language is affected by vowel length in Cl.7a, 8a and 14a while LuMa languages have vowel length in Cl.2a, 5a, 12a and 13a. LuMaNa have a derivative function of nouns which is used to signal the semantic properties of noun classes such as Cl.7 for augmentative, Cl.8 for pejorative, and Cl.11 for abstract nouns, Cl.12 and 13 for diminutive nouns as well as Cl.16, 17 and 18 for locatives. The seven pairs of prefixes have similar prefix types in all LuMaNa languages in pairs 2, 3, 4, 6 and 7. Pair 1 in LuMa languages in Cl.2 does not use the augment as opposed to Namwanga language which uses [a-].

The next chapter presents an analysis of the nominal derivation in Lungu, Mambwe and Namwanga languages in Zambia.



CHAPTER SEVEN

NOMINAL DERIVATION IN LUNGU, MAMBWE AND NAMWANGA LANGUAGES

7.0 Introduction

The chapter presents a comparative analysis of the common strategies which are employed during nominal derivation in LuMaNa languages. It is a continuation of the nominal structure introduced in chapter six. The chapter deals with the research question below: What are the nominal morphological variations in Lungu, Mambwe and Namwanga languages in Zambia? The study answers the research question by comparing, analysing and documenting the following aspects; a brief background to nominal derivation in Bantu languages, noun derivation by affixation, noun derivation using lexical categories and noun derivation by compounding. The chapter closes with a summary.

7.1 A brief background to nominal derivation in Bantu languages

Kazwanomo (2016) shows that nominal derivation, also called nominalization is the process that derives a noun from another word category. Kazwanomo (2016) posits that in Kisukuma in Tanzania, new nouns are typically formed from verbs and adjectives or from other nouns by using affixes which are attached to the stem or a complete word and that in most cases, noun derivation can either change the word category or word class. Beard (2001) shows that derivational morphology usually requires the addition of suffixes which are used to create new lexemes or other affixes of one lexical category or part of speech and converts them into words of another such category (cf. Robinson, 2016; Akanlig-Pare, 1999).

Many Bantu languages employ different strategies to derive nouns from existing words. Katamba and Stonham (2006) claim that affixation is a principal means of building nouns and

other words in human language and is common in prototypical agglutinating languages such as Swahili. Kari (2015) observes that affixes which are used to derive nouns are classified as prefixes, suffixes, infixes, interfixes and circumfixes though, prefixes and suffixes are the commonest in the Bantu languages. Appah (2003) shows that some languages such as Akan use suffixation to derive diminutive nouns while other languages like Swahili use prefixation. Kazwanomo (2016) claims that Sukuma language employs morphological derivation by attaching affixes to the stem of an adjective or verb to form a new word as well as zero-derivation which does not apply any affixation process to the stem to derive a new noun (cf. Kiparsky, 1982). On the other hand, Kula (2009) observes that compound nouns can be derived through structural classification which helps to determine the position of the noun which heads the compound whether it is to the left or right of the nominal structure.

7.2 Noun derivation strategies in LuMaNa languages

Aikhenvald (2003) shows that noun classification strategies are grammatical constructions which are specialised in the categorisation of nouns. This portion deals with nominal creation strategies which include; affixation, deriving nouns from lexical items and compounding.

7.2.1 Deriving nouns by affixation in LuMaNa languages

Katamba and Stonham (2006) state that affixation is the process of attaching a bound morpheme, usually an affix, to a base to create word-forms. Bantu languages use derivational affixes to create new words, mostly nouns (cf. Kari, 2015). Kadenge and Simango (2014) show that both prefixation and suffixation can be used in agglutinating languages to create new concepts by adding morphemes to a noun before or after the root. From the foregoing, LuMaNa languages attest the following affixation strategies to create new nouns: prefixation, suffixation and zero modification or derivation.

7.2.1.1 Deriving nouns by prefixation in LuMaNa languages

Noun derivation by prefixation is achieved by attaching a prefix before the initial nominal stem in order to derive another noun (cf. Kadenge and Simango, 2014). Prefixation is a derivational concept that allows the addition of an affix before the root of the noun to create a new lexeme. While in many Bantu languages prefixation is used as an inflectional affix especially for number, it is a derivational affix in some Bantu languages like Swahili which prefixes [ki-] to the noun *sichana* ‘girl’ to derive *ki-sichana* ‘a small girl’ (cf. Appah, 2003). Prefixation as a derivational affix is attested in LuMaNa and is expressed using prefixes such as [ci-] in Cl.7 for singular nouns, [vi-] in Cl.8 for plural and [mu-] in Cl.3/4 for both singular and plural nouns as shown in:

Table 7.1: Noun derivation by prefixation in LuMaNa varieties

S/N	Language(s)	Main noun	Prefix	New word
a.	LuMaNa	<i>kolwe</i> ∅ - <i>kolwe</i> monkey ‘monkey’	<i>ci-</i>	<i>icikolwe</i> <i>ici-</i> <i>kolwe</i> Cl.7-ancestor ‘an ancestor’
b.	LuMaNa	<i>kolwe</i> ∅ - <i>kolwe</i> monkey ‘monkey’	<i>vi-</i>	<i>ivikolwe</i> <i>ivi-</i> <i>kolwe</i> Cl.8-ancestors ‘ancestors’
c.	LuMa	<i>puuti</i> ∅ - <i>puuti</i> liar ‘a liar’	<i>i-</i>	<i>imputi</i> <i>i-</i> <i>mputi</i> Cl.5-buttock ‘buttock(s)’
d.	Na	<i>puuti</i> ∅ - <i>puuti</i> liar ‘a liar’	<i>i-</i>	<i>impuuti</i> <i>i-</i> <i>mpuuti</i> Cl.5-buttock ‘buttock(s)’

In Table 7.1, Example (a) reveals that the prefix [ci-] in Cl.7 is used to derive the singular noun *icikolwe* ‘an ancestor’ from the noun *kolwe* ‘monkey’ which has an empty [∅] prefix. In (b), the prefix [vi-] in Cl.8 is used to derive the plural noun *ivikolwe* ‘ancestors’ from the noun *kolwe* ‘monkey’ which also has an empty [∅] prefix. Examples (a-d) reveal that LuMaNa languages do not have augments before the process of prefixation takes place, but take augments during prefixation thereby changing the nominal prefix type from CV to VCV. Further analysis of (a-b) shows that the augment [i-] is not optional during noun derivation by prefixation of *icikolwe* ‘an ancestor’ and *ivikolwe* ‘ancestors’ as omitting it would lead to creating augmentative nouns such as *cikolwe* ‘huge monkey’ and *vikolwe* ‘huge monkeys’. On the other hand, a high front vowel [i-] at the beginning of nouns in (c-d) can be used as an optional nominal prefix in Cl.5 to signal that the noun is used abusively in exclamation by function sentences, such as in LuMa languages: *mputi zyo!* ‘Your bad buttocks!’ Conversely, *imputi/impuuti* in LuMaNa may also refer to ‘anus/anuses’. Examples (c-d) reveal that the three languages use the prefix [i-] in Cl.5 for both singular and plural nouns where the homorganic nasal [m] is introduced and infixes between the prefix and the stem in *imputi/impuuti* ‘buttock/buttocks’ in Cl.5 which is derived from the noun *puuti* ‘liar’ which neither has the prefix nor the augment. Examples (a-b) and (d) also reveal that LuMaNa cluster maintains their stems during noun derivation by prefixation. Nonetheless, LuMa languages in (c) drop off the high back vowel [u] in the stem during noun derivation by prefixation thereby resolving the VV hiatus sequences. Examples (a-d) further show that LuMaNa maintain the word classes of main nouns after prefixation has taken place.

7.2.1.2 Deriving nouns by suffixation in LuMaNa languages

Kadenge and Simango (2014) posit that suffixation is a morpho-syntactic concept which is used to derive nouns from other nouns. Appah (2003) attests the presence of suffixation in Akan

language in Ghana which is used to form certain diminutive nouns by attaching the suffix [-ba] after the stem of the main noun. Robinson (2016) also attests noun derivation by suffixation in Nyakyusa using the following common derivative suffixing vowels; [-i], [-o] and [-u]. As has been attested in Akan and Nyakyusa languages, LuMaNa languages derive new nominal lexemes by adding a suffixing morpheme to the right side of the stem of the main noun such as [-vyala] in Cl.2a and [-ndilo] in Cl.5 as illustrated in the table below:

Table 7.2: Noun derivation by suffixation in LuMaNa varieties

S/N	Languages	Main noun	Suffixed noun
a.	LuMa	<i>taata</i> [ta-at-a] Cl.2a ‘father’	<i>taatavyala</i> [ta-ata-vi-al-a] ‘father in-law’
b.	Na	<i>taata</i> [ta-at-a] Cl.2a ‘father’	<i>etaatavyala</i> [e-ta-ata-vi-al-a] ‘father in-law’
c.	LuMa	<i>maayo</i> [ma-a-i-o] Cl.2a ‘mother’	<i>manguvyala</i> [ma-ngu-vi-al-a] ‘mother in-law’
d.	Na	<i>maayo</i> [ma-a-i-o] Cl.2a ‘mother’	<i>emanguvyala</i> [e-ma-ngu-vi-al-a] ‘mother in-law’
e.	LuMaNa	<i>ikasa</i> [i-kas-a] Cl.5 ‘hand’	<i>ikasandilo</i> [i-kasa-ndil-o] ‘right hand’

Table 7.2 shows that in examples (a-b), all the LuMaNa languages maintain the same stem [-taata] ‘father’ in the main noun during suffixation which gives a general idea about a father. The LuMaNa languages in examples (a-d) use the suffix [-vyala] ‘to give birth’ to give a sense of parent in-law which differentiates the noun from father in general. Example (e) shows that LuMaNa languages maintain the same morphology of the main noun during suffixation including the VCV prefix type where the introduction of the suffix [-ndilo] ‘right’ qualifies the kind of hand being described. In (a-e), noun derivation by suffixation affects the semantics of the main noun and changes the morphology to a solid compound noun in which a suffix [-vyala] ‘to give birth’ is used as a verbal to form ‘noun + verb’ compound structure in (a-d) while in

example (e), the solid compound noun is formed by the noun *ikasa* ‘hand’ followed by the adjective *ndilo* ‘right’ in the order ‘noun + adjective’. Examples (a-e) reveal that all solid compounds formed by suffixation are headed by nouns. Examples (c-d) also show that LuMaNa languages change the morphology of *maayo* ‘mother’ in the main noun to *mangu* ‘mother’ before suffixing *-vyala* ‘to give birth’ to create *manguvyala* ‘mother in-law’.

In Namwanga language, suffixation introduces prefixes, pre-prefixes or augments to the suffixed nouns in examples (b) and (d), while in (a) and (c), LuMa languages do not have the prefix or augment in Cl.2a. In addition, LuMa languages only introduce prefixes or augments to suffixed nouns if they are present in the main noun as in example (e) while Namwanga is an augment language in all the suffixation patterns as can be seen in examples (b, d, e). Suffixation in LuMaNa languages modifies the main noun which eventually changes the semantics.

7.2.1.3 Deriving nouns by zero modification in LuMaNa languages

Kiparsky (1982) claims that zero modification, also called zero derivation uses derivational affixes which rarely change the lexical category, but merely change the meaning of the base. LuMaNa languages attest zero modification where a noun derives from singular to plural without changing the morphology of the word. Plural nouns which are derived by zero modification can only be understood in context as illustrated in the examples below:

Table 7.3: Noun derivation by zero modification in LuMaNa varieties

S/N	Languages	Main noun	Zero modified noun
a.	LuMaNa	<i>imbuzi</i> <i>i-imbuzi</i> Cl.5-goat ‘a goat’ (sg.)	<i>imbuzi</i> <i>i-imbuzi</i> Cl.5-goat ‘goats’(pl)

b.	LuMaNa	<i>imfwele</i> <i>i-mfweele</i> Cl.5-sheep 'sheep' (sg.)	<i>imfwele</i> <i>i-mfweele</i> Cl.5-sheep 'sheep' (pl)
c.	LuMaNa	<i>inkoko</i> <i>i-n-koko</i> Cl.5-chicken 'chicken' (sg.)	<i>inkoko</i> <i>i-n-koko</i> Cl.6-chicken 'chicken' (pl.)
d.	LuMa	<i>ise</i> <i>i-se</i> Cl.5-hoe 'hoe' (sg)	<i>amase</i> <i>ama-se</i> Cl.6-hoe 'hoes' (pl)
e.	Na	<i>inkundi</i> <i>i-n-kundi</i> Cl.9-hoe 'hoe' (sg)	<i>inkundi</i> <i>i-n-kundi</i> Cl.10-hoe 'hoes' (pl)

Table 7.3 shows that zero modification in examples (a-c) does not affect morphology, but nouns simply change from singular to plural and maintain the word spelling. It is a common feature that there is class prefix maintenance during zero modification in LuMaNa languages as can be seen in examples (a-b) which use the prefix [i-] in Cl.5 in both the main noun and the derived noun. Examples (a-b) also show that zero modification leads to maintenance of the nominal prefix Cl.5 in both singular and plural nouns. Example (c) reveals that when LuMaNa languages undergo zero modification, nouns change the prefix category from [n-] in Cl.5 (singular) to [n-] in Cl.6 (plural) and [n-] in Cl.9 (singular) to [n-] in Cl.10 (plural) while maintaining the morphology. Further analysis shows that in example (e), Namwanga language undergoes zero modification to convert hoe from the singular prefix [n-] in Cl.9 to the plural prefix [n-] in Cl.10 while LuMa languages in example (d) do not undergo zero modification to convert nouns from singular to

plural, but pluralise the same noun (hoes) using the prefix [ma-] in Cl.6 when deriving from the singular prefix [i-] in Cl.5. The LuMa languages in example (d) use the V prefix type in the singular nouns and VCV in the plural as opposed to Namwanga language in (e) which uses C prefix type in both singular and plural nouns.

7.3 Deriving nouns from lexical categories in LuMaNa languages

Morrison (2011) posits that nominal derivation is an extremely productive process which requires creating nouns from other nouns, nouns from verbs as well as nouns from adjectives. Derivation of nouns from lexical categories in LuMaNa languages can, therefore, be said to be the creation of new lexemes from existing nouns, verbs, adjectives, and other word classes as presented in the subsequent titles.

7.3.1 Deriving nouns from other nouns in LuMaNa languages

Morrison (2011) shows that derivation of nouns from other nouns is a morphological process and is rule governed. Akanlig-Pare (1999) claims that the attached affix when deriving a noun from another noun causes the shift in the meaning of the stem. Appah (2003) argues that derivation of noun from another noun signals a shift from one class to another but within the same form class where the meaning of the derived noun does not differ radically from the stem from which it was derived. Appah (2003) describes nouns derived from other nouns as simple nouns because they are usually made up of a stem and an affix. For instance, in Akan language, the suffix [-nyi/-ni] is attached to a noun to denote a geographical location and derives a nationality noun out of it. On the contrary, LuMaNa languages form nouns from other nouns by prefixation using the prefix [mu-] in Cl.1 and [e-] in Cl.1a to derive nouns from [ka-] in Cl.12 as illustrated in the examples below:

Table 7.4: Nouns derived from other nouns in LuMaNa varieties

SN	Main noun	Derived noun (sg)	
	LUMANA	LUMA	NA
a.	<i>ka</i> koleka <i>ka</i> -koleka Cl.12-drunk 'a drunkard'	<i>um</i> ukolesi <i>mu</i> -kolesi Cl.1 drunkard 'a drunkard'	<i>e</i> cakolwa <i>e</i> -cakolwa Cl.1a-drunkard 'a drunkard'
b.	<i>ka</i> sambilizya <i>ka</i> -sambilizya Cl.12-teach 'a teacher'	<i>um</i> usambilizya <i>mu</i> -sambilizya Cl.1-teach 'a teacher'	<i>um</i> usambilizya <i>mu</i> -sambilizya Cl.1-teach 'a teacher'
c.	<i>ka</i> womba <i>ka</i> -womba Cl.12-worker 'a worker, servant'	<i>um</i> uwonvi <i>mu</i> -wonvi Cl.1-worker 'a worker, servant'	<i>um</i> uwonvi <i>mu</i> -wonvi Cl.1-worker 'a worker, servant'

Table 7.4 shows that in examples (b-c), nouns in LuMaNa languages are derived from other nouns using the prefix [ka-] in Cl.12 with the CV prefix type in the main noun which changes to [mu-] in Cl.1 during derivation. In (b), the derived nouns in all the LuMaNa languages maintain the same stem in the main noun -sambilizya 'teacher'. Example (c) shows that the change from the prefix [ka-] to [mu-] in LuMaNa languages influence the voiced nasal cluster [mb] to be converted to another voiced nasal cluster [nv]. Example (a) reveals that LuMa languages convert the prefix [ka-] to [mu-] while Namwanga converts the same prefix [ka-] to [e-] in the singular form which changes the morphology. Further analysis shows that the last consonant in the root of the noun in (a) changes the form from the voiceless velar plosive [k] to the voiceless alveolar fricative [s] in LuMa languages while in Namwanga, the voiceless velar plosive [k] changes to the voiceless velar glide [w] and fuses with a voiced alveolar lateral [l] to form the cluster [lw-].

In LuMaNa languages, simple nouns [nouns derived from other nouns] are further categorised into honorific, diminutive, augmentative and pejorative nouns which are presented in the subsequent titles.

7.3.1.1 Deriving honorific nouns in LuMaNa languages

Marten and Kula (2021) posit that honorific nouns are used in spoken and written discourse to express honour or respect to an individual who is older than the speaker or parents, and as such sound as if the singular nouns are pluralised. Honorifics in LuMaNa languages are closely related to plural formation when the noun is not contextualised. LuMaNa languages derive honorific nouns from the nominal prefix [mu-] in Cl.1 to [a-/wa-] in Cl.2 to express honor as illustrated below:

Table 7.5: Derived honorifics in LuMaNa varieties

S/N	Main noun	Honorific noun	
	LUMANA	LUMA	NA
a.	<i>umukazyana</i> <i>umu-kazyana</i> Cl.1-girl 'a girl'	<i>akazyana</i> <i>a-kazyana</i> Cl.2-girl 'a girl'	<i>awakazyana</i> <i>awa-kazyana</i> Cl.2-girl 'a girl'
b.	<i>umwenyi</i> <i>umu-enyi</i> Cl.1-visitor 'Visitor'	<i>ayenyi</i> <i>a-yenyi</i> Cl.2-vistor 'a visitor'	<i>awenyi</i> <i>a-wenyi</i> Cl.2-vistor 'a visitor'
c.	<i>mukombe</i> <i>mu-kombe</i> Cl.1-old man 'old man'	<i>akombe</i> <i>a-kombe</i> Cl.2- elder 'elderly man'	<i>awakombe</i> <i>awa-kombe</i> Cl.2- elder 'elderly man'

Table 7.5 shows that honorifics are used to refer to singular proper nouns which sound like plurals in LuMaNa languages. In examples (a-c), the first element [a-/wa-] as in *a/wakazyana* ‘girl of age’ in example (a) is used as a prefix in nouns to express respect for a singular noun. On the other hand, LuMa languages in example (c) have an optional prefix [ma-] in the place of [a-] for the same referent as in *amakombe* ‘elderly man’. Example (b) shows that all LuMaNa languages use the V prefix type in Cl.2 to express respect. Further analysis shows that all nouns in example (a-c) which are used to express honorifics belong to the nominal prefix in Cl.2 which also maintains the stems of the main nouns in the honorific nouns. Table 7.5 also shows that LuMa languages use only the V prefix type in (a-c) to express honour while Namwanga uses both the V in (b) and VCV prefix types in examples (a) and (c) respectively. Further analysis shows that in (a) and (c), Namwanga language undergoes gliding in the prefix where the high back vowel [u] is realised as the voiced bilabial glide [w] while LuMa languages are not affected by gliding. The analysis further shows that in example (b), LuMa languages use the voiced palatal glide [y] after the prefix in the internal stem of the noun while Namwanga language uses the voiced bilabial glide [w] to express respect and politeness.

7.3.1.2 Deriving diminutive nouns in LuMaNa languages

Appah (2003) argues that diminutive nouns in Akan language are formed by suffixation in which a diminutive suffix is attached to certain nouns. Appah (2003) shows that in Akan language, the form of the suffix [-ba] which is realised in Akwapem and Asante as [-wa] is attached to nouns to provide a derogatory effect and is used cross-dialectally, such as in: *hEn* ‘vessel’ + suffixing diminutive [-ba] → *hEn-ba* ‘canoe/boat’. Appah argues that the derogatory usage of [-ba] in Akan has a similar effect to the Swahili usage of [ki-] such as in: *ki-sichana* ‘a small girl’. Based on Appah’s revelation, the researcher of the present study argues that Swahili in the above

example uses prefixation instead of suffixation which is used in Akan to express diminution. As attested in Swahili, LuMaNa languages derive diminutive nouns by prefixation using the prefix [ka-] in Cl.12 for singular nouns and [tu-] in Cl.13 for plurals as shown below:

Table 7.6: Derived diminutives in LuMaNa varieties

S/N	Actual noun		Diminutive noun	
	LUMA	NA	LUMA	NA
a.	<i>impuno</i> <i>i-mpuno</i> Cl.5-nose 'nose'	<i>impuno</i> <i>i-mpuno</i> Cl.5-nose 'nose'	<i>akapuno</i> <i>aka-mpuno</i> Cl.12-nose 'small nose'	<i>akampuno</i> <i>aka-mpuno</i> Cl.12-nose 'small nose'
b.	<i>kuza</i> <i>ku-za</i> Cl.15-rat 'a rat'	<i>kuza</i> <i>ku-za</i> Cl.15-rat 'a rat'	<i>kaakuza</i> <i>kaa-kuza</i> Cl.12a-rat 'a small rat'	<i>kakuza</i> <i>ka-kuza</i> Cl.12a-rat 'a small rat'
c.	<i>imiti</i> <i>imi-ti</i> Cl.4- trees/medicine 'trees/medicines'	<i>imiti</i> <i>imi-ti</i> Cl.4-trees/medicine 'trees/medicines'	<i>(u)tumiti</i> <i>(u)tu-miti</i> Cl.13a-trees/medicine 'small trees/medicines'	<i>(u)tumiti</i> <i>(u)tu-miti</i> Cl.13a- medicine 'small trees/medicines'

Examples (a-c) in Table 7.6 show that diminutive nouns in LuMaNa languages express the quality of smallness. The diminutive nouns in (a) are derived by adding the prefix [ka-] in Cl.12 to the existing nominal prefix [i-] in Cl.5 in the main noun. In example (b), diminutive nouns are derived from [ku-] in Cl.15 in the main noun to [ka-] in Cl.12. The other characteristic is that in example (c) LuMaNa languages use the prefix [tu-] in Cl.13a to derive nouns from [mi-] in Cl.4 and have an optional augment [u-]. The study also reveals that diminution of singular nouns in examples (a-b) and plural nouns in example (c) maintain the morphology of the root of the main

noun. In (a), LuMa languages drop off the voiced bilabial nasal [m] before taking on the diminutive prefix [-ka-] in Cl.12 while Namwanga language maintains the voiced bilabial nasal [m] during diminution. In example (b) in Cl.12, the prefix [kaa-] in LuMa languages is affected by vowel length while Namwanga language uses a short vowel [a] to derive diminutive nouns.

7.3.1.3 Deriving augmentative nouns in LuMaNa languages

Wicks (2006) argues that augmentative nouns imply a quality of largeness. For this reason, augmentatives make normal nouns sound as if they are big or huge or extra-large. Augmentative nouns in LuMaNa languages are derived using the prefix [cii-] in Cl.7a in LuMa languages and [ca-] in Cl.7a in Namwanga language for singular nouns as well as [vii-] in Cl.8a in LuMa languages and [vya-] in Cl.8a in Namwanga for plural nouns as shown below:

Table 7.7: Derived augmentatives in LuMaNa varieties

S/N	Actual noun		Augmentative noun	
	LUMA	NA	LUMA	NA
a.	<i>ilinso</i> <i>ili-nso</i> Cl.5- eye 'eye'	<i>ilinso</i> <i>ili-nso</i> Cl.5- eye 'eye'	<i>iciilinso</i> <i>icii-linso</i> Cl.7a- eye 'big eye'	<i>iciiilinso</i> <i>icii-linso</i> Cl.7a- eye 'big eye'
b.	<i>amanso</i> <i>ama-nso</i> Cl.6-eye 'eyes'	<i>aminso</i> <i>ami-nso</i> Cl.6-eye 'eyes'	<i>ivüimanso</i> <i>ivii-manso</i> Cl.8a-eye 'eyes'	<i>ivüiminso</i> <i>ivii-minso</i> Cl.8a-eye 'eyes'
c.	<i>iyele</i> <i>i-yele</i> Cl. 5-breast 'breast'	<i>ivele</i> <i>i-wele</i> Cl. 5-breast 'breast'	<i>iciiliyele</i> <i>icii-liyele</i> Cl.7a-breast 'big breast'	<i>iciiliwele</i> <i>icii-liwele</i> Cl.7a-breast 'big breast'
d.	<i>amaye</i>	<i>amawe</i>	<i>ivüimaye</i>	<i>ivüimawe</i>

	<i>ama-yele</i> Cl. 6-breast 'breasts'	<i>ama-wele</i> Cl. 6-breast 'breasts'	<i>ivii-maye</i> Cl.8a-breasts 'big breasts'	<i>ivii-mawe</i> Cl.8a-breasts 'big breasts'
e.	<i>cula</i> <i>∅-cula</i> ∅-frog 'frog'	<i>cula</i> <i>∅-cula</i> ∅-frog 'frog'	<i>ciicula</i> <i>cii-cula</i> Cl.7a-frog 'big frog'	<i>cacula</i> <i>ca-cula</i> Cl.7a-frog 'big frog'
f.	<i>yacula</i> <i>ya-cula</i> Cl.2a-frog 'frogs'	<i>wacula</i> <i>wa-cula</i> Cl.2a-frog 'frogs'	<i>viicula</i> <i>vii-cula</i> Cl.8a-frog 'big frogs'	<i>vyacula</i> <i>vya-cula</i> Cl.8a-frog 'big frogs'

Examples (a-d) in Table 7.7 show that augmentative nouns in LuMaNa languages take an optional pre-prefix [i-] during the derivation of both singular and plural nouns. In examples (a) and (c), singular augmented nouns are derived from the prefix [i] in Cl.5 to [-cii-] in Cl.7a and maintain the same stem. In (e), both the actual singular nouns and the augmented nouns have empty augments in LuMaNa languages. Example (f) shows that plural augmented nouns which use the prefix [vii-/vya-] in Cl.8a do not take augments in LuMaNa languages. Example (c) reveals that LuMaNa languages infix the element [-li-] between the prefix and the stem to form augmented nouns. There is a variation in example (b) where LuMa languages have vowel harmony [a] in the augment and prefix in the actual plural noun while Namwanga experiences vowel harmony [i] in the augmented noun in the augment, prefix and root. The stem in example (c-d) in LuMa languages uses the voiced palatal glide [y] while Namwanga uses the voiced bilabial glide [w]. Example (e) also reveals that the prefix in the augmented noun in LuMa languages is influenced by the vowel quantity [i] as opposed to [a] in Namwanga language. Example (f) further shows that the prefix [vii-] in Cl.8a in LuMa languages in the augmented

noun *viicula* ‘big frogs’ is influenced by vowel length while Namwanga language in the prefix [vya-] in Cl.8a is affected by gliding.

7.3.1.4 Deriving pejorative nouns in LuMaNa languages

Bickmore (2004) notes that pejoratives make nouns sound bad or ugly and unpleasant to the hearers. The pejorative nouns in LuMaNa languages are derived from the singular prefixes [cii-/ca-] in Cl.7a and plural prefixes [vii-/vya-] in Cl.8a. The pejorative nouns take an optional pre-prefix [i-] for both singular and plural nouns in LuMaNa languages as shown below:

Table 7.8: Derived pejoratives in LuMaNa varieties

S/N	Actual noun		Pejorative noun	
	LUMA	NA	LUMA	NA
a.	<i>umuza</i> <i>umu-za</i> Cl.3- air ‘air’	<i>umuuza</i> <i>umu-uza</i> Cl.3- air ‘air’	<i>(i)cii muza</i> <i>icii-muza</i> Cl.7a-air ‘bad air’	<i>(i)cii muuza</i> <i>icii-muuza</i> Cl.7a-air ‘bad air’
b.	<i>uluunda</i> <i>ulu-unda</i> Cl.11 ‘stomach, belly’	<i>uwuula</i> <i>uwu-ula</i> Cl.14 ‘stomach, belly, pregnancy’	<i>icii luunda</i> <i>icii-luunda</i> Cl.7a stomach ‘bad stomach, belly’	<i>icii wuula</i> <i>icii-wuula</i> Cl. 7a ‘bad stomach, belly, pregnancy’
c.	<i>a(ya)ana</i> <i>a(ya)-ana</i> Cl.2-child ‘children’	<i>awaana</i> <i>awa-ana</i> Cl.2-child ‘children’	<i>ivii yaana</i> <i>ivii-yaana</i> Cl.8a children ‘bad children’	<i>ivii waana</i> <i>ivii-waana</i> Cl.8a children ‘bad children’
d.	<i>kolwe</i> \emptyset - <i>kolwe</i> \emptyset -monkey ‘monkey’	<i>kolwe</i> \emptyset - <i>kolwe</i> \emptyset -monkey ‘monkey’	<i>ciikolwe</i> <i>cii-kolwe</i> Cl.7a-monkey ‘ugly monkey’	<i>ca kolwe</i> <i>ca- kolwe</i> Cl.7a-monkey ‘ugly monkey’

e.	<i>yakolwe</i>	<i>wakolwe</i>	<i>viikolwe</i>	<i>vyakolwe</i>
	<i>ya- kolwe</i>	<i>wa- kolwe</i>	<i>vii- kolwe</i>	<i>vya- kolwe</i>
	Cl.2a-monkey	Cl.2a-monkey	Cl.8a-monkey	Cl.8a-monkey
	‘monkey’	‘monkey’	‘ugly monkeys’	‘ugly monkeys’

The analysis of Table 7.8 reveals that pejorative nouns in LuMaNa languages have the same rule and morphology with augmentative nouns and use Cl.7a and Cl.8a prefixes during derivation respectively. In example (a), the morphology and semantics of abstract nouns is the same in all LuMaNa languages. In (d-e), the pejorative nouns use a related morphology of stems in both singular and plural nouns. Examples (a-c) reveal that LuMaNa languages have an optional augment [i] in both singular and plural pejorative nouns. In (d), LuMaNa languages use vowel length [i:] in the prefix of the pejorative nouns.

There is variation in (b) in the morphology of prefixes for the same body part ‘stomach or belly’ in the actual noun where LuMa languages use the prefix [lu-] in Cl.11 while Namwanga uses [wu-] in Cl.14. Example (b) also shows that LuMa languages use *iciiluunda* to refer only to ‘bad belly/stomach’ while Namwanga has an optional semantics for the pejorative noun *iciiwuula* to refer to either ‘bad belly/stomach’ or ‘a bad pregnancy.’ In (c), LuMa languages have vowel length [a:] with an optional element [ya] in the actual plural nouns in Cl.2 which is infixes between the augment and the prefix while Namwanga undergoes gliding in the prefix [waa-] in Cl.2 before derivation takes place. On the other hand, example (c) has a manifestation of the voiced palatal glide [y] in the stem of the plural pejorative noun of LuMa languages which is not optional. Example (d) shows a variation in the morphology of the prefix where LuMa languages use the vowel [i:] while Namwanga uses [a:]. Furthermore, in example (e), the prefix [vii-] in the pejorative noun in LuMa languages is influenced by the vowel quantity [i:] as opposed to

Namwanga language which uses the prefix [vya-] with a short low front vowel [a] and is influenced by gliding of a short front vowel [i] to a voiced palatal glide [y].

7.3.2 Deriving nouns from verbs in LuMaNa languages

Noun derivation from verbs is a strategy of creating nouns from existing verbs (Morrison, 2011). Kunkeyani (2007) attests that nouns in Chewa are derived from verbal roots, such as; *dya* ‘eat’ → *kadyansonga* ‘giraffe’. Derivation of nouns from verbs is attested in LuMaNa languages. Nouns are derived from verbal morpheme [ku-] in Cl.15 using the prefix [mu-] in Cl.1 and [e-] in Cl.1a as illustrated below:

Table 7.9: Nouns derived from verbs in LuMaNa varieties

SN	Verb	Derived noun (sg)	
		LUMANA	NA
a.	<i>ukukoleka</i> <i>ku-koleka</i> Cl.15-drunk ‘a drunkard’	<i>umukolesi</i> <i>mu-kolesi</i> Cl.1 drunkard ‘a drunkard’	<i>ecakolwa</i> <i>e-cakolwa</i> Cl.1a-drunkard ‘a drunkard’
b.	<i>ukulima</i> <i>ku-lima</i> Cl.15-cultivate ‘to cultivate’	<i>umulimi</i> <i>mu-limi</i> Cl.1-farmer ‘a farmer’	<i>umulimi</i> <i>mu-limi</i> Cl.1-farmer ‘a farmer’
c.	<i>ukuwomba</i> <i>ku-womba</i> Cl.15-work, serve ‘to work, serve’	<i>umuwonvi</i> <i>mu-wonvi</i> Cl.1-worker, servant ‘a worker, servant’	<i>umuwonvi</i> <i>mu-wonvi</i> Cl.1-worker, servant ‘a worker, servant’

Table 7.9 shows that in examples (a-c), the prefix [ku] in Cl.15 in the verb changes to [mu] in Cl.1 and [e-] in Cl.1a when deriving nouns from verbs in LuMaNa languages. Examples (a-c)

show that the derived nouns in LuMaNa maintain the morphology of either the stem or the verb root. The analysis reveals that all nouns are derived from the similar SM [ku-] in Cl.15 to create nouns in examples (b-c) with the prefix [mu-] in Cl.1. Example (c) shows that the change from the prefix [ku-] in Cl.15 to [mu-] in Cl.1 in LuMaNa languages influences the voiced nasal cluster [mb] to be converted to another voiced nasal cluster [nv] to maintain consonant harmony. Example (a) reveals that LuMa languages convert the prefix [ku-] in Cl.15 to [mu-] in Cl.1 while Namwanga converts the same prefix [ku-] in Cl.15 to [e-] in Cl.1a in the singular form which expresses a variation in morphology. Further analysis shows that the last consonant in the root of the noun in (a) changes the form from the voiceless velar plosive [k] to the voiceless alveolar fricative [s] in LuMa languages while in Namwanga the voiceless velar plosive [k] changes to the voiceless velar glide [w] and fuses with a voiced alveolar lateral [l] to form the cluster [lw-].

7.3.3 Deriving nouns from adjectives in LuMaNa languages

In view of Morrison (2011), a noun which is formed from an adjective is referred to as deadjectival. The derivation of nouns from adjectives is attested in LuMaNa languages. The LuMaNa languages use the prefix [wu-] in Cl.14 and [ma-] in Cl.6 to create the adjectives and derives nouns using the prefixes [mu-] in Cl.1 and [wa-] in Cl.2 as illustrated below:

Table 7.10: Nouns derived from adjectives in LuMaNa varieties

S/N	Adjective	Derived noun	
	LUMANA	LUMA	NA
a.	<i>uwusuma/uwuzima</i> <i>wu-suma/wu-zima</i> Cl. 14-beauty 'beauty'	<i>umusuma</i> <i>mu-suma</i> Cl.1-beautiful 'beautiful person'	<i>umuzima</i> <i>mu-zima</i> Cl.1-beautiful 'beautiful person'
b.	<i>amaano</i>	<i>uwamaano</i>	<i>awamaano</i>

	<i>ma-ano</i> Cl. 6 -wise 'wisdom'	<i>wa-maano</i> Cl.2 –wise person 'wise people'	<i>wa-maano</i> Cl.2 –wise person 'wise people'
c.	<i>uwuntu</i> <i>wu-ntu</i> Cl. 14-humane 'humane'	<i>umuntu</i> <i>mu-ntu</i> Cl.1-person 'a person'	<i>umuntu</i> <i>mu-ntu</i> Cl.1-person 'a person'

Table 7.10 reveals that LuMaNa languages in examples (a-c) use adjectives which have either the prefix [wu] in Cl.14 or [ma] in Cl.6 to derive nouns using the prefix [mu-] in Cl.1 and [wa-] in Cl.2 respectively. Examples (a-c) also reveal that all nouns derived from adjectives maintain the stem pattern of the adjectives. The analysis of (a-c) further reveals that adjectives in LuMaNa languages end with the suffixes [-a], [-o] or [-u] and when they derive to nouns, all their suffixes are maintained. In (a-c), the adjectives and their corresponding derived nouns in LuMaNa languages have the presence of either a voiced alveolar nasal [n] or a voiced bilabial nasal [m] respectively. In example (a), LuMa languages use the voiceless alveolar fricative [s] in the stem while Namwanga language uses the voiced alveolar fricative [z].

7.4 Deriving compound nouns from lexical categories in LuMaNa languages

Compounding is another morphological process for deriving new nouns and verbs in LuMaNa languages. Bose and Nassenstein (2016) posit that compounding is a process by which two free morphemes are brought together to derive a new word after certain phonological processes have taken place. On the other hand, Appah (2003) states that compounding is the morphological unification of the elements in the clause or phrase or the individual lexical items that are being brought together to form a noun which involves the fusing of all or some of the elements entering the derivational process into one morphological entity. When viewed from a

grammatical perspective, generally, compound nouns can be derived from different grammatical categories such as; noun + noun, noun + verb, verb + noun, noun + adjective and adjective + noun. However, the common strategies of deriving compound nouns in LuMaNa languages include the following; noun + noun, verb + noun and adjective + noun.

7.4.1. Deriving compound nouns from noun + noun

Kula (2009) states that Bemba nominal compounds which are derived from noun + noun express agreement. Nominal derivation in Bantu linguistics has a characteristic feature of concordial agreement in compound structures (Katamba, 1993). LuMaNa languages attest the concordial agreement during the derivation of compound nouns from noun + noun in both regular and irregular patterns as shown in the examples below:

(103) LuMaNa: *amafuta yangazi* ‘palm oil’

(104) LuMaNa: *umukola nvula* ‘rain bow’.

Example (103) presents a regular pattern in LuMaNa languages which shows agreement in the plural between the first nominal prefix [ma-] in Cl.6 and [ya] in Cl.2 in the second noun where vowels agree and use the CV prefix type. Example (104) illustrates a different realisation of an irregular nominal pattern where derivation of a compound from noun + noun does not show concordial agreement between the prefix [mu-] in Cl.3 in the first noun with CV prefix type and [nvu-] in the second noun with CCV prefix type.

Kula (2009) shows that nominal root compounds are derived only from nominal roots and are very rare in Bantu languages. The scholar argues that nominal root compounds in Bemba are endocentric in the sense that the left member of a compound noun acts as the head of the compound that controls the noun class of the compound. The nominal root compounds are

attested in LuMaNa languages and are derived from noun + noun which are left headed and usually joined by a hyphen as illustrated in the examples below:

- (105) LuMaNa: *Nyoko-lume* ‘uncle from mother’s side’
 (106) LuMa: *Nyoko-senge* ‘aunt from father’s side’
 (107) Na: *Nyoko-senje* ‘aunt from father’s side’
 (108) LuMa: *Nyina-senge mwance* ‘young sister of someone’s father →aunt’
 (109) Na: *Nyina-senje muzuna* ‘young sister of someone’s father →aunt’

Examples (105-109) show that the structure of nominal root compounds in LuMaNa languages is composed of noun plus noun. The LuMaNa languages in (105-109) share the same linguistic features where the right member of the compound behaves as a modifier of the noun on the left. Examples (105-109) also show that the left most member of a compound noun acts as the head of the compound that controls the noun class. In (108-109), the LuMaNa languages use the prefix [mu-] in Cl.1 to express singularity of humans. Examples (106-107) reveal that the root noun [nyonko-] ‘your mother’ and [nyina-] ‘his/her mother’ in (108-109) in the structure of compound words is the same in all LuMaNa languages. The analysis of (108-109) also shows that LuMaNa languages exhibit triple compound nouns in which the head is the noun on the left side of the hyphen and both the noun on the right after the hyphen and the far most right noun work as modifiers of the head noun. The variation is in (106-107) and (108-109) in the noun on the right which works as a modifier where LuMa languages use the voiced velar plosive [g] after the voiced alveolar nasal [n] while Namwanga uses the voiceless alveolar palatal [j] in the same position. The morphology of the right most noun which works as a modifier in examples (108-109) is different where LuMa languages use *mwance* ‘young/sibling’ while Namwanga uses *muzuna* ‘young/sibling’ respectively.

Kula (2009) also states that Bemba nominal compounds are left-headed and that the head controls agreement and modification on the nouns. Kula (2009) argues that a non-head member of the compound in Bemba does not have an augment while the head must have an augment except when a noun belongs to Cl.1a. As attested by Kula, during derivation of nominal compounds from noun plus noun, LuMaNa languages permit an augment on the left member which is the head of the compound to express agreement with the right member as shown in the examples provided below:

(110) LuMa: *anyoko-senge* ‘she is your aunt i.e. sister of someone’s father)’

(111) Na: *enyoko-senje* ‘she is your aunt i.e. sister of someone’s father)’

(112) LuMa: *anyina-senge mwance* ‘young sister of someone’s father → aunt’

(113) Na: *enyina-senje muzuna* ‘young sister of someone’s father → aunt’

The examples (110-113) show that LuMaNa use augments before the head noun on the left side of the compound word where augments take the position of the prefix. In (110-113), LuMa languages use the augment [a-] while Namwanga uses [e-] in singular compound nouns to emphatically and syntactically function as demonstratives. In examples (112-113), the right most nouns in LuMaNa use the prefix [mu-] in Cl.1. On the other hand, the nasal in the stem moves towards the voiced velar plosive [g] in example (112) in LuMa languages while in Namwanga in (113), the nasal moves towards the voiceless alveolar palatal [j] to form a cluster. Examples (110-113) further show that LuMa languages use the low front vowel [a-] as an augment while Namwanga uses a mid-front vowel [e-] to express the related singular nominal root compounds.

7.4.2 Deriving compound nouns from verb + noun

Kula (2009) posits that synthetic compounds consist of nouns which are derived from a verb and a nominal root during compounding and derivation. The synthetic compounds in LuMaNa

languages are made up of a verbal followed by a nominal root which is usually joined by a hyphen as illustrated below:

(114) LuMa: *cisunga-antu* ‘hospitable person’

(115) Na: *cisunga-wantu* ‘hospitable person’

Examples (114-115) show that synthetic compound nouns in LuMaNa languages are derived from verbs where the left member is a verbal and the right member which is a nominal root is a noun and heads the compound noun. The LuMa languages in example (114) and Namwanga in (115) have the same morphology of the verbal stem *-sunga* ‘to keep’ which has the CV prefix type [ci-] in Cl.7. The synthetic compounds in LuMaNa languages in (114-115) are grouped according to their derivational meanings. The nominal root in (114) shows that the right member in LuMa languages use the V prefix type [a-] in Cl.2 as opposed to [wa-] also in Cl.2 in Namwanga in example (115) which uses the CV prefix type in the same environment.

Kula (2009) points out that synthetic compounds in Bemba are endocentric because the left member acts as the head of the compound and controls the noun class of the derived noun. The LuMaNa languages attest synthetic compounds which have the endocentric structure of solid compounds that are expressed using the dichotomy of singular-plural as shown below:

(116) LuMa: *chilyamafwa* ‘to eat+ leaves → vegetarian’; *yachilyamafwa*
‘vegetarians’

(117) Na: *echilyamafwa* ‘to eat + leaves → vegetarian’; *wachilyamafwa*
‘vegetarians’

Examples (116-117) show that the endocentric structure of synthetic compounds in LuMaNa languages are those nouns which are created from verbs followed by nouns and such compounds neither have a space nor a hyphen. The plural structures in examples (116-117) show that

LuMaNa languages use the CV prefix type in [ya] and [wa]. The LuMaNa languages in (116-117) begin the compound with a verbal *cilya* ‘to eat’ and end with a head noun *mafwa* ‘leaves’ which shows that the synthetic compound nouns in this category are headed by the right member, a noun. Example (117) shows that Namwanga language begins singular endocentric compounds with an augment [e-] while LuMa languages in example (116) have empty augments in the compound nouns. Examples (116-117) further show that during plural formation of synthetic compounds, LuMaNa languages are affected by gliding in the prefix [ya-/wa-] in Cl.2. There is a variation in the use of the glides whereby in (116), LuMa languages use the voiced palatal glide [y] while in (117), Namwanga language uses the voiced bilabial glide [w].

7.4.3 Deriving compound nouns from adjective + noun

Kula (2009) shows that Bemba has synthetic compounds with spaces such as; *mwine mushi* ‘headman’; *bamwine mushi* ‘headmen’. *Mwine* ‘owner’/*bamwine* ‘owners’ are adjectives which describe the noun *mushi* ‘village’. As attested by Kula, LuMaNa languages form synthetic compound words with spaces between the adjective and the nominal root to express ownership as illustrated in the examples below:

- (118) LuMa: *mwene muzi* ‘owner + village → headman’; *ayene mizi*
‘owners + villages → headmen’
- (119) Na: *mweni kaya* ‘owner + village → headman’; *aweni twaya*
‘owners + villages → headmen’
- (120) LuMa: *umwina Leza* ‘a God fearing person’; *ayina Leza* ‘God fearing
people’
- (121) Na: *umwina Leza* ‘a God fearing person’; *awina Leza* ‘God fearing
people’

In examples (118-121), the first word in the compound is an adjective in both singular and plural synthetic compounds. The prefix of the first word in singular synthetic compounds in examples (118-119) is affected by gliding and uses the CV prefix type in [mu-] in Cl.1. In examples (118-119), LuMaNa languages use the same VCV prefix type in the first noun in the plural. In (120-121), LuMaNa languages use the VCV prefix type in [umu-] in Cl.1 in the first noun in the singular compounds and CV prefix type in [le-] in both singular and plural head nouns. In (118), singular compounds in LuMa languages have vowel harmony in the prefix both in the first noun [mu-] in Cl.1 and the prefix of the second noun [mu-] in Cl.3 while Namwanga in (119) lacks vowel harmony in the prefixes of the singular compounds [mu-] in Cl.3 and [ka-] in Cl.12. There is a difference in the morphology of the prefix [mi-] in Cl.4 of plural synthetic compounds between the head noun *mizi* ‘villages’ in (118) in LuMa languages and the prefix [twa-] in Cl.13a in *twaya* ‘villages’ in (119) in Namwanga language which is affected by gliding. While the adjectives of plural compounds in (120-121) use the same VCV prefix type, the variation lies in the glides where LuMa languages in (120) use a voiced palatal glide [y] and Namwanga in (121) uses a voiced bilabial glide [w].

LuMaNa languages also have synthetic compounds which are exocentric in nature. Kula (2009) shows that exocentric compounds do not show relationship with the issues mentioned within the compound words. An exocentric compound noun in LuMaNa languages is derived from an adjective followed by a noun whose formation is quite rare and require critical thinking to deduce the meaning because they refer to something outside the compound as shown below:

- (122) LuMaNa: *iwutamputi* ‘a small boy who soils his buttocks’
- (123) LuMa: *ikanda ulamba* ‘latter rains’
- (124) Na: *ikanda ng’ombe* ‘latter rains’

Example (122) shows that the solid exocentric compound *iwutamputi* ‘a small boy who soils his buttocks’ which does not imply a kind of *mputi* ‘buttocks’, but refers a kind of person in relation to behaviour who is still young and looks dirty most of the time. The analysis reveals that exocentric compounds in LuMaNa languages begin with an adjective such as ‘latter’ in (123-124) and ‘soils’ in (122). The analysis also shows that apart from using a solid exocentric compound in (122), LuMaNa also use spaced compounds as shown in (123-124). Examples (122-124) further reveal that in LuMaNa, the semantics of the exocentric compounds is inferred and not dependent on the words used in the compound words. The study shows a variation in the morphology of the head noun in (123) where LuMa languages use *ulamba* ‘cows’ while Namwanga in (124) uses *ing’ombe* ‘cows’. In examples (123-124), the analysis shows that the structure of exocentric compound nouns in LuMaNa is not determined by semantics, but by the linguistic behaviour of the nouns involved, for instance, the compounds literally mean ‘the rain which makes animals leave prints on the ground until the following rain season’.

7.5 Chapter summary

The chapter has analysed nominal formation strategies by answering the question: What are the nominal morphological variations in LuMaNa languages? Under prefixation, LuMaNa use Cl.16 locative prefix and CV prefix type to create new lexemes, convert the noun from diminutive in Cl.12 to a locative in Cl.16 and expresses both plurality and honor. During prefixation, LuMa languages use the CVV prefix type and are affected by gliding and vowel length while Namwanga uses CV and is only affected by gliding. In LuMa languages, nouns do not take augments before prefixation in the singular form while Namwanga uses the augment [e-].

The suffixed noun maintains the stem of the main noun as well as the semantics of the main noun when changing to solid compounds which are headed by nouns. There is an introduction of

prefixes to suffixed nouns in Cl.2a in Namwanga language which are absent in LuMa languages. Zero modification maintains the nominal class prefix [i-] in Cl.5 in both singular and plural in LuMaNa languages. The variation is seen in Namwanga in Cl.9 and 10 in *inkundi* ‘hoe/hoes’ where the morphology and prefix types are maintained to convert singular to plural while LuMa languages pluralise the same noun *ise* ‘hoe’ with V prefix type to *amase* ‘hoes’ which has a different morphology and VCV prefix type.

Nouns which are created from other nominal lexemes are drawn from the prefix [ka-] in Cl.12, and maintain the stem of the main noun. LuMa languages convert the prefix [ka-] in Cl.12 to [mu-] in Cl.1 while Namwanga converts the same prefix [ka-] in Cl.12 to [ca-] in Cl.9a in the singular form. LuMaNa languages are related in deverbal formation in which the prefix [ku-] in Cl.15 in the verb changes to [ka-] in Cl.12, [mu-] in Cl.1, [ci-] in Cl.7 or [ma-] in Cl.6. Namwanga infixes the nasal [n-] between the prefix and the stem which is not permissible in LuMa languages. Deadjectival derivation uses either the prefix [wu-] in Cl.14 or [ma-] in Cl.6 to form nouns in Cl.1 with the VCV prefix type. In Cl.1, LuMa languages use the voiceless alveolar fricative [s] in the stem while Namwanga uses the voiced alveolar fricative [z].

LuMaNa languages have concordial agreement between the first and second nouns in compounds. Compounds which are derived from noun + noun are endocentric in the sense that the left member of a compound noun acts as the head of the compound. Compounds allow augments to precede the head nouns which are used emphatically and syntactically as demonstratives. Synthetic compounds are grouped according to their derivational meanings. Plural compounds in LuMa languages use the voiced palatal glide [y] while Namwanga uses the voiced bilabial glide [w].

The next chapter presents an analysis of the verbal structure of LuMaNa languages in Zambia.

CHAPTER EIGHT

THE VERBAL STRUCTURE OF LUNGU, MAMBWE AND NAMWANGA LANGUAGES

8.0 Introduction

The chapter presents a comparative analysis of the verbal structure in LuMaNa languages. The analysis answers the stated research question: What are the verbal morphological variations in Lungu, Mambwe and Namwanga languages in Zambia? The research question is answered using the following sub-titles: a brief introduction to the verbal structure of Bantu languages, the verbal structure and verbal complexes in LuMaNa languages. The chapter closes with a summary.

8.1 A brief introduction to the verbal structure of Bantu languages

The Bantu verb is quite complex and different scholars have studied and documented various elements of the morphology of Bantu languages. Most scholarly works on verbal morphology of Bantu languages focus on descriptive and theoretical issues which include the verbal structure, subject and object marking, tense, aspect, and mood (cf. Nurse and Philippson, 2003; Kiso, 2012). This shows the complexity of the Bantu verbal structure which is based on the agglutinating nature of Bantu languages. The verbal structure of Bantu languages comprises a root or radical with prefixes and suffixes attached to it (Downing, 2001). Downing's (2001) analysis of the composition of the verbal structure of Bantu languages draws insights from Myers (1987) and Ngunga (2000) respectively. The overall verbal structure of Bantu languages is:

[SM NEG TAM [MACROSTEM OM [STEM Root Extension(s) TAM FV]

The above verbal structure of Bantu languages has two morphological domains, namely, the verbal stem and the macro stem. The verbal stem comprises the verb root, any verb extensions,

certain Tense, Aspect and Mood (TAM), suffixes and the Final Vowel. The second entry is for the macro stem which incorporates the Subject and Object Markers, reflexive prefix, the stem and verb root extensions (cf. Nkolola, 1997; Miti, 2001; Mtenje, 2016).

8.2 The verbal structure of LuMaNa languages

The analysis of the verbal structure in the present study draws insights from Nkolola (1997), Downing (2001), Miti (2001) and Mtenje (2016) who argue that the root or the radical is the nucleus of the verb which can either have C, CVC or VVC, CVVC structures. The descriptive analysis of the LuMaNa verbal structure in the present study focuses on tense, persistive aspect, mood and verbal complexes, particularly forms of positive and negation of verbs.

8.2.1 Tense in LuMaNa languages

Comrie (1976) defines tense as a deictic category which is used to locate situations which are external in relation to time that usually has reference to the present moment and to other situations. Kiso (2012) adds that tense locates the situation in time, such as, expressing whether the event happened before, during or after the moment of speech. Based on the above arguments, tense can be understood as the time at which an action takes place in relation to the moment of a speech utterance. This portion discusses tense in LuMaNa languages with reference to the present, past, future and progressive verbs.

8.2.1.1 Expressing the present time in LuMaNa languages

The LuMaNa languages express the present tense using the common prefix morpheme [-ku-] in Cl.15 which functions as an infinitive ‘to’ and is preceded by the augment [u-]. LuMaNa languages undergo glide formation in the stem after the prefix [ku-] which is also present in other

Bantu languages such as Ndali (Mtenje-Mkochi, 2018), Shona (Kadenge and Simango, 2014) and, Nsenga and Sukwa (Mtenje, 2012) as shown below:

Table 8.1: Present tense in LuMaNa varieties

S/N	Languages	Present tense	Gloss
a.	LuMaNa	<i>ukufyona</i> [u-ku-fi-on-a]	‘to blow the nose’
b.	LuMaNa	<i>ukulwa</i> [u-ku-lu-a]	‘to fight’

Table 8.1 shows that LuMaNa languages always attach the augment [u-] to the prefix [-ku-] to differentiate the present tense from other tenses such as the present continuous tense. In (a-b), the present tense in LuMaNa languages is affected by gliding in the verb root where a high front vowel [i] is realised as a voiced palatal glide [y] while a high back vowel [u] is realised as a voiced bilabial glide [w].

8.2.1.2 Present progressive tense in LuMaNa languages

Comrie (1976) describes the term progressive as being synonymous to continuousness which refers to an imperfectivity description that is not occasioned by habits. On the other hand, Mtenje (2016) shows that the present progressive tense describes an action that is taking place at the time of speech which is not completed and is still in progress. Kiso (2012) observes that cross-linguistically, progressives are usually not found with state verbs. The present progressive tense in LuMaNa languages describes actions which are happening at the time of speech and in a continuous manner. LuMaNa languages use the common prefix [ku-] with varying pre-prefixes which include, [a-] ‘he/she’ in LuMaNa languages, [ya-] ‘they’ in LuMa languages and [wa-] ‘they’ in Namwanga language to express the present progressive tense as illustrated in the table shown below:

Table 8.2: Present progressive tense in LuMaNa varieties

S/N	Language	Present tense	Present progressive verbs
a.	LuMaNa	<i>ukupita</i> [u-ku-pit-a] ‘to walk’	<i>akupita</i> [a-ku-pit-a] ‘s/he is walking’
b.	LuMa	<i>ukulya</i> [u-ku-li-a] ‘to eat’	<i>yakulya</i> [i-a-ku-li-a] ‘they are eating’
c.	Na	<i>ukulya</i> [u-ku-li-a] ‘to eat’	<i>wakulya</i> [u-a-ku-li-a] ‘they are eating’

Table 8.2 reveals that LuMaNa languages use the prefix [ku-] which is attached to the stem to express the present progressive tense. In (a), LuMaNa languages attach an augment [a-] to the prefix [-ku-] to indicate that the present action is performed by a singular noun in a continuous state. In examples (b-c), LuMaNa varieties are affected by gliding in the pre-prefix [ya-] in LuMa languages and [wa-] in Namwanga which are used to pluralise the present continuous tense. The analysis also shows that in (b-c), LuMa languages use the voiced palatal glide [y] in the pre-prefix position to express plurality of the present continuous tense while Namwanga language uses the voiced bilabial glide [w].

8.2.1.3 Expressing the past tense in LuMaNa languages

The past tense is complex. Crystal (2008) attests that many Bantu languages use the same word form to describe ‘today’ events as well as ‘before today’ activities without considering their present relevance of the past tense. The LuMaNa languages use the suffix marker [-ile] to change the verbs from present to the past simple and past participle tense as shown below:

Table 8.3: Past simple/participle tense in LuMaNa varieties

S/N	Language	Present tense	Language	Past simple/past participle (SG)	Past simple/past participle (PL)
a		<i>ukuvwanga</i> [u-ku-u-a ng	LuMa	<i>wavwanzile</i> [u-a-vu-anz-ile] ‘he/she spoke’	<i>yavwanzile</i> [i-a-vu-anz-ile] ‘they spoke’

	LuMaNa	-a] ‘to speak’	Na	<i>wavwanzile</i> [u-a-v-anz-ile] ‘he/she spoke’	<i>wavwanzile</i> [u-a-vu-anz-ile] ‘they spoke’
b	LuMaNa	<i>ukulya</i> [u-ku-li-a] ‘to eat’	LuMa	<i>waliile</i> [u-a-li-ile] ‘he/she ate’	<i>yaliile</i> [i-a-li-ile] ‘they ate’
			Na	<i>waliile</i> [u-a-li-ile] ‘he/she ate’	<i>waliile</i> [u-a-li-ile] ‘they ate’
c	LuMaNa	<i>ukutama</i> [u-ku-tam-a] ‘to break’	LuMa	<i>watamile</i> [u-a-tam-ile] ‘he/she broke’	<i>yatamile</i> [i-a-tam-ile] ‘they broke’
			Na	<i>watamile</i> [u-a-tam-ile] ‘he/she broke’	<i>watamile</i> [u-a-tam-ile] ‘they broke’

Table 8.3 shows that LuMaNa languages in (a-c) use the suffix marker [-ile] to express the past simple and the past participle tenses in both singular and plural verbs. Examples (a-c) reveal that the three languages use the prefix [wa-] to express the singular past simple and past participle tenses. Further analysis shows that example (a) undergoes a morphophonological process in which the prenasalised velar sound /ŋg/ which is realised as [ng] in the root of the present tense changes to the prenasalised alveolar fricative sound /ŋz/ realised as [nz] in the root of the past simple and past participle tenses before introducing the suffix marker [-ile]. In (a-c), the LuMaNa languages undergo gliding in the prefix where either a high back vowel [u] is realised as a voiced bilabial glide [w] or a high front vowel [i] is realised as a voiced palatal glide [y] in both the singular and plural form of the past simple and past participle tenses. Examples (a-c) reveal that both the past simple and the past participle tenses have the same morphology and tenses can only be distinguished through explanations and contextualisation. LuMaNa languages maintain the root of the present tense before introducing the past simple and past participle tense marker [-ile]. For instance, in (a) [-vwang- → -vwanz-], (b) [-ly- → -li-] and (c) [-tam-]. The

present verbs in (a-c) drop off the final vowel before taking on the suffix marker [-ile] in both singular and plural verbal forms of the past simple and past participle constructions. Namwanga only uses the same voiced bilabial glide [w] in the prefix [wa-] in the past simple and the past participle tenses to express both the singular and plural constructions while LuMa languages use a voiced bilabial glide [w] in the prefix [wa-] to express singularity and a voiced palatal glide [y] in the [ya-] to express plurality.

8.2.1.3.1 Today past in LuMaNa languages

Today past is also referred to as ‘the hodiernal past’. Zemba (2015) argues that today past tense is used to mark events that happened earlier in the same day or sometime within the same day (today). In LuMaNa varieties, today past tense is expressed using the Object Marker (henceforth, OM) [mu-] followed by the radical (henceforth, RAD) [-senz-] as shown below:

Table 8.4: Today or hodiernal past in LuMaNa varieties

LuMa	Word/sentence:	<i>Yatusenzile ileelo</i>			
	Disjuncts:	<i>ya-</i>	<i>tu-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	OM	RAD	PERF. SUFF
	Gloss:	‘They took us today’			
Na	Word/sentence:	<i>Watusenzile ileelo</i>			
	Disjuncts:	<i>wa-</i>	<i>tu-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	OM	RAD	PERF. SUFF
	Gloss:	‘They took us today’			

In LuMaNa languages, all other past perfectives are built on the hodiernal past. The three languages use the OM [-mu-] to describe singular referents in the past today and use the same radical [-senz-] and the perfective suffix marker [-ile] to express the past today. Table 8.4 shows a variation in the use of the third person plural (3PL) in which LuMa languages use [ya-] ‘they’

in the SM while Namwanga uses [wa-] ‘they’ in the SM for the same referent. The example also shows that in Namwanga, the 3PL [wa-] ‘they’ is used interchangeably with the third person singular (3SG) [wa-] ‘he/she’ while LuMa languages only use [wa-] as 3SG to express verbs in the singular past today. The LuMa languages use the element [ya-] to express the SM in the plural while Namwanga uses [wa]. The addition of an adverb of time *ileelo* ‘today’ to *yatusenzile* ‘they took us’ in LuMa languages, and *watusenzile* ‘they took us’ in Namwanga provides context and distinguishes today past tense form from remote past perfective.

8.2.1.3.2 Immediate past tense (perfective) in LuMaNa languages

Mtenje (2016) refers to the immediate past as actions in the past which listeners perceive as being close to the time of speech. The immediate past tense in LuMaNa languages is used to describe activities which have just happened or happened within a short period of time. LuMaNa languages use the OM [ci-], RAD [-senz-] and the perfective suffix [-ile] to express the immediate past tense as shown below:

Table 8.5: Immediate past tense in LuMaNa varieties

LuMa	Word/sentence:	<i>Yacisenzile likwene</i>			
	Disjuncts:	<i>ya-</i>	<i>ci-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	OM	RAD	PERF. SUFF
	Gloss:	‘They have just taken it’			
Na	Word/sentence:	<i>Wacisenzile nombanye</i>			
	Disjuncts:	<i>wa-</i>	<i>ci-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	OM	RAD	PERF. SUFF
	Gloss:	‘They have just taken it’			

Table 8.5 reveals that LuMaNa languages use adverbials of time such as *likwene* ‘just’ in LuMa languages and *nombanye* ‘just’ in Namwanga language to qualify the immediate past tense.

When the immediate past is pluralised, the three languages use the element [vi-] as the object marker (OM). The closely and genetically related languages are affected by gliding in the 3PL slot in which LuMa languages use the SM [ya] while Namwanga language uses the SM [wa]. There is a variation in the morphology of the adverbial ‘just’ where LuMa languages use [likwene] while Namwanga uses [nombanye]. Further analysis shows that LuMa languages use a voiced palatal glide [y] in the morpheme [ya-] while Namwanga language uses a voiced bilabial glide [w] in the SM [wa-] to signify the same 3PL ‘they’ referent.

8.2.1.3.3 Recent past (non- hodiernal) in LuMaNa languages

Zemba (2015) shows that the recent past tense is used to mark specific events that occurred before sunrise today and as far back as a week. The recent past tense in LuMaNa is expressed using the OM [-mu-], RAD [-senz-] followed by the perfective aspect [-ile] as shown below:

Table 8.6: Recent past tense in LuMaNa varieties

LuMa	Word/sentence:	<i>Yacimuzenzile likwene</i>				
	Disjuncts:	<i>ya-</i>	<i>ci-</i>	<i>mu-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	TM	OM	RAD	PERF. SUFF
	Gloss:	‘They took him/her recently’				
Na	Word/sentence:	<i>Wamuzenzile nomanye</i>				
	Disjuncts:	<i>wa-</i>	\emptyset	<i>mu-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	TM	OM	RAD	PERF. SUFF
	Gloss:	‘They/he/she took him/her recently’				

Table 8.6 reveals that LuMaNa languages use the adverb of time to qualify the recent past tense. For instance, LuMa languages use *likwene* ‘recently’ while Namwanga language uses *nombanye* ‘recently’ to express the adverb of time. The analysis shows that LuMaNa languages are affected by gliding in the SM slot. The morphology of the SM (3PL) varies where LuMa languages use

[ya-] while Namwanga uses [wa-]. The LuMa languages use only the morpheme [wa-] ‘he/she’ in the SM to express the 3SG as opposed to Namwanga language which uses the SM [wa-] to express both the 3SG ‘he/she’ and the 3PL ‘they’. The study further shows that LuMa languages use the TM [-ci-] to express the recent past tense which has an empty slot in Namwanga.

8.2.1.3.4 Remote past perfective in LuMaNa languages

Comrie (1976) describes perfectivity as a term which indicates the view of a situation as a single whole which provides the result of an action in the past. Mtenje (2016) shows that in the SuNdaLa cluster, the remote past is marked by the morpheme [ka-] which indicates an action that took place in an estimated time of two days after the moment of speech. On the other hand, the remote past perfective tense in LuMaNa is marked by the general OM morpheme [mu-] and [ka-] to express diminutivity, the perfective suffix [-ile] and the specific time which is expressed by the time qualifier *umwacizo* ‘last year’ in LuMa languages and *umwaka wowasizile* ‘last year’ in Namwanga language as in:

Table 8.7: Remote past tense in LuMaNa varieties

LuMa	Word/sentence:	<i>Yakasenzile umwacizo</i>			
	Disjuncts:	<i>ya-</i>	<i>ka-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	OM	RAD	PERF. SUFF
	Gloss:	‘They took it last year’			
Na	Word/sentence:	<i>Wakasenzile umwaka wowasizile</i>			
	Disjuncts:	<i>wa-</i>	<i>ka-</i>	<i>senz-</i>	<i>-ile</i>
	Verbal structure:	SM	OM	RAD	PERF. SUFF
	Gloss:	‘They/he/she took it last year’			

The TM in the remote past is implied as such the adverb of time *umwacizo* ‘last year’ in LuMa languages and *umwaka wowasizile* ‘last year’ in Namwanga language qualifies the expression to

be in the remote past perfective tense. The addition of the adverb of time ‘last year’ to the remote past perfective distinguishes it from other past tenses. The example shows that LuMaNa languages are affected by gliding in the SM slot. LuMa languages use the morpheme [ya-] ‘they’ in the SM to signify only the 3PL while Namwanga language uses [wa-] ‘he/she, they’ in the same slot of the SM to express either the 3PL ‘they’ or 3SG ‘he/she’ which leads to ambiguity.

8.2.1.3.5 The past progressive in LuMaNa languages

Zemba (2015) and Mtenje (2016) show that the past progressive tense talks about actions which happened in the past in a continuous manner. The past progressive verbs in LuMaNa languages are formed by adding the suffix marker [-nga] to the stem of the present tense as shown below:

Table 8.8: Expressing the singular past progressive tense in LuMaNa varieties

S/N	Present tense	Past progressive tense (SG)
a.	<i>ukukazya</i> [u-ku-kazi-a] ‘to sell’	<i>wakaazyanga</i> [u-a-ka-zi-a-nga] ‘s/he was selling’
b.	<i>ukulya</i> [u-ku-li-a] ‘to eat’	<i>walyaanga</i> [u-a-li-a-ang-a] ‘s/he was eating’
c.	<i>ukucina</i> [u-ku-cin-a] ‘to dance’	<i>waciinanga</i> [u-a-ci-na-ang-a] ‘s/he was dancing’

Table 8.8 shows that the TM in (a-c) attracts double vowels in order to express the past progressive tense, where [-a-] becomes [-aa-] and [-i-] becomes [-ii-] which justifies that vowel length in the TM is a determining factor for expressing the past progressive verbs besides the suffix marker [-nga] in LuMaNa languages. The LuMaNa languages begin the construction with the morpheme [wa-] when describing the singular subject in the past progressive tense which is affected by gliding.

LuMaNa languages also express the plural past progressive tense. When pluralising the past progressive tense, the first morpheme in LuMa languages use voiced palatal glide [y] while

Namwanga language uses a voiced bilabial glide [w]. In order to form the plural past progressive tenses, the languages use the TM [-alii-] and maintains the suffix marker [-nga] in which LuMaNa languages express variations in the first morphemes as illustrated below:

Table 8.9: Expressing the plural past progressive tense in LuMaNa varieties

LuMa	Word/sentence:	Yaliimanga			
	Disjuncts:	<i>i (y)-</i>	<i>-alii-</i>	<i>-mang-</i>	<i>a</i>
	Verbal complexes:	SM	TM	VR	FV
	Gloss:	‘They were cultivating’			
Na	Word/sentence:	Waliimanga			
	Disjuncts:	<i>u(w)-</i>	<i>-alii-</i>	<i>-mang-</i>	<i>a</i>
	Verbal complexes:	SM	TM	VR	FV
	Gloss:	‘They were cultivating’			

Table 8.9 shows that LuMaNa languages use the TM [-alii-] to express the past continuous or past progressive tense. The analysis reveals that LuMaNa languages use the SM [i-] or [u-] ‘they’ to express the 3PL. The presence of the OM is neither obligatory nor mandatory in the verbal structure of the past progressive tense in LuMaNa languages.

The researcher of this study concludes that past tense markers in LuMaNa are not fixed, but vary from one language and form of tense to another. This analysis is related to Kiso (2012) who argues that some past tense markers are used in more than one language and tense such as the immediate past tense marker [-da-], also used as a remote past tense marker in Chewa and Sena.

8.2.1.4 Expressing the future tense in LuMaNa languages

This part presents an analysis of the future simple and future continuous tenses in LuMaNa languages.

8.2.1.4.1 The future simple tense in LuMaNa languages

Zemba (2015) shows that the future tense in Kunda is marked morphologically with the general tense [-ko] and the infinitive particle [-ku] is attached to the verb to express the hodiernal future, the near future and the remote future perfective. LuMaNa languages form the future simple tense by introducing the prefix morpheme [-la-/-li-] before the radical as shown below:

Table 8.10: Expressing the future simple tense in LuMaNa varieties

S/N	Language	Present tense	Language	Future (Singular)	Future (plural)
a	LuMaNa	<i>ukuvyala</i> [u-ku-vi-al-a] ‘to give birth’	LuMa	<i>alavyala</i> [a-la-vi-al-a] ‘she will give birth’	<i>yalavyala</i> [i-a-la-vi-al-a] ‘they will give birth’
			Na	<i>alivyala</i> [a-li-vi-al-a] ‘she will give birth’	<i>walivyala</i> [u-a-li-vi-al-a] ‘they will give birth’
b	LuMaNa	<i>ukutama</i> [u-ku-tam-a] ‘to break’	LuMa	<i>alatama</i> [a-la-tam-a] ‘s/he will break’	<i>yalatama</i> [i-a-la-tam-a] ‘they will break’
			Na	<i>alitama</i> [a-li-tam-a] ‘s/he will break’	<i>walitama</i> [u-a-li-tam-a] ‘they will break’
c	LuMaNa	<i>ukumanya</i> [u-ku-mani-a] ‘to know’	LuMa	<i>alamanya</i> [a-la-mani-a] ‘he/she will know’	<i>yalamanya</i> [i-a-la-mani-a] ‘they will know’
			Na	<i>alimanya</i> [a-la-mani-a] ‘he/she will know’	<i>walimanya</i> [i-a-la-mani-a] ‘they will know’

Table 8.10 shows that LuMaNa languages derive the simple future tense from the same present tenses. The three languages begin the future simple tense in the singular form with the 3SG morpheme [a-] ‘he/she’. The analysis reveals that gliding affects pluralising the future simple

tense in the 3PL slot [ya-] in LuMa languages and [wa-] in Namwanga language. Examples (a-c) further show that the LuMaNa languages maintain the radical in the present tense when expressing the future simple tense. LuMa languages insert the morpheme [-la-] before the radical to denote the future simple time while Namwanga language uses [-li-] in both singular and plural referents. In addition, LuMa languages use a voiced palatal glide [y] in the 3PL slot while Namwanga language uses a voiced bilabial glide [w].

In future simple tense marking, all disjuncts in LuMaNa languages are related except the Tense Marker (TM) where LuMa languages use [-la-] while Namwanga language uses the TM [-li-] as shown below:

Table 8.11: Future simple tense marking in LuMaNa varieties

LuMa	Word/sentence:	<i>Tulamwezya</i>				
	Disjuncts:	<i>tu-</i>	<i>-la-</i>	<i>mu-</i>	<i>ezi-</i>	<i>a</i>
	Verbal complexes:	SM	TM	OM	VR	FV
	Gloss:	‘We will test or examine him/her’				
Na	Word/sentence:	<i>Tulimwezya</i>				
	Disjuncts:	<i>tu-</i>	<i>-li-</i>	<i>mu-</i>	<i>ezi-</i>	<i>a</i>
	Verbal complexes:	SM	TM	OM	VR	FV
	Gloss:	‘We will test or examine him/her’				

The analysis of Table 8.11 reveals that LuMaNa languages use short vowels in the TMs in [-la-] in LuMa languages and [-li-] in Namwanga to express the future simple tense. During subject marking, tense marking and object marking, a high back vowel /u/ glides to a voiced bilabial /w/ in the verb radical (VR) of the three languages. The variation is in the morphology of the TM where LuMa languages use the short low front vowel [a] in the morpheme [-la-] while Namwanga uses a high front vowel [i] in the morpheme [-li-].

8.2.1.4.2 The future progressive tense in LuMaNa languages

Appah (2003) shows that Akan language expresses the future progressive tense cross dialectally either using the prefix [re-] or [ri-] depending on the vowel of the verb root. Appah also argues that Akuapem, forms future progressives without considering the quality of the vowel in the verb root as opposed to Asante which considers lengthening the vowel of the pronominal subject marker. In LuMaNa languages, LuMa languages express the future progressive tense using the TM [-laa-] and Namwanga language uses [-lii-] as illustrated in the table below:

Table 8.12: The future progressive tense in LuMaNa varieties

LuMa	Word/sentence:	<i>Tulaamwezya</i>				
	Disjuncts:	<i>tu-</i>	<i>-laa-</i>	<i>mu-</i>	<i>-ezi-</i>	<i>a</i>
	Verbal complexes:	SM	TM	OM	VR	FV
	Gloss:	‘We will be testing or examining him/her’				
Na	Word/sentence:	<i>Tuliimwezya</i>				
	Disjuncts:	<i>tu-</i>	<i>-lii-</i>	<i>mu-</i>	<i>ezi-</i>	<i>a</i>
	Verbal complexes:	SM	TM	OM	VR	FV
	Gloss:	‘We will be testing or examining him/her’				

Table 8.12 shows that LuMaNa languages use vowel length to express the future progressive verbs in which LuMa languages use the affix [-laa-] in both singular and plural forms while Namwanga language uses [-lii-]. The analysis also reveals that LuMaNa languages use the SM [tu-] ‘we’ to express the first person plural (1PL). To express the future progressive tense, the short vowels are lengthened in the TM where LuMa languages use a low front long vowel [a:] while Namwanga uses a high front long vowel [i:]. Namwanga has an optional TM for the future progressive tense which avoids vowel quantity in [-lii-] and instead uses [-liwa-] to make *tuliwamwezya* ‘we will be testing or examining him/her’.

8.2.2 Expressing aspect in LuMaNa languages

Comrie (1976) shows that aspect is not concerned with relating the time of the situation to any other time, but rather deals with the internal temporary consistency internal time. Kiso (2012) argues that aspect is concerned with how the speaker views the action to have happened during a particular time. This part of the chapter deals with expressing the persistive aspect in LuMaNa.

8.2.2.1 The persistive aspect in LuMaNa languages

Comrie (1976) and Kiso (2012) describe the persistive verb as an idea which shows that the action is, was or will still be in progress. The present and the past persistive aspects are attested in LuMaNa languages.

8.2.2.1.1. Present persistive aspect in LuMaNa languages

As attested by Comrie (1976) and Kiso (2012), the present persistive aspect in LuMaNa languages takes the form of the morpheme [-cili-] ‘still’ which implies that the activity which started happening sometime is on going or has continued. LuMaNa allow for co-occurrence of two subject markers (2SMs) in the process of expressing present persistivity as shown below:

Table 8.13: The present persistive aspect in LuMaNa varieties

LuMaNa	<i>Word/sentence:</i>	<i>Tucilitukuwomba</i>					
	<i>Disjuncts:</i>	<i>tu-</i>	<i>cili-</i>	<i>tu-</i>	<i>ku-</i>	<i>-womb-</i>	<i>a</i>
<i>Verbal structure:</i>	SM	Per. M	SM	TM	VR	FV	
<i>Gloss:</i>	‘We are still working’						

Table 8.13 shows that all the LuMaNa varieties use the morpheme [-cili-] ‘still’ to express the present persistive marker that is infixed between the two subject markers (2SMs) [tu-]. The two

SMs [tu-] denote the same referent when expressing the present persistive tense. There is no variation in the LuMaNa varieties in the use of the present persistive tense.

The LuMaNa languages use the common persistive marker morpheme [-cili-] ‘still’ to express persistivity, but manifest variations in the Subject Marker (SM) position when expressing plural present persistivity as demonstrated in the table below:

Table 8.14: Expressing the present persistive tense in LuMaNa varieties

LuMa	Word/sentence:	<i>Yaciliyakucina</i>					
	Disjuncts:	<i>ya-</i>	<i>cili-</i>	<i>ya-</i>	<i>ku-</i>	<i>-cin-</i>	<i>a</i>
	Verbal structure:	SM	Per. M	SM	TM	VR	FV
	Gloss:	‘They are still dancing’					
Na	Word/sentence:	<i>Waciliwakucina</i>					
	Disjuncts:	<i>wa-</i>	<i>cili-</i>	<i>wa-</i>	<i>ku-</i>	<i>-cin-</i>	<i>a</i>
	Verbal structure:	SM	Per. M	SM	TM	VR	FV
	Gloss:	‘They are still dancing’					

The SMs in Table 8.14 in the provided examples express the plural state in LuMaNa languages. The example shows that the SMs; [ya-] in LuMa languages and [wa-] in Namwanga undergo gliding. The analysis further shows that the present persistive marker [cili-] ‘still’ in LuMaNa is sandwiched with two subject markers (2SMs), namely; [ya-] in LuMa languages and [wa-] in Namwanga. The difference lies in the approximant where LuMa languages use a voiced palatal glide [y] in the SM while Namwanga uses a voiced bilabial glide [w] to express persistivity.

8.2.2.1.2 The past persistive aspect in LuMaNa languages

Comrie (1976), Kiso (2012) and Zemba (2015) argue that the past persistive aspect is used to express the near past and also events that have a temporal reference point in the remote past. The

tense is used for events that started sometime in the past and were on-going up until the time of temporal reference. LuMaNa languages express the past persistive aspect using the persistive morpheme [-cili-] ‘still’ as illustrated in the table below:

Table 8.15: The past persistive aspect in LuMaNa varieties

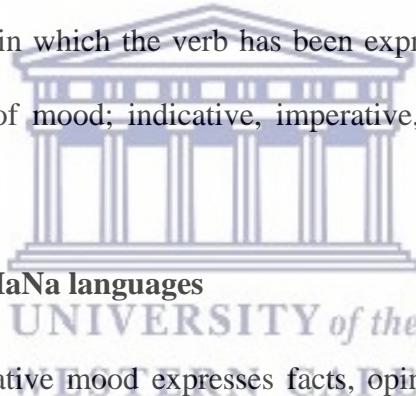
LuMa	Word/sentence:	<i>Twalitucilitukuvwanga</i>							
	Disjuncts:	<i>tu-</i>	<i>ali-</i>	<i>tu-</i>	<i>cili-</i>	<i>tu-</i>	<i>ku-</i>	<i>-vwang-</i>	<i>a</i>
	Verbal structure:	SM	TM	SM	Per. M	SM	TM	VR	FV
	Gloss:	‘We were still talking’							
Na	Word/sentence:	<i>Tetucilitukuvwanga</i>							
	Disjuncts:	\emptyset	<i>te-</i>	<i>tu-</i>	<i>cili-</i>	<i>tu-</i>	<i>ku-</i>	<i>-vwang-</i>	<i>a</i>
	Verbal structure:	SM	TM	SM	Per. M	SM	TM	VR	FV
	Gloss:	‘We were still talking’							

Table 8.15 shows that LuMa languages use the morpheme [ali-] in the TM position while Namwanga language uses [te-] to express plural past persistivity. All the LuMaNa languages use the SM [tu-] before introducing the persistive aspect morpheme [-cili-] ‘still’ respectively. The persistive marker morpheme [-cili-] in LuMaNa languages is sandwiched with two subject markers (2SMs) [tu-]. The example also reveals that Namwanga language uses two subject markers (2SMs) like other Bantu languages while LuMa languages provide for triple subject marking (3SMs) to express past persistivity. The example also shows that the past persistive verbal form in LuMa languages starts with the 1PL [tu-] ‘we’ which takes the place of the subject marker (SM) while Namwanga language begins with the empty SM and consequently, the TM [te-] takes the first slot in the verbal construction. The analysis further reveals that the

morphology of the plural verbal morpheme in the TM varies in which LuMa languages use [-ali-] ‘were’ as opposed to [te-] which is used in Namwanga language.

8.2.3 Expressing mood in LuMaNa languages

Katamba (1993) posits that the main function of mood in verbal morphology is to describe an event in terms of whether it is necessary, possible, permissible or desirable. Mwape (1994) on the other hand argues that mood is the grammatical distinction in the verbal forms which are used to express the speaker’s attitude in what he/she is saying. As attested by Katamba (1993) and Mwape (1994), mood is a morphological feature which can be used to express a statement, to express a wish, to issue a command and to show a condition or a possibility of a particular verbal form. For this reason, mood does not describe the state of mind such as being sad or happy, but talks about the state in which the verb has been expressed. The LuMaNa languages attest the following categories of mood; indicative, imperative, subjunctive, grammatical and interrogative.



8.2.3.1 Indicative mood in LuMaNa languages

Zemba (2015) shows that indicative mood expresses facts, opinions and assertions. Indicative mood is attested in LuMaNa languages. The indicative mood is expressed using verbs such as *nakwata/nawa* ‘I have’ as demonstrated in the examples below:

(125) LuMa: *Nakwata yamama yatatu* ‘I **have** three wives’

(126) Na: *Nawa na wamama watatu* ‘I **have** three wives’

Example (125) shows that the indicative verb takes the first position in the LuMaNa sentences such as *nakwata* ‘I have/ I am married to’ in LuMa languages and *nawa* ‘I have/ I am married to’ in Namwanga in (126). The analysis of (125-126) also reveals that indicative verbs express the

truth about the subject of discussion. The variation lies in the morphology of the indicative verb in (125) and (126) where LuMa languages use *nakwata* ‘I have’ while Namwanga uses *nawa* for the same referent.

8.2.3.2 Imperative mood in LuMaNa languages

Payne (1997) shows that imperative mood is a category of verbs which give orders or commands to someone or listener or addressee to perform an action. Payne argues that an imperative is a form of verb which is used to issue a direct command. Sibanda (2004) adds that an imperative in Bantu languages has a root and a final vowel. Imperatives in LuMaNa languages merely give instructions to the listener or recipient of the message and do not invite questions. LuMaNa languages form imperatives using the prefix and the stem as illustrated in the examples below:

(127) LuMa: *iza!* ‘come!’

(128) Na: *zanga!* ‘come!’

In examples (127-128), the imperative mood is expressed using two syllables in the verb *iza* [i/za] ‘come’ in LuMa languages as well as *zanga* [za/nga] ‘come’ in Namwanga where the first syllable is the prefix and the second one is the stem. The use of an exclamation mark at the end of the verbs in (127-128) qualifies them to be imperative in LuMaNa languages. The study also shows that the imperative verbs in LuMaNa languages satisfy the minimality requirement of bisyllabicity in Bantu languages as shown in LuMa languages in (127) which use the stem [-za] and the prefix or augment [i-] and in Namwanga in (128) where the verb is formed from the stem [-nga] and prefix [za-]. Examples (127-128) further reveal that the combination of the prefix and the radical is the most basic verbal structure in LuMaNa languages. The variation lies in the morphology of the imperative verbs for the same referent as can be seen in *iza* ‘come’ in LuMa languages in example (127) and *zanga* ‘come’ in (128) in Namwanga.

As attested by Bickmore (2004), vowel harmony takes place between the TM and the suffix when converting monosyllabic to bisyllabic imperatives. The LuMaNa languages introduce the plural suffix marker [-ni] to transform the imperative verbal structure from monosyllabic to bisyllabic form as shown in the examples below:

Table 8.16: Expressing the imperative verbs in LuMaNa varieties

S/N	Language	Monosyllabic verb	Bisyllabic verb
a	LuMa	<i>lya!</i> [li-a] ‘eat!’ (sg. form)	<i>lyini!</i> [li-i-ni] ‘eat’ (pl. form)
b	Na	<i>lya!</i> [li-a] ‘eat!’ (sg. form)	<i>lyani!</i> [li-a-ni] ‘eat’ (pl. form)
c	LuMa	<i>fwa!</i> [fu-a] ‘die!’ (sg. form)	<i>fwiini!</i> [fu-i-ini] ‘die’ (pl. form)
d	Na	<i>fwa!</i> [fu-a] ‘die!’ (sg. form)	<i>fwaani!</i> [fu-a-ani] ‘die’ (pl. form)
e	LuMa	<i>mwa!</i> [mu-a] ‘drink!’ (sg. form)	<i>mwiini!</i> [mu-i-ini] ‘drink’ (pl. form)
f	Na	<i>mwa!</i> [mu-a] ‘drink!’ (sg. form)	<i>mwaani!</i> [mu-a-ani] ‘drink’ (pl. form)

Examples (a-f) in the singular imperative form reveal that monosyllabic verbs in LuMaNa languages violate the attested Bantu language minimality condition for bisyllabic verb roots. The researcher argues that the prosodic stem minimality requirement in LuMaNa languages is only met in the plural imperative verbs. LuMaNa languages end with the exclamation mark to express the imperative mood. Examples (a-f) also reveal that LuMaNa languages use the common plural suffix marker [-ni] to express the bisyllabicity of the imperative mood.

Arguably, the forms [*dya], [*fa] and [*mwa] are not permissible in other Zambian languages, such as Nyanja, and do not stand on their own without the introduction of the prefix [i-] to form *idya!* ‘eat!’, *ifa!* ‘die!’ and *imwa!* ‘drink’ in the singular form, which satisfies the bisyllabic verb stem minimality requirement. The plural imperative form of LuMaNa languages is similar to Nyanja in that it also uses the suffix marker [-ni] which is used to satisfy the bisyllabic stem requirement as seen in *dyani!* ‘eat!’ [di-a-ni], *fani!* ‘die’ [f-a-ni] and *mwani!* ‘drink’ [mu-a-ni]. The

form [-ni] which plays the role of the plural suffix marker when expressing the imperative mood in LuMaNa languages is also used to express politeness. During the alternative use of the suffix marker [-ni] to express politeness in LuMaNa languages, the speaker modulates the tone in a less forceful and threatening manner that anoints and appeals to the positive face of the listener or addressee (cf. Marten and Kula, 2021; Siame and Banda, 2021).

The analysis shows that there are variations in examples (a, c and e) where LuMa languages undergo vowel harmony in the bisyllabic verb which involves a high front vowel [i] in the first syllable and the suffix while Namwanga language in (b, d and f) undergoes form maintenance [retention] in the stem of the monosyllabic verb when changing into the bisyllabic verb before introducing the suffix marker [-ni].

8.2.3.3 Subjunctive mood in LuMaNa languages

Morrison (2011) posits that the subjunctive mood is used to express requests, purpose and uncertainty which is marked morphologically with the final vowel [-e] though not consistently throughout all subjunctive constructions. Zemba (2015) shows that in Kunda language, the subjunctive verb is formed minimally with the subject marker, a zero tense-aspect morpheme (\emptyset), followed by a radical with an extension if any and the final vowel [-e]. The subjunctive mood in LuMaNa languages is expressed through modal structures which talk about wishes such as *nga naali/nga nalinji* ‘if I were’, *nga twaali/nga twalinji* ‘if we were’ and *nga yaali/nga walinji* ‘if they were’ as illustrated in the examples below:

- (129) LuMa: *Nga naali mama, nga nakwata ana aingi* ‘**If I were**
a woman, I would have given birth to a lot of
(many) children’

- (130) Na: *Nga napa wanamaayo awavule amaula, nga nalinji nemonsi* ‘I would have made many women pregnant, *if I were* a man,’

Examples (129-130) show that the clause *nga naali* ‘if I were’ in LuMa languages and *nga nalinji* ‘if I were’ in Namwanga languages introduces the subjunctive mood which is usually an imaginary situation. In (129-130), the modal phrases expressing the subjunctive mood can either appear in the main or the subordinate clause in LuMaNa languages. Further analysis of examples (129-130) reveals that there is a variation in the morphology of the verb after the subjunctive *nga* ‘if’ where LuMa languages use *naali* ‘were’ as opposed to *nalinji* ‘were’ in Namwanga.

8.2.3.4 Grammatical mood in LuMaNa languages

Morrison (2011) and Zemba (2015) show that grammatical mood is used to describe situations in the real sense such as people, places and things which do exist hence is the opposite of subjunctive mood. Grammatical moods are also called declaratives and as such, they are usually in the present tense and express a direct statement. Declarative verbs in LuMaNa languages are used to express facts as in the example below:

- (131) LuMaNa: *Michael akucina* ‘Michael **is dancing**’

Example (131) shows that LuMaNa languages use the verb *akucina* ‘is dancing’ to express the declarative or grammatical mood about a fact or real situation. The declarative mood in the above example shows that the speaker or write is certain of what he/she expects other people to interpret the situation.

8.2.3.5 Interrogative mood in LuMaNa languages

Andvik (2010) shows that interrogatives function as requests for information or confirmation of the speakers understanding of the message using yes-no questions and content questions. The interrogative verbs are used to express intentions or wishes by asking other people. In LuMaNa languages, interrogative mood is expressed using either the question word or the question mark or both as shown in the examples below:

(132) LuMaNa: *Uzye wizile wandaci?* ‘**When** did you come?’

(133) LuMaNa: *Wizile wandaci?* ‘**When** did you come?’

Example (132) shows that the question word *uzye* ‘when’ is immediately followed by a verb in interrogative sentences. The analysis of example (133) reveals that it is permissible to begin the interrogative expressions without the question word *uzye* ‘when’ provided it ends with a question mark. Further analysis shows that both interrogative verbal constructions in (132) and (133) have the same English gloss and semantics. The variation lies in the literal translation of example (133) which would be ‘come which day/year?’ as opposed to (132) which is ‘when come day/year?’ When the question word is omitted in the LuMaNa verbal structure, the interrogative mood is implied and the question word is assumed in a particular statement or conversation.

8.3 Verbal complexes in LuMaNa languages

Bantu languages have a basic verbal structure which is made up of the radical and affixes. According to Miti (1988), Bantu languages have the following affixes, subject marker, object marker, tense marker, including many other verbal derivational suffixes which in most cases are not grammatical on their own. This portion analyses affix marking in LuMaNa languages.

8.3.1 Subject and object marking in LuMaNa languages

Mwansa (2011) shows that both subject markers [SM] and object markers [OM] are used to indicate the past, present and future tenses of a particular language. Subject and object marking in LuMaNa is done with reference to the eighteen prefixes and word classes they represent as in:

Table 8.17: Subject and object prefixes of LuMaNa varieties

Class	Subject prefix		Object Prefix	
	LuMa	Na	LuMa	Na
1	mu-	mu-	mu-	mu-
2	a-/ya-/yaa-	awa-/wa-	a-/ya-/yaa-	awa-/wa-
3	mu-	mu-	mu-	mu-
4	mi-	mi-	mi-	mi-
5	i-/li-/lii-	i-/li-/lii-	i-/li-/lii-	i-/li-/lii-
6	ma-/mi-	ma-	ma-/mi-	ma-
7	ci-/cii-	ci-/ cii-/ ca	ci-/cii-	ci-/ cii-/ ca
8	vi-/vii-	vi-/vii-/vya-	vi-/vii-	vi-/vii-/vya-
9	n-	n-/e-	n-	n-/e-
10	n-	n-	n-	n-
11	lu-	n-/lu-	lu-	n-/lu-
12	ka-/kaa-	ka-	ka-/kaa-	ka-
13	tu-	tu-/twa-	tu-	tu-/twa-
14	wu-/wuu-	wu-/wuu-	wu-/wuu-	wu-/wuu-
15	ku-	ku-	ku-	ku-
16	pa-/pali-	pa-/pe-	pa-/pali-	pa-/pe-
17	ku-/kuli-	ku-/kwe-	ku-/kuli-	ku-/kwe-
18	mu-/muli-	mu-	mu-/muli-	mu-

Table 8.17 shows that the SM and OM prefixes in LuMaNa languages are bound morphemes. Bound morpheme prefixes in LuMaNa languages do not have meaning when they are not

attached to other morphemes such as independent pronouns. Due to the above reason, where the bound morpheme must appear alone, an equivalent independent pronoun must be used.

LuMaNa languages attest the presence of independent pronouns to give meaning to bound morphemes (cf. Bickmore, 2004). The LuMaNa languages manifest variations in the use of independent pronouns. Variations are found in the 3SG and the 3PL as illustrated below:

Table 8.18: Independent pronouns in LuMaNa varieties

S/N	Language	Pronoun	Gloss
a.	LuMaNa	<i>neene</i>	'me'
b.	LuMaNa	<i>wewe</i>	'you'(sg)
c.	LuMa	<i>wii</i>	'he/she'
d.	Na	<i>wee</i>	'he/she'
e.	LuMaNa	<i>sweswe</i>	'us'
f.	LuMaNa	<i>mwemwe</i>	'you'(pl)
g.	LuMa	<i>yaa</i>	'they'
h.	Na	<i>waa</i>	'they'

Table 8.18 reveals that independent pronouns in (b-h) are affected by gliding during their formation. There is a variation in the morphology in example (c) in the 3SG where LuMa languages use the independent pronoun *wii* 'he/she' while Namwanga in (d) uses *wee* 'he/she' for the same referent. Example (g) shows that LuMa languages use a voiced palatal glide [y] in *yaa* 'they' to express the 3PL while Namwanga in example (h) uses a voiced bilabial glide [w] in *waa* 'they' when referring to the same independent pronoun.

As attested by Bickmore (2004), when the reflexive prefix /-í-/ is present in the verbal structure of LuMaNa languages, it takes the OM position and comes after the TM [-ku-] as shown below:

(134) LuMaNa: *u-ku-lol-a* [ukulola] ‘to see’; *u-ku-i-lol-a* [ukuilola] ‘to see oneself’

Example (134) shows that in LuMaNa languages, the reflexive marker appears in the OM position and is infixes between the TM [-ku-] and the Radical [-lol-] in order to express the reflexive extension or an activity done by oneself.

8.3.2 Negation in verbal complexes in LuMaNa languages

Morrison (2011) argues that the verbal structure contains numerous prefixes and suffixes which are used during subject, tense, aspect, negation and marking other derivational properties. Petzell and Hammarström (2013) add that structural features of negation in Bantu languages include tense, aspect and mood markers. LuMaNa languages express negation in verbs using the morpheme [-ta-] which is preceded by pronouns, such as; [n-] ‘I’, [tu-] ‘we’, [ya-/wa-] ‘they’ and [a-] ‘he/she’ as shown below:

Table 8.19: Pronouns used to express negation in LuMaNa varieties

S/N	Language	Negation pronoun	Gloss	Singular (SG) or plural (PL)
a	LuMaNa	[nta-]	I will/did not	1 st person singular (1SG)
b	LuMaNa	[tuta-]	we will/did not	1 st person plural (1PL)
c	LuMaNa	[ata-]	he/she will/did not	3 rd person singular (3SG)
d	LuMaNa	[cita-]	it will/did not	3 rd person singular (3SG)
e	LuMaNa	[uta-]	you will/did not	2 nd person singular (2SG)
f	LuMaNa	[muta-]	you will/did not	2 nd person plural (2PL)
g	LuMa	[yata-]	they will/did not	3 rd person plural (3PL)
h	Na	[wata-]	they will/did not	3 rd person plural (3PL)

Table 8.19 shows that pronouns in (a-h) are used to express negation in the past, present and future verbal constructions in LuMaNa languages. Examples (a-h) also reveals that there is a dichotomy of personal pronouns from 1st to 3rd in terms of singular and plural in LuMaNa

languages. There are variations in the morphology of the personal pronouns in the 1SG in example (a) in [ntala] ‘I will not’ in LuMa languages and example (b) in [ntali] ‘I will not’ in Namwanga. The other variation exists in 3PL in example (h) where LuMa languages use [yata] ‘they will not’ as opposed to Namwanga in example (i) which uses [wata] ‘they will not’.

8.3.2.1 Negation with the SM, TM and OM in LuMaNa languages

As attested by Petzell and Hammarström (2013), negation is used to show mood in LuMaNa. The LuMaNa languages express negation of the declarative mood using the SM, TM and OM in the verbal structure in the presence of other verbal constituents which include; the VR and the final vowel (FV) as shown below:

Table 8.20: Negation with the SM, TM and OM in LuMaNa varieties

LuMa	Word/sentence:	<i>Ntalamutwala</i>					
	Segments:	<i>ni-</i>	<i>ta-</i>	<i>la -</i>	<i>mu-</i>	<i>twal-</i>	<i>a</i>
	Verbal complexes:	SM	Neg	TM	OM	VR	FV
	Gloss:	‘I will not marry her’					
Na	Word/sentence:	<i>Ntalimutwala</i>					
	Segments:	<i>ni-</i>	<i>ta-</i>	<i>li-</i>	<i>mu-</i>	<i>twal-</i>	<i>a</i>
	Verbal complexes:	SM	Neg	TM	OM	VR	FV
	Gloss:	‘I will not marry her’					

The analysis of Table 8.20 reveals that LuMaNa languages use the 1SG morpheme [nta-] ‘I will not’ to express negation in verbal structures. The 1SG morpheme [nta-] ‘I will not’ in verbal constructions is used to express negation in the future simple tense in the three languages. There is a variation in the morphology of the tense markers [TMs] in LuMaNa in which LuMa languages use the morpheme [-la-] while Namwanga language uses [-li-] to express negation of the verbal form.

8.3.2.2 Negation of the future with SM, TM and OM in LuMaNa languages

Appah (2003) shows that negative future in Akan language is realised as an elongation of the final segment of the preceding noun where if it is a pronoun, it is realised by lengthening of the vowel. The scholar adds that in Fante, negation in the future is realised using the morpheme [re-] which is followed by the homorganic nasal negative marker. LuMaNa languages express negation of the future using the SM [-ya-] and OM [-mu-] as illustrated in the table below:

Table 8.21: Negation of future with SM, TM and OM in LuMaNa varieties

LuMa	Word/sentence:	<i>Yatalamuseka</i>					
	Disjuncts:	<i>ya-</i>	<i>ta-</i>	<i>la-</i>	<i>mu-</i>	<i>sek-</i>	<i>a</i>
	Verbal complexes:	SM	Neg	TM	OM	VR	FV
	Gloss:	'They will not laugh at him/her'					
Na	Word/sentence:	<i>Watalimuseka</i>					
	Disjuncts:	<i>wa-</i>	<i>ta-</i>	<i>li-</i>	<i>mu-</i>	<i>sek-</i>	<i>a</i>
	Verbal complexes:	SM	Neg	TM	OM	VR	FV
	Gloss:	'They will not laugh at him/her'					

The meaningful expression of negation in LuMaNa languages is achieved by combining the negating element (Neg) [ta-] in LuMaNa languages. The variation lies in the SM position where LuMa use [ya] while Namwanga uses [wa-] to express the plural in the future. The SM elements [ya-] and [wa-] are affected by gliding. LuMa languages express negation using a voiced palatal glide [y] in the 3PL in [yata-] 'they will not' while Namwanga uses a voiced bilabial glide [w] in the 3PL in [wata-] 'they will not' to express the future tense.

8.3.2.3 Negation without TM in LuMaNa languages

The verbs in LuMaNa which start with the 1SG morpheme [nta-] ‘I will not’ do not only express negation in the future, but also express the present tense without the TM as shown in:

Table 8.22: Expressing present negation without TM in LuMaNa varieties

LuMaNa	<i>Word/sentence:</i>	<i>Ntamutwala</i>					
	<i>Segments:</i>	<i>ni-</i>	<i>ta-</i>	\emptyset	<i>mu-</i>	<i>twal-</i>	<i>a</i>
	<i>Verbal complexes:</i>	SM	Neg	TM	OM	VR	FV
	<i>Gloss:</i>	‘I am not married to her’					

Table 8.22 shows that LuMaNa languages express the present tense using the 1SG negation element [nta-] ‘I am not’. The TM slot is empty during the formation of the present tense while the SM, OM, VR and the FV are present in the verbal structure.

Appah (2003) shows that the negative past in Akan language is expressed by using the prefix [a-] that comes just before the nasal marking negation as in the example: Mansah *a-n-da ha* which is realised as Mansah PAST-NEG-SLEEP here ‘Mansah did not sleep here’. LuMaNa use the negation morpheme [nta-] to express the past negation tense in the absence of TM as in:

Table 8.23: Expressing past negation without TM in LuMaNa varieties

LuMaNa	<i>Word/sentence:</i>	<i>Ntamutwazile</i>					
	<i>Segments:</i>	<i>ni-</i>	<i>ta-</i>	\emptyset	<i>mu-</i>	<i>twazil-</i>	<i>e</i>
	<i>Verbal complexes:</i>	SM	Neg	TM	OM	VR	FV
	<i>Gloss:</i>	‘I did not marry her’					

Table 8.23 reveals that LuMaNa languages express the past tense using the negation morpheme [nta-]. The TM slot is empty during the formation of negation in the past tense while other

elements that include the SM, OM, VR and the FV are present in LuMaNa languages. The example also shows that the VR changes from [-twal-] ‘to marry’ in the present tense to [-twazil-] ‘married’ where the morpheme [-zi-] is infix between the vowel [-a-] and the clear lateral [-l-] to express polarity when converting the present tense to the negative past tense.

8.4 Chapter summary

The chapter has presented the verbal structure of LuMaNa languages. The verbal structure of LuMaNa languages is as attested by other Bantu languages. LuMaNa varieties use the morpheme [ku] to signal the present tense and the same morpheme [ku] functions as a prefix with an optional augment [a-] to express the present progressive verbs. On the other hand, the suffix marker [-ile] is used to express the today, immediate, recent and remote past tenses. The past progressive tense is expressed by the morpheme [-lii-] as the TM and the suffixing morpheme [-nga]. LuMaNa languages express the future simple tense using the prefix or TM [-la-] in LuMa and [-li-] in Namwanga. LuMaNa languages express persistivity of the present and past tenses using [cili] ‘still’ and allows for co-occurrence of 2SMs which denote the same referent. Namwanga uses 2SMs to sandwich the persistive marker whereas LuMa languages use 3SMs.

There is a variation in the morphology where LuMa languages use *nakwata* ‘I have’ to express the indicative mood while Namwanga uses *nawa* ‘I have’. LuMaNa form the imperative mood using the prefix and the verb stem to satisfy the minimality requirement of bisyllabicity in Bantu languages and only meets the requirement in the plural forms through the introduction of the plural suffix marker [-ni]. LuMaNa languages use *nga naali/ nga nalinji* ‘if I were’ to express the subjunctive mood. Grammatical and interrogative moods are expressed with implied verbs.

The subject and object markers in LuMaNa languages are bound morphemes which are generally meaningless when they are not attached to other morphemes. LuMaNa languages use

independent pronouns to express negation with t markers only, subject and object markers, and negation without subject and object markers in the past and present tenses.

The next chapter presents the comparative analysis of verbal extensions in LuMaNa languages.



CHAPTER NINE

VERBAL EXTENSIONS IN LUNGU, MAMBWE AND NAMWANGA LANGUAGES

9.0 Introduction

The chapter presents a comparative analysis of verbal morphological variations in LuMaNa languages in Zambia. This is an extension of the verbal structure introduced in chapter eight. The chapter deals with the research question by presenting a brief introduction to verbal extensions in Bantu languages and LuMaNa languages. The chapter also analyses the morphology of twelve verbal extensions, namely; applicative, causative, reversive, passive, repetitive, intensive, reciprocal, completive, reduplicative, reflexive, frequentative and perfective respectively. It closes with a summary.

9.1 A brief introduction to verbal extensions in Bantu languages

This chapter on ‘verbal extensions in LuMaNa’ is an extension of chapter eight on ‘the verbal structure of LuMaNa languages’ which builds on the two morphological domains introduced in the preceding chapter, namely, the verbal stem and the macro stem as attested by the common verbal structure of most Bantu languages. The verbal extensions belong to both morphological domains because the verbal stem as the first entry comprises the verb root, all manners of *verb extensions*, certain Tense, Aspect and Mood (TAM), suffixes and the Final Vowel while the second entry for the macro stem incorporates the Subject and Object Markers as well as the reflexive prefix, the stem and the *verb root extensions* (cf. Myers, 1987; Nkolola, 1997; Ngunga, 2000; Downing, 2001; Miti, 2001; Mtenje, 2016). Based on the above justification, verbal extensions bear characteristics of both the verbal and macro stem which anchors on the verbal base of Bantu languages including LuMaNa languages.

Downing (2001) observes that inflections in the Bantu verbal structures are expressed using the suffix marker which is attached to the verbal base. For this reason, the inflectional final suffix together with the verbal base form the Macro stem which is complemented by an Object Marker. Philippson and Guérois (2013) observe that verbs are built upon inflectional markers, derivational verbal extensions, and post-final clitics. The descriptive analysis of the verbal structure in the present study and chapter focuses on the formation of verbal extensions in LuMaNa languages.

9.2 Verbal extensions in LuMaNa languages

Morrison (2011) states that the verbal structure of Bantu languages contains numerous prefixes and suffixes and identifies the derivational suffixes as follows; passive, applicative, causative, reciprocal, stative, separative, intensive, repetitive, positional extensive and reduplication. This study analyses the following verbal extensions; the applicative, causative, reversive, passive, repetitive, intensive, reciprocal, completive, reduplicative, reflexive, frequentative and perfective. The present study adopts the comparative Bantu principles applied by scholars such as Nkolola (1997) and Mtenje (2016) to provide guidance during the analysis of verbal extensions in the three genetically related languages.

9.2.1 Applicative verbal extension in LuMaNa languages

Nkolola (1997) shows that the applied extension deals with affixes that are added to the verb radical to indicate the subject, object, tense, aspect, negation, mood and other grammatical and lexical constituents. The applicative extension is about applying something and is sometimes referred to as prepositional verb form which shows the relationship which a person or thing has with what the action is being done for (cf. Morrison, 2011). Mtenje (2016) shows that in SuNdaLa cluster, the applicative morpheme is [-il-] although in some cases the allomorph [-el-]

is used. Mtenje confesses that the SuNdaLa languages are losing the [-el-] harmonising feature and the morpheme [-il-] has gradually become the only morpheme for the applicative extension. In the present study, LuMaNa languages express the applicative verbal extension using the obligatory passive morphemes [-il-] and [-el-] as illustrated in the examples below:

Table 9.1: Expressing the applicative extension in LuMaNa varieties

Language	S/N	Main verb	Applicative verb
LuMa	1a	<i>tuma</i> [tu-m-a] ‘to send’	<i>tumila</i> [tu-m- il -a] ‘to send for’
	1b	<i>tema</i> [te-m-a] ‘to cut’	<i>temela</i> [te-m- el -a] ‘to cut for’
Na	2a	<i>tuuma</i> [tu-um-a] ‘to send’	<i>tuumila</i> [tu-um- il -a] ‘to send for’
	2b	<i>teema</i> [te-em-a] ‘to cut’	<i>teemela</i> [te-em- el -a] ‘to cut for’

In Table 9.1, examples (1a) and (2a) show that in LuMaNa languages, when the verb root contains a low front vowel [a], a high front vowels [i], or a high back vowel [u], the final vowel changes to [i] in the applicative verb root which renders the addition of the suffix marker [-la] to form [-ila]. Examples (1b) and (2b) reveal that when the main verb root contains a mid-front vowel [e] or mid-back vowel [o], the final vowel changes to [-e] followed by the suffix marker [-la] to form [-ela] which becomes the governing principle in the applicative verbal form in LuMaNa languages. Based on examples (1a-b) and (2a-b), we can also infer that the applicative verb is formed by infixing either [-el-] or [-il-] between the verb root or radical and the the suffix. The variation exists in the prefix in examples (1a-b) where LuMa languages use a short low front vowel [a] and a mid-front vowel [e] while in (2a-b) Namwanga allows vowel lengthening of [a:] and [e:] in applicative verbs.

During the analysis of the applicative verbal extension in Table 9.1, the manifestation of vowel harmony in the verb root was observed. The applicative extension marker [-il-] in LuMaNa

languages counters Chanda (1985) who has shown that the extension [-il-] in Bemba is used to signal the grammatical relation of the causative extension. LuMaNa languages show harmony in the verb root of the applied extension using the high back vowel [u] realised as a voiced bilabial glide [w] followed by either [-il-] or [-el-] as illustrated in Table 9.2 below:

Table 9.2: Vowel harmony in applicative verbs using [u] in LuMaNa varieties

Language	S/N	Main verb	Applicative verb
LuMa	1a	<i>olola</i> [o-lol-a] ‘to make straight’	<i>olwela</i> [o-lu-el-a] ‘to make straight for someone’
	1b	<i>tupula</i> [sa-pul-a] ‘to open’	<i>tupwila</i> [tu-pu-il-a] ‘to open for someone’
Na	2a	<i>olola</i> [o-lol-a] ‘to make straight’	<i>ololela</i> [o-lol-el-a] ‘to make straight for someone’
	2b	<i>iyula</i> [i-i-ul-a] ‘to open’	<i>iyulila</i> [i-i-ul-il-a] ‘to open for someone’

Table 9.2 shows that example [1a] in the main verb which ends with [-ola] in LuMa languages change into [-wela] after verb roots which do not have a low front vowel [a], a high front vowel [i] or a high back vowel [u], while in example [1b], the element [-ula] changes to [-wila] after verb roots which contain a low front vowel [a], a high front vowel [i] or a high back vowel [u] respectively. Examples [1a-b] also reveal that a high back vowel [u] in the main verb root before [-il-] and [-el-] is realised as a voiced bilabial glide [w] in LuMa languages. On the other hand, Namwanga language in examples (2a-b) does not use a voiced bilabial glide [u] to harmonise the verb root of the applicative verbs which end with [-ola] as in (2a) when the main verb root has a low front vowel [a], a high front vowel [i] or a high back vowel [u], but simply change to [-e-] followed by the suffix marker [-la] to form [-ela] whose root is [-el-]. In addition, in (2b) the suffix [-a] in the main verbs with a low front vowel [a], a high front vowel [i] or a high back vowel [u] change to [-i-] before the introduction of the suffix marker [-la] to form the applicative

stem [-ila] where [-il-] is the root. The above argument shows that Namwanga language maintains all the other components of the main verb when converting to applicative verb and only infix either [-el-] in (2a) or [-il-] in (2b) before the suffix.

Further analysis of the applicative verbal extension reveals that either the high front vowel [i] which is realised as a voiced bilabial glide [y] or a mid-front vowel [e] is also used to harmonise the applicative verbs in LuMaNa languages as demonstrated in the example below:

Table 9.3: Vowel harmony in applicative verbs using [i] in LuMaNa varieties

Language	S/N	Main verb	Applicative verb
LuMa	1a	<i>kazyā</i> [ka-z-i-a] ‘to sell’	<i>kazizya</i> [ka-ziz-i-a] ‘to sell for someone’
	1b	<i>pozya</i> [po-z-i-a] ‘to heal’	<i>pozezya</i> [po-zez-i-a] ‘to heal for someone’
Na	2a	<i>kazyā</i> [ka-z-i-a] ‘to sell’	<i>kazízya</i> [ka-zíz-i-a] ‘to sell for someone’
	2b	<i>pozya</i> [po-z-i-a] ‘to heal’	<i>pozézya</i> [po-zéz-i-a] ‘to heal for someone’

Examples (1a) and (2a) in Table 9.3 show that the LuMaNa applicative verbal extension undergoes vowel harmony by infixing either a high front vowel [i] or a mid-front vowel [e] in the verb root of the main verbs before [-zya] which change into [-izya] if they come after a low front vowel [a], a high front vowel [i] or a high back vowel [u] in the applicative verb root and into [-ezya] when they follow a mid-front vowel [e] or a mid-back vowel [o] in the root. Examples (2a-b) reveal that Namwanga language uses a high tone on the vowels preceding the suffix marker [í] and [é] respectively as opposed to LuMa languages which are not affected by high tone on the short vowels in the applicative verbs.

9.2.2 Causative verbal extension in LuMaNa languages

Givon (1969) argues that a causative extension is a supplement to the various verbal morphology and treats it as a complementising verb which can be taken only by human agents. Nkolola (1997) shows that the causative extension in Tonga verbs has the following constituents the pre-prefix, prefix, post prefix, tense and aspect marker, object marker, root extension and ending in that order of occurrence. Nkolola argues that the causative verbal extension influences the result of an action. For this reason, the causative extension can be understood as using a morpheme that causes or makes something to happen.

LuMaNa languages attest the causative verbal extension. There are two forms of causative extensions in LuMaNa, namely, short and long causatives which are analysed below.

9.2.2.1 Short causative verbal extension in LuMaNa languages

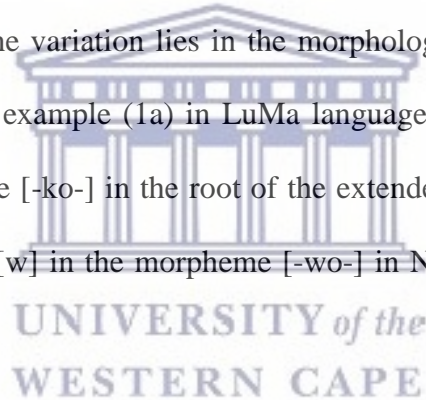
Bickmore (2004) shows that short causatives in Cilungu are formed by adding the suffix /-i/ which glides to a voiced palatal [y] before a non-identical vowel as well as inducing the mutation of the preceding consonant such as: *ú-kó-óp-à* ‘to fear’ → *ú-kó-óf-y-á* ‘to frighten’. As attested by Givon (1969), short causative extension verbs in LuMaNa languages are taken by human agents and are expressed by infixing a high front vowel [i] which is realised as a voiced palatal glide [y] between the nasal in the main verb root and the suffix as illustrated below:

Table 9.4: Expressing short causatives in LuMaNa varieties

Language	S/N	Main verb	Short causative verb
LuMa	1a	<i>ukukoma</i> [u-ku-kom-a] ‘to be strong’	<i>ukukomya</i> [u-ku-kom-i-a] ‘to make strong’
	1b	<i>ukwankana</i> [u-ku-a- ankan-a] ‘to share’	<i>ukwankanya</i> [u-ku-a-nkan-i-a] ‘to divide or make divisions’

Na	2a	<i>ukuwoma</i> [u-ku-u-om-a] ‘to be strong’	<i>ukuwomya</i> [u-ku-u-om-i-a] ‘to make strong’
	2b	<i>ukwankana</i> [u-ku-a-nkan-a] ‘to share’	<i>ukwankanya</i> [u-ku-a-nkan-i-a] ‘to divide or make divisions’

Table 9.4 shows that LuMaNa languages form short causatives by adding the affix /-i-/ which glides to a voiced palatal [y] when it comes before a vowel which is not identical and causes the change of a consonant which precedes it. In examples (1a) and (2a), the affix [i] is affected by the preceding voiced bilabial nasal [m] and as such it glides to [y]. The study also reveals that LuMaNa languages in examples (1b) and (2b) allow the addition of the affix [i] after a voiced alveolar nasal [n] which influences palatalisation in which the morpheme [ni-] is realised as a voiced alveolar-palatal [ny-]. The variation lies in the morphology of the short causative verbs where a mid-back vowel [o] in example (1a) in LuMa languages moves towards the voiceless velar stop to form the morpheme [-ko-] in the root of the extended verbs as opposed to moving towards a voiced bilabial glide [w] in the morpheme [-wo-] in Namwanga language in (2a) for the same short causative.



9.2.2.2 Long causative verbal extensions in LuMaNa languages

Sibanda (2004) shows that in Ndebele, the causative extension is generally formed by suffixing the causative morpheme /-is-/ to a verb. A similar study by Mtenje (2016) shows that in Sukwa and Lambya, the causative extension is /-is-/. Arguably, givon (1969) attests that Bemba forms long causatives using either [-enshya] or [-inshya] with the presence of the voiced alveolar nasal [n] in the suffix marker. Bickmore (2004) argues that long causatives in Lungu are formed by adding the suffix /-iisi/ which, due to phonological processes surfaces as [-iish] or [-eesh]. The

feasibility study shows that LuMaNa languages express the long causatives by adding the causative morpheme or suffix marker [-iisi] or [-eesi] to the verb root as shown below:

Table 9.5: Expressing long causative extension in LuMaNa varieties

Language	S/N	Main verb	Long causative verb
Lu	1a	<i>ukwaazima</i> [u-ku-a-azim-a] ‘to borrow’	<i>ukwaazimiisha</i> [u-ku-a-azim-iish-a] ‘to cause to borrow’
	1b	<i>ukupoompa</i> [u-ku-poomp-a] ‘to inflate’	<i>ukupoompeesha</i> [u-ku-poomp-eesh-a] ‘to cause to inflate’
MaNa	2a	<i>ukwaazima</i> [u-ku-a-azim-a] ‘to borrow’	<i>ukwaazimiisya</i> [u-ku-a-azim-iisi-a] ‘to cause to borrow’
	2b	<i>ukupoompa</i> [u-ku-poomp-a] ‘to inflate’	<i>ukupoompeesya</i> [u-ku-poomp-eesi-a] ‘to cause to inflate’

Table 9.5 reveals that long causatives are taken only by human agents as performers of actions. Long causatives in LuMaNa languages in examples (1a) and (2a) are formed from the suffix marker [-iisi]. In examples (1b) and (2b), long causatives are expressed using the suffix marker [-eesi]. Based on the above principles, the suffix markers of long causatives have long vowels. In (2a-b), Mambwe and Namwanga languages use a high front vowel [i] which is realised as a voiced palatal glide [y] in the formation of long causatives and is infixed between the verb root and the suffix marker. Lungu language in (1a-b) uses [-iisi] in the root of the main verb which is realised as [-iish-] to form the long causative and [-eesi] which is realised as [-eesh-]. On the other hand, Mambwe and Namwanga languages in (2a-b) use the same element [-iisi] which changes to [-iisy-] and [-eesi] to [-eesy-]. The other distinction is that Lungu in (1a-b) uses a voiceless glottal fricative [h] in the long causative verb root [-iish-] and [-eesh-] as opposed to Mambwe and Namwanga languages which use a high front vowel [i] realised as a voiced palatal

glide [y] in the same environment. The findings reveal that during long causative suffix marking, Lungu language in examples (1a-b) uses voiceless glottal fricative [h] while Mambwe and Namwanga apply a voiced palatal glide [y] before the suffixing vowel which resembles the morphology of the causative suffix in Bemba which is [-i-] or [-y-] (cf. Givon, 1969). Unlike Bemba, LuMaNa languages in examples (1a-b) and (2a-b) in Table 9.5 do not use a voiced alveolar nasal [n] in the suffix marker of the long causatives (cf. Givon, 1969).

9.2.3 Reversive verbal extension in LuMaNa languages

Zemba (2015) argues that the reversive form is the opposite meaning given to certain verbs by means of suffix either by addition or substitution. Zemba shows that in Kunda language, the reversive morphemes [-ulul-] and [-olol-] are used to reverse the meaning of the simple verb or to undo what has been done. For this reason, the reversive verbs act in an opposite manner hence contradicts the action of the main verb. The reversive extension in LuMaNa languages is expressed by using the suffix marker morphemes [-ul-] and [-ulul-] as shown below:

Table 9.6: Reversive extension in LuMaNa varieties

Language	S/N	Main verb	Reversive verb
LuMa	1a	<i>ukuyala</i> [u-ku-i-al-a] ‘to close’	<i>ukuyula</i> [u-ku-i-ul-a] ‘to open’
	1b	<i>ukunyunga</i> [u-ku-ni-ung-a] ‘to sieve’	<i>ukunyungulula</i> [u-ku-ni-ung-ulul-a] ‘to re-sieve’
Na	2a	<i>ukwiyala</i> [u-ku-i-al-a] ‘to close’	<i>ukwiyula</i> [u-ku-i-ul-a] ‘to open’
	2b	<i>ukunyunga</i> [u-ku-ni-ung-a] ‘to sieve’	<i>ukunyungulula</i> [u-ku-ni-ung-ulul-a] ‘to re-sieve’

Table 9.6 shows that reversive verbs in LuMaNa languages are either expressed by infixing the element [-ul-] in the main verb as in (1a) and (2a) or [-ulul-] in (1b) and (2b) between the verb

root and the suffix. Examples (1a) and (2a) also reveal that LuMaNa languages use a high front vowel [i] in the reversive extension which is realised as a voiced palatal glide [y] before the suffix marker in both the main and the extended verbs. Further analysis of (1a) and (2a) shows that a voiced palatal glide [y] comes before the element [-ul-] when forming reversive verbs. The variation lies in the morphology of the prefix where LuMa languages in (1a) use the morpheme [-ku-] while Namwanga language in (2a) uses [-kwi] which is affected by gliding.

9.2.4 Passive verbal extension in LuMaNa languages

Sibanda (2004) and Mtenje (2016) argue that the passive construction can appear with or without the agent and in cases where the agent is not physically marked, it is implied. Nkolola (1997) on the other hand shows that passive verbal morphological affixes are added to the verb radical to indicate passivity regarding the noun which receives the action. For this reason, the passive verbal extension is word which describes the action which is received by the object from subject. Put in other words, the passive extension indicates the action which has taken place on the object by the external force, agent, actor or doer of the action. Mtenje (2016) shows that in the SuNdaLa varieties, the passive suffix is [-iw-] and it is attached to the verb root.

On the other hand, the LuMaNa languages extend passive verbs using the affix [u] which is realised as a voiced bilabial glide [w] as shown in the illustrations below:

Table 9.7: The passive extension in LuMaNa varieties

Language	S/N	Main verb	Passive verb
LuMaNa	a	<i>ukutema</i> [u-ku-tem-a] ‘to cut’	<i>ukutemwa</i> [u-ku-tem- u -a] ‘to be cut’
	b	<i>ukusenda</i> [u-ku-send-a] ‘to carry’	<i>ukusendwa</i> [u-ku-send- u -a] ‘to be carried’

Examples (a-b) in Table 9.7 suggest that the passive verb extension in LuMaNa languages is formed by adding the passive element /-u-/ which is infix between the verb root and the suffix. The passive element in (a-b) is a high back vowel [u] which is realised as a voiced bilabial glide [w] in the LuMaNa varieties. The analysis further shows that LuMaNa in examples (a-b) have the same principle, morphology, semantics and usage of the passive extended verbs.

9.2.5 Stative verbal extension in LuMaNa languages

Chavula (2016) posits that stative verb extensions in Tumbuka are formed by the element [-ik-] which is homophonous with the impositive and is associated with verbs of destruction and verbs of experience which proves to be very productive and can be combined with a wide range of transitive basic verbs (cf. Schadeberg, 2001). Chavula (2016) argues that during the derivation of the stative verbs which are also referred to as the neuter, no agent is implied and as such, it is impossible to express the agent. Bickmore (2004) shows that the stative verbal extension in Lungu is formed by /-ik/ which sometimes surfaces as [-ek] to convert verbs from transitive to intransitive. Zemba (2015) argues that stative verbs in Kunda language are formed by changing the final vowel [-a] into derivational suffixes [-eka] and [-ika]. The LuMaNa languages express the stative verbs by infixing either the suffix marker [-ik-] or [-ek-] between the verb root and the suffix as illustrated in the table below:

Table 9.8: The stative extension in LuMaNa varieties

Language	S/N	Main verb	Stative verb
LuMa	1a	<i>ukuvuna</i> [u-ku-vun-a] 'to break'	<i>ukuvunika</i> [u-ku-vun- ik -a] 'to be broken'
	1b	<i>ukutama</i> [u-ku-tam-a] 'to break'	<i>ukutameka</i> [u-ku-tam- ek -a] 'to be broken'

Na	2a	<i>ukuvuna</i> [u-ku-vun-a] 'to break'	<i>ukuvunika</i> [u-ku-vun-ik-a] 'to be broken'
	2b	<i>ukutaama</i> [u-ku-taam-a] 'to break'	<i>ukutaamika</i> [u-ku-taam-ik-a] 'to be broken'

Table 9.8 shows that the stative verbs in LuMaNa languages are formed by adding the suffixing morpheme [-ik-] after a low front vowel [a], a high front vowel [i], a mid-back vowel [o] and a high back vowel [u]. Examples (1a) and (2a-b) reveal that the element [-ik-] is infixes between the verb root and the suffix in order to change stative verbs from transitive to intransitive. In (1a-b), LuMa languages form the stative suffix marker [-ik-] when it comes after a low front vowel [a], a high front vowel [i], a mid-back vowel [o] and a high back vowel [u] in the main verb and the suffix marker [-ek-] when it comes after a mid-front vowel [e] or a mid-back vowel [o] in order to form stative verbs. Examples (1a-b) also show that LuMa languages use both [-ik-] and [-ek-] stative suffix markers while in (2a-b), Namwanga language uses only the element [-ik-] to form stative verb extensions. Example (1b) further shows that the stative verb in LuMa languages use a short low front vowel [a] in the verb root while the same verb in (2b) uses a long low front vowel [a:] in Namwanga language.

9.2.6 Intensive verbal extension in LuMaNa languages

Zemba (2015) shows that intensive verbal extension refers to doing a thing much or doing a thing too much in order to intensify a particular action. Zemba argues that in Kunda language, the intensive verbal form is expressed by the derivational intensive morphemes [-ish-] and [-esh-]. Intensive extension in LuMaNa languages is expressed by infixing the intensive morphemes [-ish-], [-esh-], [-isi-] or [-esi] between the verb root and the suffix of the main verb as illustrated in the example below:

Table 9.9: The intensive extension in LuMaNa varieties

Language	S/N	Main verb	Intensive verb
Lu	1a	<i>ukupama</i> [u-ku-pam-a] 'to slap'	<i>ukupamisha</i> [u-ku-pam- ish -a] 'to slap a lot'
	1b	<i>ukuleeta</i> [u-ku-leet-a] 'to bring'	<i>ukuleetesha</i> [u-ku-leet- esh -a] 'to bring a lot'
MaNa	2a	<i>ukupama</i> [u-ku-pam-a] 'to slap'	<i>ukupamisya</i> [u-ku-pam- isi -a] 'to slap a lot'
	2b	<i>ukuleeta</i> [u-ku-leet-a] 'to bring'	<i>ukuleetesya</i> [u-ku-leet- esi -a] 'to bring a lot'

Examples (2a-b) reveal that intensive verbs in Mambwe and Namwanga languages are formed by infixing the element [-isi-] which is realised as [-isy-] between the verb root and the suffix [-a], [-u] or [-i] in the main verb and [-esi-] which is realised as [-esy-] between the verb root and the suffix [-a], [-o] or [-e] respectively. In examples (1a) and (1b), Lungu language uses the voiceless glottal fricative [h] in the intensive extended verb roots [-ish-] and [-esh-] while Mambwe and Namwanga languages use a high front vowel [i] which is realised as a voiced palatal glide [y] in the extended verb roots [-isy-] and [-esy-].

9.2.7 Reciprocal verbal extension in LuMaNa languages

Mtenje (2016) argues that the reciprocal extension in Bantu languages is used to show that an action is done by more than one agent and it is done together or against one another. As attested in other Bantu languages, such as Ikalanga (Mathangwane, 1996), Chichewa (Mchombo, 2004), and SuNdaLa (Mtenje, 2016), the reciprocated verbs in LuMaNa languages are formed by infixing the reciprocal marker [-an-] between the verb root and the suffix of the transitive verb in order to show that an action was performed on each other as demonstrated below:

Table 9.10: The reciprocative extension in LuMaNa varieties

Language	S/N	Main verb	Reciprocated verb
LuMa	1a	<i>ukusakula</i> [u-ku-sakul-a] ‘to comb hair’	<i>ukusakulana</i> [u-ku-sakul- an -a] ‘to comb each other’
	1b	<i>ukuluma</i> [u-ku-lum-a] ‘to bite’	<i>ukulumana</i> [u-ku-lum- an -a] ‘to bite each other’
Na	2a	<i>ukusakúla</i> [u-ku-sakúl-a] ‘to comb hair’	<i>ukusakúlana</i> [u-ku-sakúl- an -a] ‘to comb each other’
	2b	<i>ukulúma</i> [u-ku-lúm-a] ‘to bite’	<i>ukulúmana</i> [u-ku-lúm- an -a] ‘to bite each other’

Table 9.10 shows that LuMaNa languages use the same morphology in the presence of the reciprocative element [-an-] to show that an action was performed against each other. Examples (1a-b) and (2a-b) show that the reciprocative marker [-an-] demands that performers of the actions who are involved in the verbal extension take the position of the subject because they perform the action on each other. The variation is found in the syllables in the verb root in [-kú-] in example (2a) and [-lú-] in (2b) before the reciprocated element where Namwanga language uses a high tone while Lungu and Mambwe languages do not use high tone in the verb root before the reciprocative marker [-an-].

9.2.8 Reduplicative verbal extension in LuMaNa languages

Downing (1998) states that reduplication is a morphological strategy or process that is used to satisfy the minimality requirement which is achieved by repeating the base stem of the main verb to form the reduplicative verb. A similar study by Mtenje (1988) shows that most Bantu languages consider the verb stem as the base for verbal reduplication. Mtenje (2006) adds that if reduplication involves prefixation requiring the attachment of the reduplicant to the left of the

Base, then all the segments of the Base would be expected to appear as part of the output of reduplication. On the contrary, reduplication in the LuMaNa languages is expressed by only attaching the reduplicant on the right side of the stem of the main verb as opposed to the left. For this reason, reduplication in LuMaNa relates to the size of the units to be reduplicated. For instance, the minimal word or stem that can be reduplicated in LuMaNa languages should satisfy a bisyllabic condition which requires that the lexical words have a minimum size, usually two syllables. LuMaNa use the above morphological strategies to satisfy the minimality requirement which is achieved by repeating the base stem of the main verb on the right as illustrated below:

Table 9.11: The reduplicative verbal extension in LuMaNa varieties

Language	S/N	Main verb	Reduplicated verb
LuMaNa	1a	<i>ukufyona</i> [u-ku-fi-on-a] 'to blow the nose'	<i>ukufyona-fyona</i> [u-ku-fi-on-a- fi-on-a] 'to blow the nose repeatedly'
	1b	<i>ukulenga</i> [u-ku-leng-a] 'to ask for help or arms'	<i>ukulenga-lenga</i> [u-ku-leng-a- leng-a] 'to ask for help or arms repeatedly'
LuMaNa	2a	<i>ukulwala</i> [u-ku-lu-al-a] 'to be sick'	<i>kulwala-(ku)-lwala</i> [ku-lu-al-a-(ku)- lu-al-a] 'to be sick repeatedly'
	2b	<i>ukuomba</i> [u-ku-omb-a] 'to work'	<i>kuomba-(ku)-omba</i> [ku-o-mb-a-(ku)- omb-a] 'to work repeatedly'

Examples (1a-b) and (2a-b) reveal that the reduplicative verbal extension in LuMaNa languages is used to express the action in the present simple tense or a particular habit which can either be good or bad. The analysis shows that reduplicative verbal extension in LuMaNa languages is expressed by linking the stem to the right of the main verb using a hyphen to form a compound word. Examples (1a-b) show that both the main and reduplicated verb use the pre-prefix or augment as opposed to examples (2a-b) which signify that LuMaNa languages can either use an

augment or not during reduplicative verbal extension. The verbs in examples (1a-b) do not take the pre-prefix and the prefix in the extended part, but only reduplicates the stem.

The analysis also reveals that in certain instances, such as, in examples (2a-b), during reduplication, an infinitive prefix [ku-] can optionally be copied together with a monosyllabic stem where the reduplicated verb drops off the pre-prefix [u-] which is in the main verb. The analysis of examples (1a-b) further shows that in LuMaNa languages, the verbal stem is used as a base on which all the verbal extension applications take place and that unless the onset and word minimality conditions are met in the verbal construction, the elements related to the prefix are not included in the reduplicated part.

9.2.9 Reflexive verbal extension in LuMaNa languages

In view of Halemba (2007), the reflexive verbal extension shows an action which is done to oneself or by oneself. In LuMaNa, the reflexive extension is expressed by attaching the reflexive pronoun, a high front vowel [i] before the prefix of a particular root of the verb as shown below:

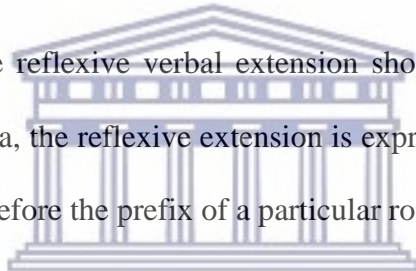


Table 9.12: The reflexive extension in LuMaNa varieties

Language	S/N	Main verb	Reflexive vowel	Reflexive verb
LuMaNa	a	<i>funya</i> [fu-ni-a] ‘to scratch’	i-	<i>ifunya</i> [i-fu-ni-a] ‘to scratch oneself’
	b	<i>tama</i> [ta-m-a] ‘to stone’	i-	<i>itama</i> [i-tam-a] ‘to stone oneself’

In Table 9.12, examples (a-b) illustrate that the LuMaNa languages use the reflexive vowel [i] which takes the position of a prefix to express the reflexive verbal extension. In (a-b), the reflexive high front vowel [i] does not change and always remain the same in the word even if the verb changes the form. The examples also reveal that the reflexive high front vowel [i] works

as a reflexive pronoun and does not fuse with any other vowel. There are no variations in the reflexive verbal extension in terms of morphology, semantics and language usage in LuMaNa.

In LuMaNa languages, it is also possible to use the reflexive pronoun, a high front vowel [i] in the middle position after the prefix and before the verb root as shown below:

- (135) LuMaNa: *u-ku-cis-a* [ukucisa] ‘to hurt’ → *u-ku-i-cis-a* [ukuicisa] ‘to hurt oneself’

Example (135) shows that the LuMaNa languages can also infix the reflexive vowel [i] between the prefix and the verb root. The morphology and semantics of the reflexive verbal extension in LuMaNa languages is the same because the referent of the verbal extension is ‘oneself’.

9.2.10 Frequentative verbal extension in LuMaNa languages

Zemba (2015) posits that frequentative verbs show the persistent form of an action which in Kunda is expressed by the persistive morpheme [-lilil-]. Frequentative verbal extension denotes persistent repetition of an action and as such can also be referred to as repetitive extension. The frequentative verb in LuMaNa languages is expressed by infixing the morphological frequentative element [-ul-], [-uk-] or [-ik-] between the verb root and the suffix as shown below:

Table 9.13: The frequentative verbal extension in LuMaNa varieties

Language	S/N	Main verb	Frequentative verb
LuMa	1a	<i>tama</i> [ta-m-a] ‘to be broken’	<i>tameka</i> [ta-m-ek-a] ‘to be broken into small pieces’
	1b	<i>koma</i> [ko-m-a] ‘to chop or cut’	<i>komola</i> [ko-m-ol-a] ‘to chop or cut into pieces’
Na	2a	<i>tama</i> [ta-m-a] ‘to break’	<i>tamika</i> [ta-m-ik-a] ‘to be broken into small pieces’
	2b	<i>koma</i> [ko-m-a] ‘to cut’	<i>komaula</i> [ko-ma-ul-a] ‘to cut into pieces’

Table 9.13 shows that LuMaNa languages form the frequentative verbs by infixing the frequentative elements [-ul-], [-uk-] and [-ik-] between the verb root of the main verb and the suffix. Examples (1a-b) reveal that the process of infixing the frequentative extension morphemes [-ul-], [-uk-] or [-ik-] in LuMa languages to main verbs ending in the suffix [-a] leads to change of the vowels in the suffix marker from [u] to [o] and [i] to [e] hence the extended frequentative verbs are realised as [-ol-] in (1b), [-ok-] and [-ek-] in (1a) respectively. On the other hand, Namwanga language does not undergo any change instead maintains the frequentative morphemes and infixes the frequentative markers [-ul-] in (2b), [-uk-] and [-ik-] in (2a) to create the frequentative extension.

9.2.11 Perfective verbal extension in LuMaNa languages

Halemba (2004) shows that perfective verbs indicate diligence and as such can be described as markers which are used to show that an action has reached its point of completion and does not require any further continuing results. For this reason, perfective verbal extension expresses the degree of a particular action which produces perfect results. The LuMaNa languages express the perfective verbal extension by infixing the perfective markers [-il-] and [-el-] which change to [-ilil-] and [-elel-] between the verb root and the suffix as illustrated below:

Table 9.14: The perfective extension in LuMaNa varieties

Language	S/N	Main verb	Perfective verb
LuMa	1a	<i>poka</i> [po-k-a] ‘to take by force’	<i>pokelela</i> [po-k-elel-a] ‘to take by force forever’
	1b	<i>pita</i> [pi-t-a] ‘to go’	<i>pitilila</i> [pi-t-ilil-a] ‘to go forever’
Na	2a	<i>poka</i> [po-k-a] ‘to take by force’	<i>poccelela</i> [po-c-elel-a] ‘to take by force forever’
	2b	<i>pita</i> [pi-t-a] ‘to go’	<i>pitilila</i> [pi-t-ilil-a] ‘to go forever’

LuMaNa use the suffix markers [-il-] and [-el-] which get duplicated to [-ilil-] and [-elel-] in order to express the completive state of the verbs. The analysis also shows that LuMa languages in example (1b) and Namwanga in (2b) have the same morphology and apply the same principles of duplicating the completive suffix marker [-il-] → [-ilil-] and [-el-] → [-elel-] to form the perfective verbal extension. The analysis further reveals that there are variations in which LuMa languages in example (1a) use the voiceless velar plosive /k/ in the verb root while Namwanga in (2a) uses the voiceless alveolar affricate /tʃ/ which is represented by [c] in the same environment.

9.3 Chapter summary

The chapter has presented an analysis of verbal morphology in LuMaNa languages. The formation of verbal extensions in the three genetically related languages. There are similarities in the passive, completive and reflexive verbal extensions. Variations exist in applicative, causative, stative, reversive, intensive, perfective, reciprocative and frequentative extensions.

In the applicative extension, LuMaNa languages are related in the use of [-il-] and [-el-] as suffix markers. The high back vowel [u] realised as [w] and the high front vowel [i] realised as [y] are used to harmonise the verb roots during the applicative extension. The LuMa languages use short vowels while Namwanga uses long vowels in the prefix of applicative verbs. The causative extension infix the harmonising vowel [i] which comes after nasals and palatals to convert the main verb to the causative verb. The morphology of the causative verbs in LuMa languages use the morpheme [-ko-] in the verb root while Namwanga uses [-wo-] to express the same referent.

The formation of reversive verbs in LuMaNa languages is either expressed by infixing the suffix marker [-ul-] or [-ulul-] between the verb root and the suffix. In the prefix of the reversive verbs, LuMa languages use [-ku-] while Namwanga uses [-kwi], a realisation of [ku-i]. LuMaNa use the affix, a high back vowel [u] which is realised as a voiced palatal glide [w] to express the

passivity of the verbs. The suffix marker [-ik-] is used to change stative verbs from transitive to intransitive. LuMa languages infix both [-ik-] and [-ek-] suffix markers between the root and the suffix while Namwanga uses only the suffix marker [-ik-] to form stative verbal extensions.

The intensive verbal extension is formed by infixing the suffix markers [-ish-], [-esh-], [-isi-] or [-esi] between the verb root and the suffix. Lungu uses the voiceless glottal fricative [h] in the intensive markers [-ish-] and [-esh-] while Mambwe and Namwanga use a high front vowel [i] which is realised as a voiced palatal glide [y] in the same position in [-isy-] and [-esy-].

The reciprocal verbs are formed by infixing the reciprocal element [-an-] between the verb root and the suffix of the transitive verb to show that an action was performed on each other. Namwanga uses a high tone in the syllables in the verb root in reciprocal verbal extension whereas Lungu and Mambwe do not. LuMaNa languages satisfy the minimality requirement by repeating the base stem of the main verb to form reduplicative verbs.

The LuMaNa express the reflexive extension by attaching the reflexive pronoun [i] either before the prefix or by infixing it between the prefix and the verb root. The frequentative verbal extension is formed by infixing the suffix markers [-ul-], [-uk-] or [-ik-] between the verb root and the suffix. The perfective verbal extension is expressed by infixing the suffix markers [-il-] and [-el-] which change to [-ilil-] and [-elel-] between the verb root and the suffix.

The next chapter presents the comparative analysis of word order in LuMaNa languages.

CHAPTER TEN

WORD ORDER IN LUNGU, MAMBWE AND NAMWANGA LANGUAGES

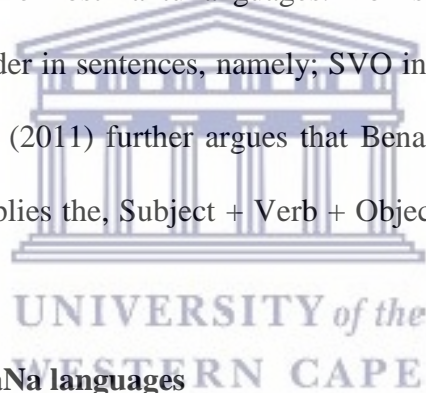
10.0 Introduction

The chapter presents a comparative analysis of some syntactic features in LuMaNa languages. The analysis of the syntactic features focuses on the word order. The chapter answers the research question: What are the syntactic variations in Lungu, Mambwe and Namwanga languages in Zambia? The objective is achieved by analysing the following aspects: a brief introduction to word order in Bantu languages, the noun phrase in LuMaNa languages which focuses on determination and modification, the verb phrase and the four basic sentences in LuMaNa languages. The chapter ends with a summary.

10.1 A brief introduction to word order in Bantu languages

Bantu languages use various syntactic features which constitute the word order at noun phrase (Henceforth, NP), verb phrase (VP) and basic sentence levels. Möller (2011) reveals that the NP in Kwere consists of several different elements which agree with the head noun, such as; demonstratives, quantifiers and other determiners. Guérois (2015) documents that the noun class system productively interacts with other constituents in the sentence, within the NP as well as on the predicate, whose agreement is controlled by the head constituent which is usually a noun where the modifiers usually follow the head noun. Alphonse and Lusekelo (2021) argue that adjectives agree with the nouns they modify in both gender and number features. Corbett (1991, 2011a and 2012) posits that gender is the particular type of noun classification strategy which reflects the agreement in the NP. Di Garbo (2013) argues that for the gender system of a language to be considered productive, the gender of a noun needs to be cross-referenced by those

elements in the utterance which entertain some kind of morpho-syntactic relation with the noun itself, such as; adjectives, pronouns, demonstratives, determiners, verbs, and relative pronouns including positions and complementisers (cf. Greenberg, 1978; Roberts, 1992). Möller (2011) also shows that when the NP in Kwere language is made up of both the demonstrative and possessive, the order is; N + DEM + POSS. Guérois (2015) shows that verbs are built upon an extensive template with different slots potentially filled with inflectional markers, derivational verbal extensions, and post-final clitics. Mugisa (2011) shows that the main verb [henceforth, MV] is part of a VP which forms a predicate that attribute to respective actions. Crane et al, (2011) contend that main clauses in Nzadi language have the form Aux-V-(X), where x can be a direct object (DO). Guérois (2015) reveals that Cuwabo language has a subject + verb + object [Henceforth, SVO] word order like most Bantu languages. Morrison (2011) establishes that Bena language has two basic word order in sentences, namely; SVO in transitive sentences and SV in intransitive sentences. Morrison (2011) further argues that Bena language only uses the active voice construction, that is; it applies the, Subject + Verb + Object [SVO] to express declarative sentences.

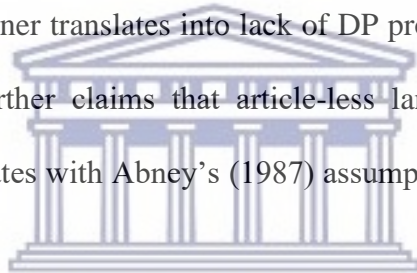


10.2 The noun phrase in LuMaNa languages

Lusekelo (2013) argues against the use of the determiner phrase [henceforth, DP] in Bantu languages by indicating that it differs from Indo-European ones where the head-noun generally precedes all dependents, namely; determiners and modifiers considering that most Bantu languages maintain the number feature. The above argument is as a result of the agreement patterns in Bantu languages which reveal a slightly different structure from the one found in Indo-European languages due to the DP internal agreement patterns in which number is marked on the head-noun (Lusekelo, 2009a). Lusekelo (2009b) posits that indicating only one dependent

in Bantu DPs is erroneous as it does not give its full picture. Lusekelo (2013) concludes that it is prudent to maintain noun phrases [NPs] in Bantu languages as opposed to shifting to DPs.

The ultimate characterisation of the nominal domain has received serious attention from the time of Abney (1987) who developed the Universal DP Hypothesis and postulates that a functional projection, determiner phrase, dominates noun phrases. Nonetheless, a number of studies, such as Bošković (2005, 2007, 2008, 2009, 2012), Despić (2011), Bošković and Gajewski (2011), and Bošković and Şener (2014) have proposed parameterised DP hypothesis in which they argue that the only languages that display a functional DP projection are the ones with overt definite determiners such as English and German. For example, in the phrase “the boy”, the article “the” functions as a determiner and precedes the noun “boy” to form DP. The scholars also claim that the absence of a definite determiner translates into lack of DP projection, as is the case in Bantu languages. Bošković (2005) further claims that article-less languages such as the LuMaNa languages lack DP which correlates with Abney’s (1987) assumption regarding languages which use NP.



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Although the focus of the chapter is not on the DP versus NP debate, the researcher argues that Bantu languages do not have overt determiners which precede the noun, but come after the noun during the formation of the phrase which translates into the NP. In LuMaNa languages, the determiner which should head the phrase to form the DP is either embedded in the NP or comes after the noun, rendering the DP to be an Empty Category [EC] (cf. Chomsky, 1982) and as such, the noun heads the NP. For this reason, the LuMaNa languages form the NP using three combinations, namely; the noun (N) and a determiner (Det), the noun and a modifier (Mod), and the noun which is followed by a determiner and after that comes a modifier.

10.2.1 Noun phrase by determination in LuMaNa languages

Roberts (1992) argues that determiners in Bantu languages come after the noun. For this reason, determination in the NP in Bantu languages is the process of using the determiner after the the noun to form the NP. The LuMaNa languages form the NP using nouns and determiners which include; numerals such as ‘two’, possessives such as ‘my’ and quantifiers such as ‘some’.

10.2.1.1 Forming the NP with numerals in LuMaNa languages

Mann (1999) shows that most basic numerals are simple words which structurally and distributionally are like most nouns. In LuMaNa languages, the NP formed by determination [numerals] is headed by a noun where the article is not obligatory. The LuMaNa languages use the same roots such as [-kazyān-] ‘girl/s’ in the noun and the root morpheme [-il-] ‘two’ in the numerical determiner to form the NP as shown below:

Table 10.1: Word order of NP with numerals in LuMaNa varieties

LuMa	Noun phrase:	<i>Antu yaili</i>	
	Segments:	<i>a-nt-u</i> [antu]	<i>i-a-il-i</i> [yaili]
	Class pattern:	Cl.2 people (N)	Cl.2 agr. two (Det.)
	Literal gloss:	‘people two ’	
	Actual gloss:	‘ Two people’	
	Word order of NP:	N+Det (NDet)	
Na	Noun phrase:	<i>Awantu waili</i>	
	Segments:	<i>a-u-a-nt-u</i> [awantu]	<i>u-a-u-il-i</i> [wawili]
	Class pattern:	Cl.2 people (N)	Cl.2 agr. two (Det.)
	Literal gloss:	‘people two ’	
	Actual gloss:	‘ Two people’	
	Word order of NP:	N+Det (NDet)	

Table 10.1 reveals that the word order of the NP by determination involving the numeral in LuMaNa languages is Noun + Determiner (N+Det=NDet).

10.2.1.2 Forming the NP with possessive pronouns in LuMaNa languages

Crane et al, (2011) posit that in the NP, the subject is obligatorily overt which can either be a full lexical noun phrase or a pronoun. Zemba (2015) contends that in the NP with the possessive pronouns in Bantu languages, the noun is brought into relation with the personal pronouns by prefixing the relative particles of the various classes of nouns to the possessive relative pronouns. For this reason, determination in the NP in LuMaNa languages takes the form of the possessive pronoun *wane* ‘my’ which comes after the subject. The possessive pronoun *wane* ‘my’ functions as a determiner to show relationship between the speaker and the noun which is preceded by the noun such as *umuto* ‘sibling’ in LuMa or *umuzuna* ‘sibling’ in Namwanga as shown below:

Table 10.2: Word order of the NP with possessive pronouns in LuMaNa varieties

LuMa	Noun phrase:	<i>Umuto wane</i>	
	Segments:	<i>u-mut-o</i> [umuto]	<i>u-an-e</i> [wane]
	Class pattern:	Cl.1 sibling (N)	Poss. Pron. my (Det.)
	Literal gloss:	‘sibling my’	
	Actual gloss:	‘My sibling’	
	Word order of NP:	N+Det (NDet)	
Na	Noun phrase:	<i>Umuzuna wane</i>	
	Segments:	<i>u-muzun-a</i> [umuzuna]	<i>u-an-e</i> [wane]
	Class pattern:	Cl.1 sibling (N)	Poss. Pron. my (Det.)
	Literal gloss:	‘sibling my’	
	Actual gloss:	‘My sibling’	
	Word order of NP:	N+Det (NDet)	

Table 10.2 shows that the word order of the NP in the presence of the possessive pronoun in LuMaNa languages is N+Det (NDet).

10.2.1.3 Forming the NP with quantifiers in LuMaNa languages

Mtenje (2016) shows that a quantifier is a functional word which modifies the NP by indicating quantity of the noun. LuMaNa languages form the NP in the presence of the quantifiers which operate as determiners using the stem [-mwi], root [-mu-] and suffix [-i] when the quantifier *yamwi/wamwi* ‘some’ is used as a determiner to modify the nouns such as *antu/ayantu* ‘people’ in LuMa languages and *awantu* ‘people’ in Namwanga as shown below:

Table 10.3: Word order of the NP with the quantifier in LuMaNa varieties

LuMa	Noun phrase:	<i>Antu yamwi</i>	
	Segments:	<i>a-nt-u</i> [antu]	<i>i-a-mu-i</i> [yamwi]
	Class pattern:	Cl.2 people (N)	Cl.2 agr. some (Det.)
	Literal gloss:	‘people some’	
	Actual gloss:	‘Some people’	
	Word order of NP:	N+Det (NDet)	
Na	Noun phrase:	<i>Awantu wamwi</i>	
	Segments:	<i>a-u-a-nt-u</i> [awantu]	<i>u-a-mu-i</i> [wamwi]
	Class pattern:	Cl.2 people (N)	Cl.2 agr. some (Det.)
	Literal gloss:	‘people some’	
	Actual gloss:	‘Some people’	
	Word order of NP:	N+Det (NDet)	

Table 10.3 shows that the word order of the NP with a quantifier in LuMaNa languages is Noun + Determiner (N+Det) or (NDet).

10.2.2 Noun phrase by modification in LuMaNa languages

Modifiers are used to intensify the meaning of the noun in the NP and to express classes of grammatical categories as well as patterns which show concord and are marked by noun prefixes (cf. Mann, 1999; Miti, 2006; Maho, 1999; Marten et al, 2007; Zemba, 2015). For this reason, modification is the process in which the NP is formed in the presence of modifiers. LuMaNa languages use three categories of modifiers to form the NP, namely; possessive pre-prefixes, adjectives and demonstratives.

10.2.2.1 Modification of the NP by the possessive pre-prefix in LuMaNa languages

Zemba (2015) shows that some adjectives are used to describe or modify a noun by specifying its quality or state and other adjectives are meant to agree with nouns or pronouns which are used to qualify the nouns according to class and number using the class particle. Zemba further argues that adjectives comprise the adjectival root mark in the form of a prefix which corresponds to the class of the noun to be modified. The function of adjectives in English language is performed by participles in LuMaNa and sometimes by nouns with a possessive pre-prefix such as ‘u-’ in LuMa languages as well as ‘wo-’ in Namwanga language to express the singular noun as illustrated below:

Table 10.4: Word order of NP with adjective and possessive pre-prefix in LuMaNa

LuMa	<i>Noun phrase:</i>	<i>Uwamanyikwa</i>	
	<i>Segments:</i>	<i>u-</i>	<i>u-a-manyiku-a</i> [wamanyikwa]
	<i>Class pattern:</i>	[person] (Poss. Pre-prefix)	Cl.1 agr. famous (Adj)
	<i>Literal gloss:</i>	‘person famous’	
	<i>Actual gloss:</i>	‘A famous person’	
	<i>Word order of NP:</i>	Poss. Pre-prefix +Adj	

Na	Noun phrase:	<i>Wowamanyikwa</i>	
	Segments:	<i>u-o</i> [wo]	<i>u-a-manyiku-a</i> [wamanyikwa]
	Class pattern:	[person] (Poss. Pre-prefix)	Cl.1 agr. famous (Adj)
	Literal gloss:	‘person famous’	
	Actual gloss:	‘A famous person’	
	Word order of NP:	Poss. Pre-prefix +Adj	

Table 10.4 reveals that the word order of the NP in LuMaNa is Possessive Pre-prefix +Adjective (Poss. Pre-prefix + Adj). Particles or possessive pre-prefixes in LuMaNa languages such as (*u-*) in LuMa languages and (*wo-*) in Namwanga, take the initial position in the NP and express the singular form.

10.2.2.2 Modification of the NP by adjectives in LuMaNa languages

Zemba (2015) shows that the adjective agrees in class with the noun being modified. This shows that adjectives in Bantu languages are used to modify the noun and not the whole construction. LuMaNa has three kinds of adjectives which are used to modify the noun in the NP, namely; *-suma* ‘good’ in LuMa languages and *-zima* ‘good’ in Namwanga language, *-muze* ‘other or another’ in LuMa and *-winji* ‘other/another’ in Namwanga as well as adjectives which give the general description.

10.2.2.2.1 Modification of NP by *-suma/-zima* ‘good’ adjectives in LuMaNa languages

In LuMaNa languages, the adjectives *-suma/-zima* ‘good’ are used to modify nouns and behave like nouns (cf. Mann, 1999). These adjectives are formed by attaching the prefix [mu-] to the stem which agrees with the Cl.1 noun prefix in singular form as demonstrated below:

Table 10.5: Word order of NP by adjective -suma/-zima ‘good’ (SG) in LuMaNa varieties

LuMa	Noun phrase:	<i>Umuvyazi umusuma</i>	
	Segments:	<i>u-mu-vi-az-i</i> [umuvyazi]	<i>u-mu-sum-a</i> [umusuma]
	Class pattern:	Cl.1 parent (N)	Cl.1 agr. good (Adj.)
	Literal gloss:	‘parent good ’	
	Actual gloss:	‘A good parent’	
	Word order of NP:	N+Adj	
Na	Noun phrase:	<i>Umukwasi umuzima</i>	
	Segments:	<i>u-mu-ku-as-i</i> [umukwasi]	<i>u-mu-zim-a</i> [umuzima]
	Class pattern:	Cl.1 parent (N)	Cl.1 agr. good (Adj)
	Literal gloss:	‘parent good ’	
	Actual gloss:	‘A good parent’	
	Word order of NP:	N+Adj	

Table 10.5 shows that the word order of NP with the adjective -suma/-zima ‘good’ (sg) in LuMaNa languages is Noun + Adjective (N+Adj or NAdj).

The LuMaNa languages also form NP by modification using the adjective -suma ‘good’ in LuMa and -zima ‘good’ in Namwanga to express the plural by attaching the prefix [a-] in LuMa and [wa-] in Namwanga to the stem which agrees with the Cl.2 noun prefix as shown below:

Table 10.6: Word order of NP with adjective -suma/-zima ‘good’ (PL) in LuMaNa varieties

LuMa	Noun phrase:	<i>Avyazi asuma</i>	
	Segments:	<i>a-vi-az-i</i> [avyazi]	<i>a-sum-a</i> [asuma]
	Class pattern:	Cl.2 parents (N)	Cl.2 agr. good (Adj.)
	Literal gloss:	‘parents good ’	
	Actual gloss:	‘ Good parents’	
	Word order of NP:	N+Adj	
	Noun phrase:	<i>Awakwasi awazima</i>	

Na	Segments:	<i>a-u-a-ku-as-i</i> [awakwasi]	<i>a-u-a-zim-a</i> [awazima]
	Class pattern:	Cl.2 parents (N)	Cl.2 agr. good (Adj)
	Literal gloss:	‘parents good ’	
	Actual gloss:	‘ Good parents’	
	Word order of NP:	N+Adj	

Table 10.6 reveals that the word order of the NP with the plural adjective *-suma/-zima* ‘good’ in LuMaNa languages is Noun + Adjective (N+Adj or NAdj).

10.2.2.2.2 Modification of NP by *muuze/winji* ‘another’ adjectives in LuMaNa languages

In LuMaNa languages, the adjectives *muuze/winji* ‘another’ have a special stable form more like that of nouns which they modify in the NP. The stem [-uze] ‘another’ combines with the prefix [mu-] in LuMa languages while the stem [-nji] combines with [wi-] in Namwanga adjectives which are used to modify the nouns in singular form as shown below:

Table 10.7: Word order of NP with *muuze/winji* ‘another’ adjective in LuMaNa varieties

LuMa	Noun phrase:	<i>Umwana muuze</i>	
	Segments:	<i>u-mu-an-a</i> [umwana]	<i>mu-uz-e</i> [muuze]
	Class pattern:	Cl.1 child (N)	Cl.1 agr another (Adj.)
	Literal gloss:	‘child another ’	
	Actual gloss:	‘ Another child’	
	Word order of NP:	N+Adj (NAdj)	
Na	Noun phrase:	<i>Umwana winji</i>	
	Segments:	<i>u-mu-an-a</i> [umwana]	<i>u-i-nj-i</i> [winji]
	Class pattern:	Cl.1 child (N)	Cl.1 agr. another (Adj.)
	Literal gloss:	‘child another ’	
	Actual gloss:	‘ Another child’	
	Word order of NP:	N+Adj (NAdj)	

Table 10.7 illustrates that the word order of the NP with the adjective *muuze/winji* ‘another’ in LuMaNa languages is Noun + Adjective (N+Adj or NAdj).

On the other hand, in Lungu and Mambwe (LuMa) languages, the stem of the adjective [-uze] ‘other’ combines with the prefix [ya-] in Cl.2 while [-nji] combines with the prefix [wa-] in Cl.2 in Namwanga language to modify the nouns in the plural form as illustrated below:

Table 10.8: Word order of NP with *yauze/wanji* ‘other’ adjective in LuMaNa varieties

LuMa	Noun phrase:	<i>Ana yauze</i>	
	Segments:	<i>a-n-a</i> [ana]	<i>i-a-uz-e</i> [yauze]
	Class pattern:	Cl.2 children (N)	Cl.2 agr. other (Adj.)
	Literal gloss:	‘children other ’	
	Actual gloss:	‘ Other children’	
	Word order of NP:	N+Adj (NAdj)	
Na	Noun phrase:	<i>Awana wanji</i>	
	Segments:	<i>a-u-a-n-a</i> [awana]	<i>u-a-nj-i</i> [wanji]
	Class pattern:	Cl.2 children (N)	Cl.2 agr other (Adj.)
	Literal gloss:	‘children other ’	
	Actual gloss:	‘ Other children’	
	Word order of NP:	N+Adj (NAdj)	

Table 10.8 reveals that the word order of the NP with the adjective *yauze/wanji* ‘other’ in LuMaNa languages is Noun + Adjective (N+Adj or NAdj).

10.2.2.2.3 Modification of the NP by general adjectives in LuMaNa languages

General adjectives in LuMaNa languages are expressed using singular modifying stems such as [-wensi] ‘every’ and [-wenga] ‘alone’ whereas Namwanga optionally adds [-nye] to [-wensi] ‘every’ to form the stem [-wensinye] and [-wenga] ‘alone’ to form [-wenganye] as shown in:

Table 10.9: Word order of NP with singular adjective with stem wensi ‘every’ in LuMaNa

LuMaNa	Noun phrase:	<i>Umulumendo wensi(nye)</i>	
	Segments:	<i>u-mu-lumend-o</i> [umulumendo]	<i>u-e-ns-i</i> [wensi (nye)]
	Class pattern:	Cl.1 boy (N)	every (Adj)
	Literal gloss:	‘boy every’	
	Actual loss:	‘Every boy’	
	Word order (NP):	N+Adj	

The word order of NP modified by the [-wensi/wensinye] ‘every’ (sg) in LuMaNa is N+Adj.

LuMaNa languages also form plurals of general adjectives using modifying stems in the NP such as [-yoonsi] ‘all’ in LuMa languages and [-woonsi] ‘all’ in Namwanga language as shown below:

Table 10.10: Word order of NP with plural adjectives *yoonsi/woonsi* ‘all’ in LuMaNa

LuMa	Noun phrase:	<i>Alumendo yoonsi</i>	
	Segments:	<i>a-lumend-o</i> [ulumendo]	<i>i-o-ns-i</i> [yoonsi]
	Class pattern:	Cl.2 boys (N)	all (Adj)
	Literal gloss:	‘boys all’	
	Actual gloss:	‘All boys’	
	Word order (NP):	N+Adj	
Na	Noun phrase:	<i>Awalumendo woonsi</i>	
	Segments:	<i>a-u-a-lumend-o</i> [awalumendo]	<i>u-o-ns-i</i> [woonsi]
	Class pattern:	Cl.2 boys (N)	all (Adj)
	Literal gloss:	‘boys all’	
	Actual gloss:	‘All boys’	
	Word order (NP):	N+Adj	

Table 10.10 shows that the word order of the NP with the plural adjective which has the stem [-yoonsi] ‘all’ in LuMa languages and [woonsi] ‘all’ in Namwanga language is N+Adj (NAdj).

10.2.2.3 NP by modification with demonstratives in LuMaNa languages

Ranger (1928) posits that a demonstrative is a word whose basic role is to locate a referent in relation to a speaker, an addressee or some other person. A particular demonstrative is used depending on the distance from the speaker. LuMaNa languages use three demonstratives to modify the noun in the NP, namely; near or proximal, medium or medial and distance or distal.

10.2.2.3.1 Forming NP with proximal [near] demonstratives in LuMaNa languages

Ranger (1928) argues that proximal demonstratives are used to refer to things or nouns that are very close or near to the speaker. The singular proximal demonstratives in LuMaNa languages belong to Cl.9 and are formed by attaching the class particle [-i] to the syllable [yi-] in LuMa languages and [-o] to [yo-] in Namwanga language which leads to vowel length as shown below:

Table 10.11: Word order of NP with the single near demonstrative in LuMaNa varieties

LuMa	Noun phrase:	<i>Ing'anda yii</i>	
	Segments:	<i>i-ng'-and-a</i> [ng'anda]	<i>i-i-i</i> [yii]
	Class pattern:	Cl.9 house (N)	Cl.9 agr. this (Dem)
	Literal gloss:	'house this '	
	Actual gloss:	' This house'	
	Word order of NP:	N+Dem (NDem)	
Na	Noun phrase:	<i>Ing'anda yoo</i>	
	Segments:	<i>i-ng'-and-a</i> [ing'anda]	<i>i-o-o</i> [yoo]
	Class pattern:	Cl 9. house (N)	Cl.9 agr. this (Dem)
	Literal gloss:	'house this '	
	Actual gloss:	' This house'	
	Word order of NP:	N+Dem (NDem)	

Table 10.11 reveals that the word order of NP with a singular near demonstrative in LuMaNa languages is Noun + Demonstrative (N+Dem). It is also possible to reshuffle the order by saying *yii/yoo ing'anda!* 'This house!' when expressing surprise or exclaiming.

The proximal demonstrative *yaa* 'these' in LuMa languages and *zyoo* 'these' in Namwanga is used to express plurality in the NP and demonstrates contrast in the noun class prefix where LuMa languages use Cl.6 while Namwanga applies Cl.10. The plural proximal demonstratives are formed by attaching the class particles which agree with the vowel in the syllable to create vowel length, such as [-a] to the syllable [ya-] in LuMa languages and [-o] to [zyo-] in Namwanga as shown below:

Table 10.12: Word order of NP with the plural near demonstrative in LuMaNa varieties

LuMa	Noun phrase:	<i>Amang'anda</i>	<i>yaa</i>
	Segments:	<i>a-mang'and-a</i> [amang'anda]	<i>i-a-a</i> [yaa]
	Class pattern:	Cl.6 houses (N)	Cl.10 agr. these (Dem)
	Literal gloss:	'houses these '	
	Actual gloss:	' These houses'	
	Word order of NP:	N+Dem (NDem)	
Na	Noun phrase:	<i>Ing'anda</i>	<i>zyoo</i>
	Segments:	<i>i-ng'and-a</i> [ing'anda]	<i>z-i-o-o</i> [zyoo]
	Class pattern:	Cl. 10 houses (N)	Cl.10 agr. these (Dem)
	Literal gloss:	'houses these '	
	Actual gloss:	' These houses'	
	Word order of NP:	N+Dem (NDem)	

Table 10.12 shows that the word order in the NP of LuMaNa languages involving the plural proximal demonstrative *yaa/zyoo* 'these' is Noun + Demonstrative (N+Dem). Similarly, it is also

possible to say *yaa amang'anda!* 'These houses!' in LuMa languages and *zyoo ing'anda!* 'These houses!' in Namwanga when expressing surprise or exclaiming using the plural proximal demonstrative.

10.2.2.3.2 Forming NP with medial [medium] demonstratives in LuMaNa languages

Ranger (1928) posits that medial or medium demonstratives are used to denote something that is close to the hearer or far from the speaker or something that is near to the hearer but far from the speaker. The LuMaNa languages use single and plural medial demonstratives in the formation of the NP which is nearer to the hearer. The single medial demonstratives in LuMa languages are formed by the prefix [kaa-] in Cl.12a which agrees with the diminutive prefix of the noun while Namwanga uses the prefix [ka-] in Cl.12a which agrees with the prefix of the noun as shown in:

Table 10.13: Word order of NP with the single medial demonstrative in LuMaNa varieties

LuMa	Noun phrase:	<i>Kaakuza kaaka</i>	
	Segments:	<i>kaa-kuz-a</i> [kaakuza]	<i>kaa-k-a</i> [kaaka]
	Class pattern:	Cl.12a small rat (N)	Cl.12a agr. that (Dem)
	Literal gloss:	'small rat that '	
	Actual gloss:	' That small rat'	
	Word order (NP):	N+Dem (NDem)	
Na	Noun phrase:	<i>Kakuza kako</i>	
	Segments:	<i>ka-kuz-a</i> [kakuza]	<i>ka-k-o</i> [kako]
	Class pattern:	Cl.12a small rat (N)	Cl.12a agr. that (Dem)
	Literal gloss:	'small rat that '	
	Actual gloss:	' That small rat'	
	Word order (NP):	N+Dem (NDem)	

The word order of NP with single medial demonstratives in Table 10.13 is Noun + Demonstrative (N+Dem). In rare occasions, the word order of the above examples can be rearranged when expressing surprise about the noun regarding past events, such as, in LuMa languages, *kaaka kasimbwa* ‘that small dog!’ and in Namwanga *kako kambwa* ‘that small dog!’

Let us also consider the word order of the NP with a plural medial demonstrative which describes nouns that are at a distance from both the speaker and the listener and agree with the plural diminutive. The NP is formed by using the plural diminutive prefix [tuu-] of the demonstrative ‘those’ in Cl.13a which agrees with the prefix of the noun in LuMa languages and the plural prefix of the demonstrative [tu-] ‘those’ in Cl.13a in Namwanga language as in below:

Table 10.14: Word order of NP with the plural medial demonstrative in LuMaNa varieties

LuMa	Noun phrase:	<i>Tuukuza tuutu</i>	
	Segments:	<i>tuu-kuz-a</i> [tuukuza]	<i>tu-ut-u</i> [tuutu]
	Class pattern:	Cl.13a small rats (N)	Cl.13a agr. those (Dem)
	Literal gloss:	‘small rats those ’	
	Actual gloss:	‘ Those small rats’	
	Word order (NP):	N+Dem (NDem)	
Na	Noun phrase:	<i>Twakuza toto</i>	
	Segments:	<i>tu-a-kuz-a</i> [twakuza]	<i>tu-ot-o</i> [toto]
	Class pattern:	Cl.13a small rats (N)	Cl.13a agr. those (Dem)
	Literal gloss:	‘small rats those ’	
	Actual gloss:	‘ Those small rats’	
	Word order (NP):	N+Dem (NDem)	

Table 10.14 shows that the word order of the NP involving a medial demonstrative describing a plural noun is N+Dem (NDem).

10.2.2.3.3 Forming NP with distant or distal demonstratives in LuMaNa languages

Ranger (1928) shows that distant or distal demonstratives are words which are used to describe nouns that are far from both the speaker and the hearer. Both single and plural distal demonstratives are attested in LuMaNa languages. The single distal demonstrative is formed by prefixing the class particle [wi-] to the final syllable [-ya] in LuMa languages, and [we-] to [-yo] in Namwanga as shown below:

Table 10.15: Word order of NP with single distal demonstratives in LuMaNa varieties

LuMa	Noun phrase:	<i>Umwana wiya</i>	
	Segments:	<i>u-mu-an-a</i> [umwana]	<i>u-i-i-a</i> [wiya]
	Class pattern:	Cl.1 child (N)	Cl.1 agr. that (Dem)
	Literal gloss:	'child that '	
	Actual gloss:	' That child'	
	Word order (NP):	N+Dem (NDem)	
Na	Noun phrase:	<i>Umwana weyo</i>	
	Segments:	<i>u-mu-an-a</i> [umwana]	<i>u-e-i-o</i> [weyo]
	Class pattern:	Cl.1 child (N)	Cl.1 agr. that (Dem)
	Literal gloss:	'child that '	
	Actual gloss:	' That child'	
	Word order (NP):	N+Dem (NDem)	

Table 10.15 reveals that the word order of NP in the presence of a singular distal demonstrative in LuMaNa languages is Noun + Demonstrative (N+ Dem or NDem).

The study also examines the word order of the NP in the presence of the plural distal demonstrative in LuMaNa languages. LuMa languages form NP using the plural distal

demonstrative *yaya* ‘those’ in Cl.2 whose prefix [ya-] agrees with the prefix of the noun and Namwanga language uses *wawo* ‘those’ in Cl.2 to exclaim or express shock as shown below:

Table 10.16: Word order of NP by the plural distal demonstrative in LuMaNa varieties

LuMa	<i>Noun phrase:</i>	<i>Ana yaya!</i>	
	<i>Segments:</i>	<i>a-n-a</i> [ana]	<i>i-a-i-a</i> [yaya]!
	<i>Class pattern:</i>	Cl.2 children (N)	Cl.2 agr. those (Dem)
	<i>Literal gloss:</i>	‘children those! ’	
	<i>Actual gloss:</i>	‘ Those children!’	
	<i>Word order (NP):</i>	N+Dem (NDem)	
Na	<i>Noun phrase:</i>	<i>Awana wawo!</i>	
	<i>Segments:</i>	<i>a-u-an-a</i> [awana]	<i>u-a-u-o</i> [wawo]!
	<i>Class pattern:</i>	Cl.2 children (N)	Cl.2 agr. those (Dem)
	<i>Literal gloss:</i>	‘children those! ’	
	<i>Actual gloss:</i>	‘ Those children!’	
	<i>Word order (NP):</i>	N+Dem (NDem)	

Table 10.16 shows that the word order of the NP in the presence of plural distal demonstratives in LuMaNa languages is Noun + Demonstrative (N + Dem or NDem).

10.2.3 Noun phrase by determination and modification in LuMaNa languages

In the light of Roberts (1992), the NP involving the determiner and the noun in Bantu languages, the noun takes the first slot, followed by the determiner. LuMaNa languages form the NP using both the determiner and modifier in one phrase where the noun takes the first slot and heads the NP, followed by the determiner and finally the modifier. LuMaNa languages use determiners such as *yaili* ‘two’ in LuMa languages and *wawili* ‘two’ in Namwanga, as well as modifiers like *asuma* ‘handsome’ in LuMa and *awazima* ‘handsome’ in Namwanga to form the NP as below:

Table 10.17: Word order in NP with determiners and modifiers in LuMaNa varieties

LuMa	Noun phrase:	<i>Alumendo yaili asuma</i>		
	Segments:	<i>a-lumend-o</i> [alumendo]	<i>i-a-il-i</i> [yaili]	<i>a-sum-a</i> [asuma]
	Class pattern:	Cl.2 boys (N)	two (Det)	Cl.2 agr. handsome (Mod.)
	Literal gloss:	‘boys two handsome’		
	Actual gloss	‘ Two handsome boys ’		
	Word order (NP):	N+Det+Mod (NDetMod)		
Na	Noun phrase:	<i>Awalumendo wawili awazima</i>		
	Segments:	<i>a-u-a-lumend-o</i> [alumendo]	<i>u-a-u-il-i</i> [wawili]	<i>a-u-a-zim-a</i> [awazima]
	Class pattern:	Cl.2 boys (N)	two (Det)	Cl.2 agr. handsome (Mod.)
	Literal gloss:	‘boys two handsome’		
	Actual gloss	‘ Two handsome boys ’		
	Word order (NP):	N+Det+Mod (NDetMod)		

The analysis of Table 10.17 reveals that the word order of the NP involving the determiner and the modifier in LuMaNa languages is Noun + Determiner + Modifier (N+Det+Mod) or NDetMod).

The LuMaNa languages also use numbers to function as determiners and modifiers in the formation of the NP. Mtenje (2016) notes that cardinal numbers in the SuNdaLa cluster occur after the head noun. Cardinal numbers [adjectives] up to nine in LuMaNa languages such as *zili/ziwili* ‘two’ function as modifiers which are preceded by those which start from *ikumi* ‘ten’ which function as determiners and are in concordial agreement with the noun as illustrated in the examples below:

Table 10.18: Word order in NP with numbers as determiners and modifiers in LuMaNa

LuMa	<i>Noun phrase:</i>	<i>Inkonde ikumi na zili</i>			
	<i>Segments:</i>	<i>i-n-kond-e</i> [inkonde]	<i>i-ku-m-i</i> [ikumi]	<i>na</i>	<i>z-il-i</i> [zili]
	<i>Class pattern:</i>	Cl.10 bananas (N)	ten (Det)	and (Conj)	two (Mod)
	<i>Literal gloss:</i>	‘bananas ten and two ’			
	<i>Actual gloss:</i>	‘ Twelve bananas’			
	<i>Word order of NP:</i>	N+Det+Mod (NDetMod)			
Na	<i>Noun phrase:</i>	<i>Inkombwe ikumi na ziwili</i>			
	<i>Segments:</i>	<i>i-n-kombu-e</i> [inkombwe]	<i>i-ku-m-i</i> [ikumi]	<i>na</i>	<i>zi-u-il-i</i> [ziwili]
	<i>Class pattern:</i>	Cl.10 bananas (N)	ten (Det)	and (Conj)	two (Mod)
	<i>Literal gloss:</i>	‘bananas ten and two ’			
	<i>Actual gloss:</i>	‘ Twelve bananas’			
	<i>Word order of NP:</i>	N+Det+Mod (NDetMod)			

Table 10.18 shows that the word order of the NP with numbers as determiners and modifiers in LuMaNa languages is N+Det+Mod (NDetMod).

10.3 Word order in the verb phrase in LuMaNa languages

This section presents four major ways of presenting word order in the verb phrase [henceforth, VP] in LuMaNa languages, namely; the verb only [V], an auxiliary [henceforth, Aux], finite verb [henceforth, Fin. V] and main verbs [henceforth, MVs].

10.3.1 Forming the VP with verb only in LuMaNa languages

A VP with the verb only can be described as a simple stem in the sense that it is formed from only one lexical item and can be referred to as a simple verb (cf. Modi, 2017). For this reason,

the VP with verb only expresses a complete thought of an action. The LuMaNa languages attest the presence of the VP with verb only which is expressed by putting the MV in the VP slot as in:

Table 10.19: Word order of the VP with verb only in LuMaNa varieties

LuMaNa	Verb phrase:	<i>Lila</i>
	Segments:	<i>li-l-a</i> [lila]
	Class pattern:	V
	Literal gloss:	‘cry’
	Actual gloss:	‘cry’
	Word order of VP:	V [MV]

Table 10.19 shows that the word order of the VP in LuMaNa languages in which the phrase has the verb only is V [MV].

10.3.2 Forming the VP with auxiliary verbs in LuMaNa languages

Crane et.al, (2011) contend that main clauses in Nzadi language have the form Aux-V-(X), where x can be a direct object (DO). This shows that in the VP, the auxiliary verb comes before the MV. From the foregoing, an auxiliary verb can be understood as a word which helps the MV to give a complete meaning. The LuMaNa languages attest the use of the auxiliary [a-] ‘is’ to express the VP in the singular present tense as shown in the table below:

Table 10.20: Word order in the VP with a present auxiliary verb in LuMaNa varieties

LuMaNa	Verb phrase:	<i>Akulya</i>	
	Segments:	<i>a-</i>	<i>-ku-li-a</i> [kulya]
	Class pattern:	is (Aux.)	[to] eat (MV)
	Literal gloss:	‘is [to] eat’	
	Actual gloss:	‘is eating’	
	Word order of VP:	Aux+MV (AuxMV)	

The above example shows that the word order of the VP involving the auxiliary and the MV in the present progressive tense is Aux + MV (AuxMV).

LuMaNa languages also form the VP in the past progressive tense using singular and plural auxiliary morphemes which include; *wa*-‘was’ [LuMaNa], *ya*-‘were’ in LuMa languages and *wa*-‘were’ in Namwanga language which are affected by gliding where the high front vowel [i] in LuMa languages is realised as a voiced palatal glide [y] while the high back vowel [u] glides to a voiced bilabial glide [w] in Namwanga language as shown in the examples below:

Table 10.21: Word order of VP with past plural auxiliary verb in LuMaNa varieties

LuMa	Verb phrase:	<i>Yaciiinanga</i>	
	Segments:	<i>ya-</i>	<i>-ciiinang-a</i> [ciiinanga]
	Class pattern:	were (Aux.)	dance (MV)
	Literal gloss:	‘were dance’	
	Actual gloss:	‘were dancing’	
	Word order of VP:	Aux+MV (AuxMV)	
Na	Verb phrase:	<i>Waciiinanga</i>	
	Segments:	<i>u-a</i> [wa-]	<i>-ciiinang-a</i> [ciiinanga]
	Class pattern:	were (Aux.)	dance (MV)
	Literal gloss:	‘were dance’	
	Actual gloss:	‘were dancing’	
	Word order of VP:	Aux+MV (AuxMV)	

Table 10.21 shows that the VP in LuMaNa languages which is formed by the MV in the presence of plural auxiliary verbs is Aux+MV (AuxMV).

10.3.3 Forming the VP with finite verbs in LuMaNa languages

Gruyter (2019) describes a finite verb as a state verb which is used to express the perfectiveness of an action. LuMaNa languages apply singular and plural finite verbs in the word order of the VP. The singular finite verb morpheme [wa] which is realised as [u-a] is attached at the beginning of the stem of the MV to form the VP in order to express the present perfective tense in LuMaNa languages as illustrated below:

Table 10.22: Word order of VP with singular finite verb in LuMaNa varieties

LuMaNa	Verb phrase:	<i>Wafwa</i>	
	Segments:	<i>wa-</i>	<i>-fu-a</i> [fwa]
	Class pattern:	has (finite verb) [sg]	die (V)
	Literal gloss:	'has die'	
	Actual gloss:	'has died'	
	Word order of VP:	Fin. Verb + MV (Fin.VMV)	

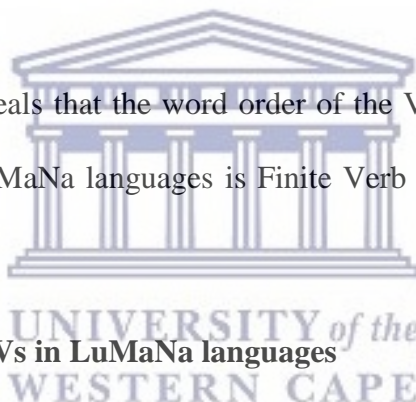
The example in Table 10.22 shows that the order of words in the VP involving a finite verb and the main verb in LuMaNa languages is: Finite Verb + Main Verb (Fin.V + MV) or (Fin.VMV).

LuMaNa languages also form the VP with the plural finite verb. LuMa languages use plural finite verb morpheme [ya-] '[they] have' which is prefixed to the stem of the MV to form the VP with a high front vowel [i] which glides to a voiced bilabial [y] while Namwanga language uses the morpheme [wa-] '[they] have' where a high back vowel [u] glides to a voiced bilabial glide [w] as shown below:

Table 10.23: Word order of VP with a plural finite verb in LuMaNa varieties

LuMa	Verb phrase:	<i>Yafwa</i>	
	Segments:	<i>ya-</i>	<i>-fu-a</i> [fwa]
	Class pattern:	have (finite verb) [pl]	die (V)
	Literal gloss:	'have die'	
	Actual gloss:	'have died'	
	Word order of VP:	Fin.V + MV (Fin.VMV)	
Na	Verb phrase:	<i>Wafwa</i>	
	Segments:	<i>wa-</i>	<i>-fu-a</i> [fwa]
	Class pattern:	have (finite verb) [pl]	die (V)
	Literal gloss:	'have die'	
	Actual gloss:	'have died'	
	Word order of VP:	Fin.V + MV (Fin.VMV)	

The analysis of Table 10.23 reveals that the word order of the VP in the presence of the plural finite verb *ya-/wa-* 'have' in LuMaNa languages is Finite Verb + Main Verb (Fin.V + MV) or (Fin.VMV).



10.3.4 Forming the VP with MVs in LuMaNa languages

Mugisa (2011) shows that the MV is part of a VP which forms a predicate that attribute to respective actions. Forming VP by MVs deals with the permissibility of combining multiple MVs. In LuMaNa, when two concurrent verbs are used to form the VP, the right most verb [V₂] becomes the MV and expresses agreement in tense with the other verb [V₁] as shown in the example below:

Table 10.24: Word order of the VP with two MVs in LuMaNa varieties

LuMaNa	Verb phrase:	<i>(Wa)zani^lwe afwile</i>	
	Segments:	<i>(u-a-)za-ni-lu-e</i> [(wa)zani ^l we]	<i>a-fu-il-e</i> [afwile]
	Class pattern:	found (V ₁)	dead (V ₂) [MV]
	Literal gloss:	‘found dead’	
	Actual gloss:	‘[was] found dead’	
	Word order of VP:	V ₁ +V ₂ [MV](V ₁ MV)	

The example in the table above shows that the word order of the VP with two MVs in LuMaNa languages is V₁+V₂ [MV] → (V₁V₂ [MV]).

10.4 The word order in basic sentences in LuMaNa languages

This part analyses the syntactic features in terms of word order of the basic sentences in LuMaNa languages. Morrison (2011) establishes that Bena language has two basic word order in sentences, namely; SVO in transitive sentences and SV in intransitive sentences. The present study examines the order words in the four basic sentences in the LuMaNa languages, namely; imperative, declarative, exclamatory and interrogative.

10.4.1 Forming imperatives in LuMaNa languages

Payne (1997) shows that imperative sentences give a command or an order to someone or addressee to perform an action or to do something. The LuMaNa languages use two word orders to express the imperative sentences. The first word order starts with the verb and ends with the object which is followed by a period or exclamation mark (!) as illustrated in the examples shown below:

Table 10.25: Word order of imperatives which start with the verb in LuMaNa varieties

LuMa	Sentence:	<i>Mupeele utumanzi!</i>	
	Segments:	<i>mu-peel-e</i> [mupeele]	<i>u-tu-manz-i</i> [utumanzi]!
	Class pattern:	Cl.1 give (V) him/her (S)	Cl.13 little water (O)
	Literal gloss:	'Give him/her little water!'	
	Actual gloss:	'Give him/her little water!'	
	Word order:	VSO	
Na	Sentence:	<i>Mupe utuminzi!</i>	
	Segments:	<i>mu-p-e</i> [mupe]	<i>u-tu-minz-i</i> [utuminzi]!
	Class pattern:	Cl.1 give (V) him/her (S)	Cl.13 little water (O)
	Literal gloss:	'Give him/her little water!'	
	Actual gloss:	'Give him/her little water!'	
	Word order:	VSO	

Table 10.25 shows that the word order of imperatives in sentences which begin with the verb in LuMaNa languages is Verb + Subject + Object (VSO).

In the second formation of imperatives in LuMaNa, the subject in a command is always 'you' which is usually implied at the beginning of the sentence because a person is always speaking to someone or something (cf. Payne, 1997). For this reason, imperatives in LuMaNa start with an embedded subject and end with the object accompanied by a period as illustrated below:

Table 10.26: Word order of imperatives with an implied subject in LuMaNa varieties

LuMa	Sentence:	<i>Fuma umwilindi!</i>	
	Segments:	<i>fu-m-a</i> [fuma]	<i>u-mu-i-lind-i</i> [umwilindi]
	Class pattern:	[You] (S) get out (Phrasal V)	Cl.18 in the grave (O)
	Literal gloss:	'[You] get out in the grave!'	
	Actual gloss:	'[You] get out of the grave!'	

	Word order:	SVO	
Na	Sentence:	<i>Fuma umukungwe!</i>	
	Segments:	<i>fu-m-a</i> [fuma]	<i>u-mu-nkungu-e</i> [umukungwe]
	Class pattern:	[You] (S) get out (Phrasal V)	Cl.18 in the grave (O)
	Literal gloss:	‘[You] get out in the grave!’	
	Actual gloss:	‘[You] get out of the grave!’	
	Word order:	SVO	

The second word order of imperatives in LuMaNa languages is Subject + Verb + Object (SVO).

10.4.2 Forming declaratives in LuMaNa languages

Declarative sentences can be described as statements in nature. Therefore, they can as well be called statement sentences. Mugisa (2011) shows that there are two types of declaratives, namely; active and passive. The first word order of declaratives expresses the active voice of statements in LuMaNa languages in which the subject (S) performs an action and takes the first position in the statement as shown below:

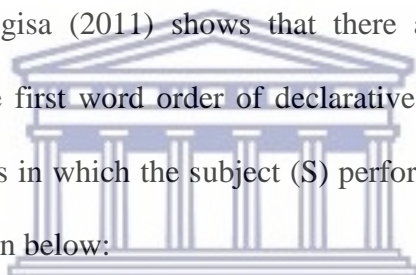


Table 10.27: Word order of declaratives in the active voice in LuMaNa varieties

LuMa	Sentence:	<i>Icitumbi cili umwilindi</i>		
	Segments:	<i>i-ci-tumb-i</i> [icitumbi]	<i>ci-l-i</i> [cili]	<i>u-mu-i-lind-i</i> [umwilindi]
	Class pattern:	Cl.7 corpse (S)	Cl.7agr.is (V)	Cl.18 in the grave (O)
	Literal gloss:	‘corpse is in the grave’		
	Actual gloss:	‘The corpse is in the grave’		
	Word order:	SVO		
Na	Sentence:	<i>Icitumbi cili munkungwe</i>		
	Segments:	<i>i-ci-tumb-i</i> [icitumbi]	<i>ci-l-i</i> [cili]	<i>mu-nkungw-e</i> [mukungwe]

Class pattern:	Cl.7 corpse (S)	Cl.7agr.is (V)	Cl.18 in the grave (O)
Literal gloss:	‘corpse is in the grave’		
Actual gloss:	‘The corpse is in the grave’		
Word order:	SVO		

The word order of declaratives in the active voice in LuMaNa is Subject + Verb + Object (SVO).

LuMaNa languages also exhibit declarative sentences which are influenced by passivisation. Mugisa (2011) describes passivisation as a situation when the object of an active sentence becomes the subject of the corresponding passive sentence in which the subject optionally becomes an oblique Preposition Phrase (PP). Morrison (2011) argues that the Bena language only uses the active voice construction, that is; SVO to express declarative sentences. LuMaNa languages attest passivisation as shown below:

Table 10.28: Word order of declaratives expressing the passive voice in LuMaNa varieties

LuMa	Sentence:	<i>Mwilindi muli icitumbi</i>		
	Segments:	<i>mu-i-lind-i</i> [mwilindi]	<i>mu-l-i</i> [muli]	<i>i-ci-tumb-i</i> [icitumbi]
	Class pattern:	Cl.18 in the grave (O)	Cl.18 agr.is (V)	Cl.7 corpse (S)
	Literal gloss:	‘in the grave is corpse’		
	Actual gloss:	‘The grave has a corpse’		
	Word order:	OVS		
Na	Sentence:	<i>Mukungwe muli icitumbi</i>		
	Segments:	<i>mu-nkungw-e</i> [mukungwe]	<i>mu-l-i</i> [muli]	<i>i-ci-tumb-i</i> [icitumbi]
	Class pattern:	Cl.18 in the grave (O)	Cl.18 agr.is (V)	Cl.7 corpse (S)
	Literal gloss:	‘in the grave is corpse’		
	Actual gloss:	‘The grave has a corpse’		
	Word order:	OVS		

Table 10.28 shows that the word order of declarative sentences which express passivity in LuMaNa languages is Object + Verb + Subject (OVS).

10.4.3 Exclamatory sentences in LuMaNa languages

It is envisaged that exclamatory sentences are declarative in nature (cf. Mugisa, 2011; Morrison, 2011). Exclamatory sentences are used to express emotions in LuMaNa languages. These sentences are understood in two ways, namely; exclamatory in function and exclamatory in form.

10.4.3.1 Forming exclamatory in function sentences in LuMaNa languages

Morrison (2011) describes exclamatory in function sentences as sentences which are expressed using an exclamation mark end. In exclamatory in function sentences, the speaker provides responses that express strong emotions. LuMaNa languages have the word order for both negative and positive exclamatory in function sentences. Exclamatory in function sentences use pronouns or morphemes which function as subjects, such as; [nta-] ‘I have not’, [tuta-] ‘we will not’, [yata-/wata-] ‘they will not’ and [ata-] ‘he/she will not’ to express negation. In the morpheme [nta-], the pronoun element [n-] ‘I’ represents the singular subject when expressing negation in exclamatory in function sentences as shown below:

Table 10.29: Word order of negation in exclamatory in function sentences in LuMaNa

LuMa	Sentence:	<i>Nta muweni cilemba!</i>		
	Segments:	<i>nta-</i>	<i>mu-u-en-i</i> [muweni]	<i>ci-lemb-a</i> [cilemba]
	Class pattern:	Neg. I [have] not (S)	Tens. see (V)	Cl.7 beans (O)
	Literal gloss:	‘I [have] not see beans!’		
	Actual gloss:	‘I have not seen beans!’		
	Word order:	SVO		
Na	Sentence:	<i>Nta muweni ecilemba!</i>		
	Segments:	<i>nta-</i>	<i>mu-u-en-i</i> [muweni]	<i>e-ci-lemb-a</i> [ecilemba]

	Class pattern:	Neg. I [have] not (S)	Tens. see (V)	Cl.7 beans (O)
	Literal gloss:	'I [have] not see beans!'		
	Actual gloss:	'I have not seen beans!'		
	Word order:	SVO		

The analysis reveals that the word order in negative exclamatory in function sentences in LuMaNa languages is Subject + Verb + Object (SVO).

The LuMaNa languages also have the word order which shows positivity in exclamatory in function sentences. The three genetically related languages uses the following singular pronouns to express positive exclamatory in function; [na-] 'I', [wa-] 'he/she', plural pronouns [twa-] 'we' as well as [ya-] 'they' in LuMa languages and [wa-] 'they' in Namwanga which function as subjects in the present tense as illustrated below:

Table 10.30: Word order in positive exclamatory in function sentences in LuMaNa

LuMa	Sentence:	<i>Natama tuusimbwa!</i>		
	Segments:	<i>na-</i>	<i>ta-m-a</i> [tama]	<i>tuu-simbu-a</i> [tuusimbwa]
	Class pattern:	Pron. I [have] (S)	Tens. stone (V)	Cl.13a small dogs (O)
	Literal gloss:	'I [have] stone small dogs!'		
	Actual gloss:	'I have stoned small dogs!'		
	Word order	SVO		
Na	Sentence:	<i>Natama utumbwa!</i>		
	Segments:	<i>na-</i>	<i>ta-m-a</i> [tama]	<i>u-tu-mbu-a</i> [utumbwa]
	Class pattern:	Pron. I [have] (S)	Tens. stone (V)	Cl.13a small dogs (O)
	Literal gloss:	'I [have] stone small dogs!'		
	Actual gloss:	'I have stoned small dogs!'		
	Word order:	SVO		

Table 10.30 reveals that the order of words in positive exclamatory in function sentences in LuMaNa languages is: Subject + Verb + Object (SVO).

10.4.3.2 Exclamatory in form sentences in LuMaNa languages

Morrison (2011) shows that exclamatory in form sentences are intransitive as they describe how the subject is formed without taking a direct object. In LuMaNa languages, exclamatory in form sentences start with the question word [we-] ‘what’ which is usually attached to the noun class prefix [subject] and ends with an exclamation mark instead of a question mark. For this reason, the use of question word [we-] ‘what’ in LuMaNa does not imply that exclamatory in form sentences are interrogatives rather expresses strong emotions or surprise as shown below:

Table 10.31: Word order of exclamatory in form sentences in LuMaNa varieties

LuMa	Sentence:	<i>Weviimatwi nukulu yiino wakwata!</i>		
	Segments:	<i>u-e-vi:-matu-i</i> [we-viimatwi]	<i>nu-kul-u</i> [nukulu]	<i>vi:-no u-a-ku-at-a</i> [yiino-wakwata]!
	Class pattern:	Cl.8a. ears (S)	big (Adj)	Cl.8a agr. has (V)
	Literal gloss:	‘ears big [she/he] has!’		
	Actual gloss	‘What big ears [she/he] has!’		
	Word order:	SV		
Na	Sentence:	<i>Weviimatwi nu ukulu vyo wakwata!</i>		
	Segments:	<i>u-e-vi:-matu-i</i> [we- viimatwi]	<i>nu-u-kul-u</i> [nu-ukulu]	<i>vi-o u-a-ku-a-t-a</i> [vyo-wakwata]!
	Class pattern:	Cl.8a. ears (S)	big (Adj)	Cl.8a agr. has (V)
	Literal gloss:	‘ears big [she/he] has!’		
	Actual gloss	‘What big ears [she/he] has!’		
	Word order:	SV		

The word order of exclamatory in form sentences in LuMaNa languages is: Subject + Verb (SV).

10.4.4 Forming interrogative sentences in LuMaNa languages

According to Andvik (2010:192), an interrogative sentence operates as a medium of requesting for information by the speaker or a confirmation of the speaker's understanding of the state of affairs in a particular conversation. The interrogative sentences in LuMaNa languages are questions in nature and always end with a question mark. Interrogatives usually have an auxiliary verb which is infixed between the question word and the subject, and use auxiliary verbs, such as; *cino* 'does' in LuMa languages and *co* 'does' in Namwanga language. Interrogative sentences begin with question words such as, *icaani* 'what' in LuMa languages, *acaani* 'what' in Namwanga language, *aweni* 'who' in LuMa languages, *weweni* 'who' in Namwanga language, and *kwi* 'where' in LuMa languages and *kwinye* 'where' in Namwanga as shown below:

Table 10.32: Word order of interrogative sentences in LuMaNa varieties

LuMa	Sentence:	<i>Icaani cino cisama akaliila antu?</i>				
	Segments:	<i>i-ca-an-i</i> [icaani]	<i>c-in-o</i> [cino]	<i>ci-sam-a</i> [cisama]	<i>a-ka-liil-a</i> [akaliila]	<i>a-nt-u</i> [antu]?
	Class pattern:	why (Q)	does (Aux.V)	Cl.7 lion (S)	Cl.2 agr. eat (V)	Cl.2 people (O)
	Literal gloss:	'Why does lion eat people?'				
	Actual gloss	'Why does a lion eat people?'				
	Word order:	SVO				
	Na	Sentence:	<i>Acaani co icimbwi cikalila awantu?</i>			
Segments:		<i>a-ca-an-i</i> [acaani]	<i>c-o</i> [co]	<i>i-ci-mbu-i</i> [icimbwi]	<i>ci-ka-liil-a</i> [cikalila]	<i>a-u-a-nt-u</i> [awantu]?
Class pattern:		why (Q)	does (AuxV)	Cl.7 lion (S)	Cl.7 agr. eat (V)	Cl.2 people (O)
Literal gloss:		'Why does lion eat people?'				
Actual gloss		'Why does a lion eat people?'				
Word order:		SVO				

Table 10.32 reveals that the word order of interrogative sentences in LuMaNa languages is Subject + Verb + Object (SVO).

10.5 Summary of the chapter

The chapter has presented and analysed the word order of the noun phrase, verb phrase and the basic sentences in LuMaNa languages. The three genetically related languages exhibit related word order in the following syntactic features; NP, VP and basic sentences. The word order of NP by determination includes; N and NDet while NP by modification includes; Poss. Pre-prefix +Adj, NAdj, and NDem. Furthermore, the word order of NP by determination and modification is NDetMod.

The word order of the VP in LuMaNa languages include; VP by verb only [V], VP by finite verb and the verb [Fin. VV], VP by the auxiliary verb and the main verb [AuxMV] and finally the VP of the main verb and another verb [V_1V_2 (MV)].

LuMaNa languages have SVO and VSO word order in imperative sentences, SVO and OVS in declarative sentences, SVO in exclamatory in function sentences, SV in exclamatory in form sentences and SVO in interrogative sentences.

The next chapter presents summary and conclusions, implications of the study as well as recommendations for further research on LuMaNa languages.

CHAPTER ELEVEN

SUMMARY AND CONCLUSIONS

11.0 Introduction

This chapter presents the summary of the main findings of the study in terms of phonology, nominal and verbal morphology, and syntax. Each summary item from Chapter 5 to 10 shows how the research question and objective has been achieved. It is followed by a conclusion of the findings, implications of the study on the orthographic designs and grammar of LuMaNa languages and recommendations for further research. The chapter ends with a summary.

11.1 Summary of the study

Chapter Five addresses the first research question: What are the phonological variations in Lungu, Mambwe and Namwanga languages? The research question has been answered by analysing some aspects of phonology in terms of segmental and suprasegmental features of LuMaNa. The LuMaNa languages express distinctiveness of sound using minimal pairs which affect the form, sound and meaning of nouns and verbs. The three languages are related in the description, position and use of a five vowel system where long vowels are used to express contrast of sound and meaning. Vowel length is affected by the quantity of vowels which does not only lead to change in morphology, but also semantics. The three language varieties use vowel length to convert nouns to verbs which makes the phonological process a contrastive feature. The LuMaNa languages also express sound distinctiveness using the falling and rising tones on both short and long vowels. While high tones are attested in the tense marker (TM) of words in all the LuMaNa languages, Namwanga also allow gliding, vowel length and high tone in the subject marker (SM). The LuMa languages allow both the voiced bilabial glide [w] and the

voiced palatal glide [y] to take all the positions in the word while Namwanga (Na) has restrictions more especially for to voiced palatal glide [y] which rarely takes the first position in the word and does not precede syllables containing the voiced bilabial glide [w].

The following nasalisation processes are attested in LuMaNa languages: nasal homorganic assimilation, post-nasal stop voicing, post-nasal consonant hardening, and post-nasal stop aspiration. Nasal deletion before fricatives only exists in Namwanga language. The LuMaNa languages have unitary consonant clusters with six common syllable structures, namely; V, CV, CVV, CCV, CGV and CCGV. The three genetically related languages have open syllables.

The three languages resolve vowel hiatus using the following morphophonological processes; vowel harmony, gliding, deletion, assimilation and coalescence. Vowel length influences the change of tenses and converts nouns to verbs. Vowel harmony influences monosyllabic verbs in order to express the imperative mood by making them bisyllabic, thereby obey the minimality principle in the stem during plural formation. During vowel harmony in the plural form, the vowel [-i-] in the suffix marker [-ni] in LuMa languages harmonises all the vowels in the root including the glide as opposed to Namwanga language which uses the vowel [-a-] in the verb root. Vowel hiatus influences other morphophonological processes, such as; gliding, deletion and assimilation of vowels which promote the change of verbal forms from one state to another. On the other hand, coalescence influences the formation of other morphophonological processes which include; gliding, zero modification, vowel length, vowel maintenance and assimilation.

Chapter Six answers the second research question: What are the nominal morphological variations in Lungu, Mambwe and Namwanga languages in Zambia? The LuMaNa have two nominal structures, namely; prefix + stem, and augment + prefix + stem which are attested in

many other Bantu languages. LuMaNa languages have 18 noun class prefixes with seven pairings which are used to express the singular and plural dichotomy and concordial agreement.

The LuMaNa languages have mixed categories of the nominal class prefixes which include; V, C, CV, CCV, CVV, CVCV and VCV noun prefix types. The noun class prefix type V in Cl.2 and CVCV in Cl.16 and 17 do not exist in Namwanga language, but are found in LuMa languages. The noun classes with the V, CV, CCV, CVV and CVCV prefix types have empty augments while the C and VCV prefix types have augments. The nominal prefixes in LuMaNa languages are affected by the following common morphophonological processes; gliding, vowel length, vowel harmony and form retention.

The study shows that more similarities of class prefixes exist in LuMa languages than Namwanga language. While all LuMaNa languages are affected by gliding in Cl.2a, 14, and 14a, Namwanga language also undergoes gliding in Cl.2, 5a, 8a, 13a and 17a. On the other hand, LuMaNa languages are affected by vowel length in Cl.7a and 14a, whereas Cl.8a only exists in Namwanga language while Cl.2a, 5a, 12a as well as 13a are in LuMa languages. The derivative function of nouns in LuMaNa languages is to signal the semantic properties of noun classes such as Cl.7 for augmentative, Cl.8 for pejorative, and Cl.11 for abstract nouns, Cl.12 and 13 for diminutive nouns as well as Cl.16, 17 and 18 for locatives. The seven pairs of prefixes have similar prefix types where pairs 2 to 4 and 6 to 7 use VCV while pair 5 uses C. Pair 1 in LuMa languages in Cl.2 does not have the augment and as such uses the V prefix type as opposed to VCV in Namwanga language.

Chapter Seven answers the second research question: What are the nominal morphological variations in Lungu, Mambwe and Namwanga languages in Zambia? This chapter analyses the nominal derivation strategies employed in LuMaNa languages. The study shows that LuMaNa

languages use the CV and VCV prefix types during the derivation of both singular and plural forms of nouns.

Prefixation in LuMaNa languages uses the locative prefix [ku-] in Cl.17 and CV prefix type to create new lexemes, to convert the noun from diminutive in Cl.12 to a locative in Cl.16 and also to express both plurality and honor. Prefixation in LuMa languages uses the CVV prefix type while Namwanga uses CV. During prefixation, LuMa languages are affected by gliding and vowel length while Namwanga is only affected by gliding. In addition, nouns in LuMa languages do not have augments before prefixation takes place in the singular form while Namwanga language uses the augment [e-].

During suffixation, the suffixed noun maintains the stem of the main noun, uses the VCV prefix type and maintains the semantics of the main noun which changes the morphology to a solid compound headed by a noun. There is a common variation due to the introduction of prefixes to nouns before suffixation especially those in Cl.2a in Namwanga language which does not happen in LuMa languages.

Zero modification in LuMaNa languages does not affect word classes and word spelling, but maintains the nominal class prefix in Cl.5 in both singular and plural nouns. During zero modification, Namwanga language uses [n-] in Cl.9 and 10 where the form and C prefix type are maintained to convert singular to plural as in *inkundi* ‘hoes’, but LuMa languages pluralise the same noun *ise* ‘hoe’ with V prefix type to *amase* ‘hoes’ which expresses a different morphology and VCV prefix type.

The study shows that LuMaNa languages derive nouns from lexical items which include; nouns, verbs and adjectives. The nouns which are created from other nouns are drawn from the prefix [ka-] in Cl.12 and maintain the same stem of the main noun in the new noun. The LuMa

languages convert nouns from the prefix [ka-] in Cl.12 to [mu-] in Cl.3 while Namwanga converts the same noun with the prefix [ka-] to [e-] in the singular form. For nouns which are created from verbs, the prefix [ku] in Cl.17 changes to [ka], [mu], [-ci-] and [ma]. The notable variation during the formation of nouns from verbs is that Namwanga language infixes the nasal [n-] between the prefix and the stem which is not permissible in LuMa languages. The adjectives in LuMaNa languages use either the prefix [wu] in Cl.14 or [ma] in Cl.6 to form nouns in Cl.1 with the VCV prefix type. The adjectives and their corresponding nouns have the presence of either voiced alveolar nasal [n] or the voiced bilabial nasal [m] respectively. When deriving nouns in Cl.1 from adjectives, LuMa languages use the voiceless alveolar fricative [s] in the stem while Namwanga language uses the voiced alveolar fricative [z].

LuMaNa languages exhibit concordial agreement between the first and second noun during compounding. Compounds in LuMaNa share the similarity in terms of linguistic functionality where compound words are endocentric in the sense that the left member of a compound noun acts as the head of the compound and controls the noun class of the compound. It is a common characteristic that compounds in LuMaNa languages allow augments to precede the head nouns. For this reason, augments in LuMaNa languages are used emphatically and syntactically as demonstratives. In addition, synthetic compounds are grouped according to their derivational meanings. The plurals of the approximants in LuMa languages use the voiced palatal glide [y] while those in Namwanga language use the voiced bilabial glide [w].

Chapter Eight deals with the third research question: What are the verbal morphological variations in Lungu, Mambwe and Namwanga languages? The study shows that the verbal structure of LuMaNa languages is as attested in other Bantu languages. LuMaNa varieties use the morpheme [ku] to signal the present tense and the same morpheme functions as a prefix with

an optional augment [a-] to express the present progressive verbs. On the other hand, the suffix marker [-ile] is used to express the today, immediate, recent and remote past tenses. The past progressive tense is expressed by the morpheme [-lii-] which works as the TM and the suffixing morpheme [-nga]. LuMa languages express the future simple tense using the prefix or TM [-la-] while Namwanga language uses [-li-] respectively.

LuMaNa languages express persistivity of the present and past tense using [cili] ‘still’ and allows for co-occurrence of two subject markers (2SMs) which denote the same referent. Namwanga language uses two subject markers (2SMs) to sandwich the persistive marker whereas LuMa languages use three subject markers (3SMs) to express persistivity.

The LuMa languages express the indicative mood using *nakwata* ‘I have’ while Namwanga uses *nawa* ‘I have’. LuMaNa languages form the imperative mood using the prefix and the verb root/stem to satisfy the minimality requirement of syllabicity in Bantu languages and only meets the requirement in the plural form through the introduction of the plural suffix marker [-ni]. LuMa languages use *nga naali* ‘if I were’ while Namwanga language uses *nga nalinji* ‘if I were’ to express the subjunctive mood. The grammatical and interrogative moods are usually expressed with implied verbs.

The Subject and Object markers in LuMaNa languages are bound morphemes which are generally meaningless when they are not attached to other morphemes. The language cluster uses pronouns to express negation with subject markers only, subject and object markers, and negation without subject and object markers in the past and present tenses.

Chapter Nine addresses the third research question: What are the verbal morphological variations in Lungu, Mambwe and Namwanga languages? This chapter specifically analyses the formation of verbal extensions in LuMaNa languages. The study shows that similarities are experienced in

the passive, completive and reflexive verbal extensions while variations exist in the applicative, causative, stative, reversive, intensive, perfective, reciprocative and frequentative extensions. In the applicative extension, LuMaNa languages use the morphemes [-il-] and [-el-] as suffix markers as well as the high front vowel [i] realised as the voiced palatal glide [y] and the high back vowel [u] realised as the voiced bilabial glide [w] as harmonising vowels in the verb roots. The variation in the applicative verbal extension lies in the vowel length in the prefix where LuMa languages use short vowels while Namwanga uses long vowels.

The causative extension in LuMaNa languages infix the harmonising high front vowel [i] which comes after nasals and palatals to convert the main verb to the causative verb. LuMa languages use the morpheme [-ko-] in the verb root of the causative verbs as opposed to [-wo-] in Namwanga language for the same referent. The reversive verbs are expressed by infixing the suffix marker [-ul-] or [-ulul-] between the verb root and the suffix. The variation exists in the morphology of the prefix of the reversive verbs where LuMa languages use [-ku-] while Namwanga uses [-kwi] realised as [ku-i].

Passive verbs are expressed using the affix high back vowel [u] which is realised as a voiced bilabial glide [w]. The LuMaNa use the suffix marker [-ik-] to change stative verbs from transitive to intransitive. The LuMa languages infix both [-ik-] and [-ek-] suffix markers between the root and the suffix while Namwanga uses only the suffix marker [-ik-] to form stative verbal extensions. The intensive extension is expressed by infixing the suffix markers [-ish-], [-esh-], [-isi-] or [-esi-] between the root and the suffix. Lungu language uses the voiceless glottal fricative [h] in the suffix markers [-ish-] and [-esh-] while Mambwe and Namwanga languages use the high front vowel [i] which is realised as a voiced palatal glide [y] in [-isy-] and [-esy-] when expressing the intensive verbs.

The reciprocal verbs are formed by infixing the reciprocal element [-an-] between the verb root and the suffix of the transitive verb to show that an action was performed against each other. Namwanga language stresses the syllables in the root before the suffix marker in reciprocal verbal extension. In reduplicative extension, LuMaNa languages satisfy the minimality requirement which is achieved by repeating the base stem of the main verb.

The reflexive extension is expressed by attaching the reflexive morpheme [i] either before the prefix or between the prefix and the verb root. The frequentative verbal extension is formed by infixing the suffix markers [-ul-], [-uk-] or [-ik-] between the verb root and the suffix. The LuMaNa languages express the perfective verbal extension by infixing the suffix markers [-il-] and [-el-] between the verb root and the suffix which change to [-ilil-] and [-elel-] respectively.

Chapter Ten deals with the fourth research question: What are the syntactic variations in Lungu, Mambwe and Namwanga languages? The chapter analyses the word order of the noun phrase, verb phrase and the basic sentences in LuMaNa languages. The three languages have the same word order in the NP, VP and basic sentences. The word order of NP by determination includes; N and NDet while NP by modification uses; Poss. Pre-prefix +Adj, NAdj, and NDem. Furthermore, the word order of NP by determination and modification is NDetMod.

The word order of the VP in LuMaNa languages include; VP by verb only [V], VP by finite verb and the verb [Fin. VV], VP by the auxiliary verb and the main verb [AuxMV] and finally the VP of the main verb and another verb [V₁V₂ (MV)]. LuMaNa languages have SVO and VSO word order in imperative sentences, SVO and OVS in declarative sentences, SVO in exclamatory in function sentences, SV in exclamatory in form sentences and SVO in interrogative sentences.

11.2 Conclusions of the study

This study is the first in-depth descriptive work involving three genetically related languages in Zambia in general and LuMaNa languages as a cluster in particular. It is worth noting that few comparative studies involving two languages have been conducted in Zambia although no study has been conducted to analyse the three language varieties such as LuMaNa languages to account for any level of linguistics, namely; phonology, morphology and syntax.

The LuMaNa are not Official Zambian Languages, but are overshadowed by Bemba their Regional official language (ROL) for initial literacy and local government in Northern and Muchinga Provinces (cf. Banda, 1996 and 2010). For this reason, Brenzinger (1998 and 2007) observes that small African languages are currently still not endangered by ex-colonial languages but tend to be replaced by other major African languages. This observation is real for LuMaNa where the young generation is tempted to shift their attention to speaking more dominant and bigger Bantu languages like Bemba which is the ROL of instruction. That kind of shift in the usage of local languages such as LuMaNa languages leads to native speakers abandoning their heritage languages which later endangers their existence (cf. Brenzinger, 1992; Batibo, 2005).

The present study has provided a comprehensive comparative account of three levels of linguistics for the three genetically related languages. For a long time, the LuMaNa languages have had no established and documented grammars and orthographies for use in schools or education and national planning. Due to the above situation, LuMaNa languages do not have official status and as such are marginalised. The grammatical studies on LuMaNa languages center on single levels of linguistics, such as; Bickmore (2000 and 2004) which covers phonology in Lungu and Namwanga languages, and Halemba (2007) which has a brief grammar supplement to an extensive Mambwe-English dictionary.

The LuMaNa languages use similar phonetic and phonemic features such as vowels and glides with very minimal consonantal variations in terms of the place and manner of articulation. The three genetically related languages have the five vowel system comprising five short vowels and their long counterparts which are similar to other Bantu languages, such as; Tshivenda (Poulos, 1990), Bemba (Kula, 2002), Shona (Mudzingwa, 2010), Chiikuhane (Mathangwane, 2018) and Swahili (Batibo, 2021). Vowel length is phonemic in LuMaNa languages and as such is used to express distinctiveness of sound. Both the short and long vowels of LuMaNa are at dialectal continuum. In addition, the three genetically related languages have 20 consonantal segments.

The LuMaNa languages show relatedness in the formation of nasalisation in which the following processes are attested in all the three languages, namely; nasal homorganic assimilation, post-nasal stop voicing, nasal deletion before fricatives, post-nasal consonant hardening, post-nasal stop aspiration and unitary consonant clusters. Nasal homorganic assimilation occurs in LuMaNa when a nasal is assimilated depending on the consonant which follows it such as voiceless cluster when the nasal /n/ is followed by a voiceless velar /k/ as in /nk/ and a voiced cluster when the nasal /n/ is followed by a voiced velar /g/ as in /ng/ (cf. Mtenje, 2016). The post-nasal stop voicing in LuMaNa is expressed when converting singular to plural nouns using /l/→/n/ principle (cf. Mtenje, 2002; Kula, 2002; Ngunga, 2000; Mtenje, 2016). Nasal deletion before fricatives is realised when converting nouns from singular to plural, such as; /n/→/n/ as well as from plural to singular as in; /m/→/l/, /n/→/l/ (cf. Mkochi, 2005; Kula, 2002). Post-nasal consonant hardening occurs when LuMaNa languages convert nouns from singular to plural where; /l/→/d/, /n/→/m/ and /w/→/b/ (cf. Mtenje, 2016). Post-nasal stop aspiration only occurs in Namwanga language when the voiceless consonant follows a nasal, such as; /p/→/p^h/ and /t/→/t^h/ (cf. Mtenje, 2016). LuMaNa languages form unitary consonant clusters (cf. Kula, 2002; Mtenje, 2013; Zemba, 2015). The languages have six common syllable structures namely; V,

CV, CVV, CCV, CGV and CCGV. The three genetically related languages use open syllables which correlates with Kiswahili which observes the general rule of creating open syllables as: consonant + vowel (cf. Rubanza, 2009).

The LuMaNa languages use phonological processes such as, gliding, coalescence, deletion and vowel harmony. The language cluster resolves vowel hiatus challenges using deletion and gliding which is in conformity with earlier studies, such as; Kadenge and Simango (2004) and Mtenje (2018). In addition, LuMaNa languages resolve VV sequences by deletion and assimilation which is related to the findings of Mtenje-Mkochi (2018). The phonotactic and syllable structures of LuMaNa languages are at dialectal continuum.

The nominal morphology of LuMaNa languages agrees with the findings of other scholars in terms of the nominal structure, noun class system and nominal derivational strategies (cf. Nkolola, 1997; Nurse and Philippson, 1999; Mkochi, 2017; Mtenje-Mkochi and Mtenje, 2019). The three languages use the attested nominal structure of other Bantu languages which has the (augment) + prefix + stem, where the augment is an optional element. LuMaNa languages have 18 noun classes with seven respective gender pairings like other Bantu languages. There are consonantal and approximant variations from class 1 to 15 in LuMaNa languages. In case of the locatives from class 16 to 18, there seem to be tonal variations of the same form of prefixes.

The verbal structure in LuMaNa languages comprises tense in terms of the present, the past and the future; aspect and mood, and the derivative verb forms. The verbal structure of the three languages conforms to the attested structure of most Bantu languages. The structure has two morphological domains in which the first domain deals with the verbal stem which comprises the verb root, any verb extensions, certain Tense, Aspect and Mood (TAM), suffixes and the Final Vowel. The second domain is called the macro stem and is made up of the Object Marker

including the reflexive prefix and the stem, as well as root extensions which is in tandem with the following studies: Nkolola (1997); Nurse and Philippson (1999); Mkochi (2017); and Mtenje-Mkochi and Mtenje (2019).

The verbal structure of LuMaNa languages uses three subject markers (3SMs) and three object markers (3OMs) before the verb root which is assumed to be a rare manifestation. The LuMaNa share the same verbal structure as well as 3SMs and 3OMs though they experience minor internal morphological variations. The three languages form the imperative mood using the prefix and the verb root/stem to satisfy the minimality requirement of syllabicity in Bantu languages and only meets the requirement in the plural forms through the introduction of the plural suffix marker [-ni].

The three closely related languages have established word order in the noun phrase, verb phrase and the basic sentences. In LuMaNa languages, the noun heads the NP (cf. Chomsky, 1982; Lusekelo, 2013). For this reason, the LuMaNa languages form the NP using three combinations, namely; the noun (N) and a determiner (Det), the noun and a modifier (Mod), as well as N which is followed by a Det which is subsequently followed by Mod. The established word orders of the NP in LuMaNa languages are N, NDet, Poss. Pre-prefix +Adj, NAdj, NDem and NDetMod; word orders of VP are V, Fin. VV, AuxMV and VMV while the word orders in basic sentences include; SVO, VSO, OVS and SV. The patterns of NP by determination, NP by modification, verb phrase structures and sentence features in LuMaNa are as attested by other related studies on Bantu languages.

The researcher concludes that LuMaNa languages are genetically related, have related phonetic and phonemic features, phonology, morphology and syntax. As such, the three languages can be said to be at dialectal continuum. The three languages have more similarities than variations such

that they cannot be considered to be mutually unintelligible. Based on the above assumptions, LuMaNa languages can use the same grammatical description, can have the same orthography and develop the same dictionaries as well as other language materials.

11.3 Implications of phonology and morpho-syntax on grammar and orthographic designs of LuMaNa languages

This part answers the fifth research question: What are the implications of the linguistic analyses (for objectives i-iv) for a LuMaNa grammar and orthographic design? This study has analysed the three levels of linguistics, namely; phonology, nominal and verbal morphology, and syntax which comprehensively contribute to the orthographic designs and grammatical description of LuMaNa languages as well as the general body of knowledge and comparative [Bantu] linguistics. In addition, the collected and analysed data contributes to documentary linguistics for use in schools, colleges and universities, and saves LuMaNa languages from language dearth and subsequent extinction. The study documents a detailed comparison of some aspects of phonology, nominal and verbal morphology, and syntax of LuMaNa languages, which in turn provides a rich database for further research and contributes to comparative linguistics and the frontiers of comparative Bantu theory. The study contributes to the frontiers of genetic relatedness of languages since the LuMaNa are believed to have a common ancestor, the Fipa language in Southern Tanzania (Nurse, 1999). This study fits within the perspective of Bleek (1862/1869) in terms of the general structures of Bantu languages by establishing that both the nominal and verbal structures of LuMaNa languages are as attested by other Bantu languages. The study also contributes to historical linguistics (Guthrie, 1948) by locating their common language [origin], the Fipa in Southern Tanzania (Nurse, 1999).

The analysis contributes to the knowledge of the internal relationship of the LuMaNa language cluster of Northern and Muchinga Provinces in Zambia. The empirical justification of the present study is based on the analysis of contact-induced areal features supported by genetically related features among the LuMaNa languages. The above description shows that LuMaNa languages have more similarities than differences hence are mutually intelligible which conforms to genetic relatedness of languages (cf. Guthrie, 1948; Mann and Kashoki, 1978). For this reason, the study suggests documentation of a short grammar and common orthographic designs of LuMaNa.

The study contributes to the advent of preservation of LuMaNa from language dearth through the establishment of comprehensive grammars and the development of orthographies which are suitable for use in learning institutions such as primary and secondary schools, and colleges, universities as well as for language planning. Languages which are less linguistically documented like LuMaNa are in danger of dearth and subsequent extinction. For this reason, LuMaNa languages which were marginalised on the basis of lacking grammars and orthographies will no longer be treated as endangered languages.

Owing to the insufficient literature, the language policy in Zambia does not consider the marginalised languages like LuMaNa in formal education and as such are not taught as subjects in schools and colleges of education. Due to the above official language policy, LuMaNa languages are also absent in the national media programming such as Television, radio and newspapers. It is hoped that this study will open doors to national recognition of LuMaNa languages with a view to granting them official regional status for use in schools and national planning. For this reason, the documentation of LuMaNa languages is a very important contribution to comparative Bantu framing, grammatical and orthographic design which should

be seen as a sure way of eradicating language endangerment, language death and the risk of language disappearance.

This study contributes to comparative Bantu phonology through the establishment of the segmental and suprasegmental features of the genetically related LuMaNa languages in terms of the vowel system using minimal pairs, tone, nasalisation, syllabification and phonological processes which corresponds to Mtenje (2016, 2018, 2019 and 2021). The study also contributes to the comparative phonological theory by establishing that LuMaNa languages resolve or repair vowel hiatus challenges by deletion and gliding which is in conformity with earlier studies such as Kadenge and Simango (2004) and Mtenje (2018), as well as resolving VV sequences by deletion and assimilation (cf. Mtenje-Mkochi, 2018).

The study also contributes to nominal morphology by establishing that the LuMaNa languages have the nominal structure, noun class systems like many other Bantu languages, such as; Bemba (Kula, 2002). The three languages share the same nominal structure as attested by other Bantu languages which starts with the (augment), prefix, root and the suffix where the augment is an optional element. The other contribution is that LuMaNa languages have eighteen noun classes as opposed to nine (Halemba, 2007) with seven gender pairings which correlates with many other Bantu languages. The LuMaNa languages use derivational affixes as opposed to inflectional affixes to derive nouns by prefixation, suffixation and zero modification. The three languages derive nouns using the following lexical categories; nouns, verbs, adjectives and compound words.

The verbal structure of LuMaNa languages is as attested by most Bantu languages which has two morphological domains, namely; the verbal stem and the macro stem which conforms to studies by Nkolola (1997); Nurse and Philippson (1999); Bickmore (2004 and 2007); Mkochi (2017);

and Mtenje-Mkochi and Mtenje (2019). The study contributes to comparative Bantu theorisations by establishing that the verbal structure of LuMaNa languages uses three subject markers (3SMs) and three object markers (3OMs) before the verb root which is assumed to be a rare manifestation in most Bantu languages. The LuMaNa languages share the same verbal structure as well as 3SMs and 3OMs though they experience minor internal morphological variations. LuMaNa languages have tense, aspect, mood, subject and object marking, verbal complexes, particularly forms of positive and negation of verbs like any other Bantu language.

The study further contributes to comparative Bantu morpho-syntax framing and the orthography of LuMaNa languages. This is based on the sentence, the noun phrase and the verb phrase structures which are related to earlier studies, such as; Marten (2007), Marten and Mtenje (2011), Kiso (2012) and Kula (2012). The syntactic analysis of LuMaNa languages contributes to comparative Bantu syntactic theory by establishing the word orders of NP as; N, NDet, Poss. Pre-prefix +Adj, NAdj, NDem and NDetMod; word orders of VP as; V, Fin. VV, AuxMV and VMV and word order in basic sentences as; SVO, VSO, OVS and SV. The study reaffirms that patterns of NP by determination, NP by modification, verb phrase structures and sentence features established in LuMaNa are as attested by other related studies on Bantu languages.

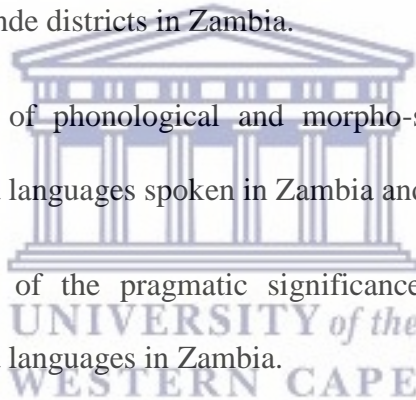
To sum up, the present study contributes key and much needed facts for the purposes of education and language planning. This comparative documentation of LuMaNa languages provides a better understanding of dangers of looking down on some languages in terms of language planning in Zambia. It is hoped that the adequate data provided in this study on LuMaNa languages will be of great help during critical planning decisions about languages to be mandated for official use in education and governance. This study finds its place within the complete frontiers of comparative Bantu framing and contributes to the theoretical and

conceptual underpinnings of the general body of knowledge of documentary, descriptive and comparative linguistics.

11.4 Recommendations for further research

Having presented the findings of the study on “A Comparative Analysis of Phonological and Morpho-syntactic Variations in Lungu, Mambwe and Namwanga languages in Zambia”, the researcher wishes to present the following recommendations for future undertaking:

- i) An establishment of a short grammar and common orthographic designs of LuMaNa languages using available data from this thesis.
- ii) A phonological and morpho-syntactic dialectal analysis of the Namwanga language spoken in Isoka and Nakonde districts in Zambia.
- iii) A comparative analysis of phonological and morpho-syntactic variations of Lungu, Mambwe and Namwanga languages spoken in Zambia and Tanzania.
- iv) A comparative analysis of the pragmatic significance of proper nouns in Lungu, Mambwe and Namwanga languages in Zambia.
- v) A morphophonological analysis of principles governing borrowing in Lungu, Mambwe and Namwanga languages in Zambia.
- vi) A morph-semantic analysis of compounding in Lungu, Mambwe and Namwanga languages in Zambia.



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APPENDICES

Appendix A: Modified Swadesh 100 Wordlist for LuMaNa Varieties

S/N	Lungu	Mambwe	Namwanga	Proto-Bantu	English Gloss
01	<i>umúntu</i>	<i>umúntu</i>	<i>umúúntu</i>	<i>mo-ntu (1/2)</i>	human being, person
02	<i>inkanda</i>	<i>inkanda</i>	<i>inkánda</i>	<i>kánda (3/4)</i>	skin of body
03	<i>umutwe</i>	<i>umutwe</i>	<i>umútwe</i>	<i>mu-twe</i>	head
04	<i>ilinso</i>	<i>ilinso</i>	<i>ilínso</i>	<i>i-jíco</i>	eye
05	<i>impuno</i>	<i>impuno</i>	<i>imphuno</i>	<i>i-jólɔ (5/6, 3/4),</i>	nose
06	<i>ikutwi</i>	<i>ikutwi</i>	<i>ikútwi</i>	<i>kɔ-toi</i>	ear
07	<i>umulomo</i>	<i>umulomo</i>	<i>umulo:mo</i>	<i>mɔ-lomo (3/4)</i>	“lip”/“beak”
08	<i>akanwa</i>	<i>akanwa</i>	<i>akanwa</i>	<i>ka-nwa (12)</i>	mouth
09	<i>ílino</i>	<i>ílino</i>	<i>ilíino</i>	<i>i-jíno (5/6), i-gego (5/6)</i>	tooth
10	<i>ínsiingo</i>	<i>ínsiingo</i>	<i>insiingo</i>	<i>nkíngó (9/10), nkoti (5/6)</i>	“neck”, “nape”
11	<i>úlulimi</i>	<i>úlulimi</i>	<i>ulúlímí</i>	<i>lɔ-lími (11/10)</i>	tongue
12	<i>inyele</i>	<i>inyele</i>	<i>inye:le</i>	<i>lɔ-júílí (11/10), mɔ-cinga (3,4)</i>	hair
13	<i>ikasa</i>	<i>ikasa</i>	<i>ika:sa</i>		hand
14	<i>iyele</i>	<i>iyele</i>	<i>ivele</i>	<i>ma-béele (5/6), i-tómbo (5/6),</i>	breast
15	<i>ulwazo</i>	<i>ulwazo</i>	<i>icina:ma</i>		foot
16	<i>ikokola</i>	<i>ikokola</i>	<i>ikoko:la</i>	<i>i-koto (5/6), i-dúí (5/6), i-bóngó (5/6)</i>	knee
17	<i>umwenzó</i>	<i>umwenzó</i>	<i>umwenzó</i>	<i>mɔ-tíma (3/4), nkólo (9/10)</i>	heart
18	<i>ífupa</i>	<i>ífupa</i>	<i>ífupa</i>	<i>i-kúpa (5/6, 7/8),</i>	bone

				<i>ki-koli</i> (7/8)	
19	<i>umupasi</i>	<i>umupasi</i>	<i>umu:zi:mu</i>	<i>m̄-jojo</i> (3)	“spirit”, “life”
20	<i>ítima</i>	<i>ítima</i>	<i>itima</i>	<i>bálí</i>	liver
21	<i>uwazi</i>	<i>uwazi</i>	<i>uwazi</i>	<i>m̄-lopa</i> (3,5,14), <i>ma-nyínga</i> (6),	blood
22	<i>la:la</i> (<i>la-al-a</i>)	<i>la:la</i> (<i>la-al-a</i>)	<i>lá:la</i> (<i>lá-al-a</i>)	<i>lá-al-a</i> , <i>gon-a</i>	sleep
23	<i>lola</i>	<i>lola</i>	<i>lo:la</i>	<i>bón-a</i> (also <i>món-a</i>)	see
24	<i>uvwa</i> (<i>uvu-a</i>)	<i>uvwa</i> (<i>uvu-a</i>)	<i>ivwa</i> (<i>ivu-a</i>)		hear
25	<i>lya</i> (<i>li-a</i>)	<i>lya</i> (<i>li-a</i>)	<i>lya</i> (<i>lí-a</i>)	<i>lí-a</i>	eat
26	<i>lúma</i>	<i>lúma</i>	<i>lúma</i>	<i>lom-a</i> , <i>c̄om-a</i> , <i>tó-a</i>	bite
27	<i>ikala</i>	<i>ikala</i>	<i>ikála</i>	<i>jikal-a</i> , <i>b̄oat-a</i>	sit
28	<i>imilíla</i>	<i>imilíla</i>	<i>imilí:la</i>	<i>jím</i> (<i>-al</i>)- <i>a</i>	stand
29	<i>fwa</i>	<i>fwa</i> (<i>fu-a</i>)	<i>fwa</i>	<i>kú-a</i>	die
30	<i>amanzi</i>	<i>amanzi</i>	<i>amínzi</i>	<i>ma-jíji</i> (6), <i>i-diba</i> (5/6)	“water”, “pool”
31	<i>owa/</i> <i>fulala</i>	<i>owa/</i> <i>fulalaa</i>	<i>owa/</i> <i>samba</i>	<i>óg-a</i> , <i>camb-a</i> , <i>kaca</i>	bathe, swim, wash
32	<i>mánya</i>	<i>mánya</i>	<i>má:nya</i>	<i>jíji</i> (<i>b</i>)- <i>a</i> , <i>mánya</i>	know someone or thing
33	<i>simula</i>	<i>simula</i>	<i>samala</i>		run
34	<i>umonsi</i>	<i>umonsi</i>	<i>umo:nsi</i>	<i>m̄-l̄v</i> (<i>high tone</i>) (1/2), <i>man</i> , <i>husband</i> , <i>bagala</i> (<i>man</i> , <i>male</i> “)	man or male
35	<i>luma</i>	<i>luma</i>	<i>luma</i>	<i>loma</i>	bite
36	<i>umwanaci</i>	<i>umwanaci</i>	<i>umwanaci</i>	<i>m̄-kádí</i> (1/2)	woman/female

37	<i>umukazyana</i>	<i>umukazyana</i>	<i>umukazyana</i>	<i>cika</i>	girl
38	<i>umuci</i>	<i>umuci</i>	<i>wakwakwe</i>		wife
39	<i>landa</i>	<i>landa</i>	<i>landa</i>	<i>ti , gil-a,</i> <i>gamb-a, tét-a</i>	speak, say, quarrel, quote
40	<i>koma</i>	<i>koma</i>	<i>koma</i>	<i>jip(-ag)-a, bøl(-</i> <i>ag)-a, bøm-a</i>	kill or murder
41	<i>inzila,</i> <i>umuseo</i>	<i>inzila,</i> <i>umuseo</i>	<i>inzila,</i> <i>umusewo</i>	<i>njila (9/10)</i>	path, road
42	<i>simbwa</i> <i>(simbu-a)</i>	<i>simbwa</i> <i>(simbu-a)</i>	<i>simbwa</i> <i>(simbu-a)</i>	<i>mbua (9/10,</i> <i>12/13)</i>	dog
43	<i>ulupembe/</i> <i>icipembe</i>	<i>ulupembe/</i> <i>icipembe</i>	<i>ulupembe/</i> <i>icipembe</i>	<i>lv-pémbé (9/10),</i> <i>m̄-céngo (3/4),</i> <i>lv-jígá (11/10),</i> <i>nyangá,</i> <i>bingá (9/10)</i>	horn
44	<i>umúsinda</i>	<i>umúsinda</i>	<i>umucila</i>	<i>m̄-kíla (3/4) ,</i> <i>m̄-ce (3)</i>	tail
45	<i>itfúnyi,</i> <i>akunyi</i>	<i>itfúnyi,</i> <i>akunyi</i>	<i>akanyunyi</i>	<i>ka-j̄o (high tone) ní</i> <i>(12/13, 7/8), ngíla</i> <i>(9/10, 12/13),</i> <i>ndegé (9/10)</i>	bird
46	<i>ivumbu/</i> <i>amvumbu</i>	<i>ivumbu/</i> <i>amavumbu</i>	<i>ilyeya/</i> <i>ameya</i>	<i>lv-cálá (11/10,</i> <i>5/6)</i> <i>m̄-tengá (3/4,</i> <i>9/10), gala</i>	feather
47	<i>iyayi</i>	<i>iyayi</i>	<i>ilyenza</i>	<i>i-gí (5/6)</i>	egg
48	<i>papuka</i>	<i>papuka</i>	<i>papu:ka</i>	<i>gøl-øk-a, pala-a</i>	fly
49	<i>uluswi/inswi</i>	<i>uluswi/inswi</i>	<i>uluswi/inswi</i>	<i>ncómba (9/10),</i> <i>ncuí (9/10, ncuí?)</i>	fish
50	<i>inda</i>	<i>inda</i>	<i>inda</i>		louse

51	<i>icimuti</i>	<i>icimuti</i>	<i>icimuti</i>	<i>m̄-tí (3/4),</i> <i>m̄-tóndo (3/4)</i>	tree
52	<i>ifwa (ifu-a)</i>	<i>ifwa (ifu-a)</i>	<i>ifwa (ifu-a)</i>	<i>i-jáni</i>	leaf
53	<i>it/íipapa</i> <i>(cat/ímuti)</i>	<i>it/íipapa</i> <i>(cat/ímuti)</i>	<i>it/íipapa</i> <i>(cat/ímuti)</i>	<i>i-gola (5),</i> <i>ki-kú(ɔ)kú(ɔ) (7),</i> <i>loɔ (11, 7)</i>	bark (of tree)
54	<i>umúsisí</i>	<i>umúsisí</i>	<i>umúsila</i>	<i>m̄-di (3/4)</i>	root
55	<i>íimbezu</i>	<i>íimbezu</i>	<i>íimbeju</i>	<i>mbégo (9/10),</i> <i>mbot-o (10)</i>	seed
56	<i>insi</i>	<i>insi</i>	<i>insi</i>		earth
57	<i>umwamba</i> <i>(umu-amba)</i>	<i>umwamba</i> <i>(umu-amba)</i>	<i>umwamba</i> <i>(umu-amba)</i>	<i>lo-golu (11,10),</i> <i>igolɔ (5),</i> <i>m̄-tumba (3)</i>	mountain
58	<i>iiwe</i>	<i>iiwe</i>	<i>iliwe</i>	<i>i-bwe (5,6),</i> <i>i-tále (5/6),</i> <i>i-mánya (5/6),</i> <i>ibogo" (5)</i>	stone
59	<i>nsenga/</i> <i>umucanga</i>	<i>nsenga/</i> <i>umucanga</i>	<i>umucanga</i>	<i>i-cénga (icanga)</i> <i>(5, 11), m̄-céké</i> <i>(3)</i>	sand
60	<i>amanzi</i>	<i>amanzi</i>	<i>amínzi</i>	<i>ma-jíji (6),</i> <i>i-diba (5/6)</i>	water, pool
61	<i>(u)móto</i>	<i>(u)móto</i>	<i>umulí:lo</i>	<i>m̄-lilo (3/4),</i> <i>m̄-jóto (<jót-a),</i> <i>tu-pí-a (13<pí-a</i> <i>),</i> <i>tojíja (13)</i>	fire
62	<i>icúnsi</i>	<i>icúnsi</i>	<i>ícunsí</i>	<i>m̄-jiki (3), m̄-</i> <i>jóki</i>	smoke
63	<i>itwi</i>	<i>itwi</i>	<i>itoyi</i>	<i>m̄-tó (15/6)</i>	ashes
64	<i>umusanya</i>	<i>umusanya</i>	<i>umusánya</i>	<i>i-joba (5),</i>	sun

				<i>i-tángwá (5), kɔmbi</i>	
65	<i>umwe:zi</i>	<i>umwe:zi</i>	<i>umwezi</i>	<i>kɔ-jédi (15/6, 3/4 , <jél-a), ncɔngé (9/10), ngonde (9/10),cani</i>	moon
66	<i>ulútanda</i>	<i>ulútanda</i>	<i>ulútanda</i>	<i>nyényé (di) (9/10), ntóndɔa (9/10,11/10), njota</i>	star
67	<i>ínvula</i>	<i>ínvula</i>	<i>invula</i>	<i>mbúlá (9/10)</i>	rain
68	<i>íza</i>	<i>íza</i>	<i>zánga</i>	<i>jij-a, boj-a</i>	come
69	<i>pya (pi-a), ukupya (uku pi-a)</i>	<i>pya (pi-a), ukupya (uku pi-a)</i>	<i>pya (pí-a), ukupya (uku pí-a)</i>	<i>pí-a (be burnt), jok-a/tumb-a (roast/burn),teem- a, lem-a longol-a, bak-a,</i>	be burnt, burn, roast,
70	<i>ukuyenza, yenza</i>	<i>ukuyenza, yenza</i>	<i>ukuwenzá wenzá</i>	<i>-tíl-a, nkola (9), nkondo (9)</i>	to be red, red substance, red soil
71	<i>swe:pa</i>	<i>swe:pa</i>	<i>swe:pa</i>	<i>-jél-a, -jé-ɔ, pe</i>	clean, white
72	<i>conga,kong a</i>	<i>conga, konga</i>	<i>conga, konga</i>	<i>-moi</i>	one
73	<i>vili</i>	<i>vili</i>	<i>viwili</i>	<i>balí (also -bilí)</i>	two
74	<i>-onsi</i>	<i>-onsi</i>	<i>-onsi</i>	<i>-ncé</i>	all
75	<i>-vingi</i>	<i>-vingi</i>	<i>-vingi</i>	<i>-jíngí</i>	many
76	<i>nene</i>	<i>nene</i>	<i>nene</i>		I
77	<i>wewe,</i>	<i>wewe,</i>	<i>wéwe,</i>		you (sg),

	<i>mwemwe</i>	<i>mwemwe</i>	<i>mwémwe</i>		you (pl)
78	<i>sweswe</i>	<i>sweswe</i>	<i>swéswe</i>		we
79	<i>cíí</i>	<i>cíí</i>	<i>cóo</i>		this
80	<i>cící</i>	<i>cící</i>	<i>cócó</i>		that
81	<i>wení</i>	<i>wení</i>	<i>wení</i>		who
82	<i>icaní</i>	<i>icaní</i>	<i>acaní</i>		what
83	<i>-ta (ata, uta, tuta, muta, yata, nta)</i>	<i>-ta (ata, uta, tuta, muta, yata, nta)</i>	<i>-ta (ata, uta, tuta, muta, wata, nta)</i>		not
84	<i>ikumbi</i>	<i>ikumbi</i>	<i>iwingu</i>	<i>i-dunde (5/6), i-bingũ (5/6)</i>	cloud
85	<i>utali</i>	<i>utali</i>	<i>uwutali</i>	<i>ai-, táli, lai-p-a (be long)</i>	long
86	<i>icíkulu, icíkalamba</i>	<i>icíkulu, icíkalamba</i>	<i>icíkúlú</i>		big
87	<i>ingala</i>	<i>ingala</i>	<i>ingála</i>		fingernail
88	<i>ulunda, inda</i>	<i>ulunda, inda</i>	<i>uwula</i>	<i>i-bumo (5/6), i-tombo (5/6), bonda (9,11)</i>	belly, pregnancy
89	<i>ukupá, ukupe:la</i>	<i>ukupá, ukupe:la</i>	<i>ukúpa,</i>	<i>pá-a, tup-a (give a gift), gab-a (divide,)</i>	give (give away)
90	<i>la:la</i>	<i>la:la</i>	<i>la:la</i>		lie
91	<i>izi:na</i>	<i>izi:na</i>	<i>izi:na</i>	<i>i-jína (5/6), nkombo (9/10)</i>	name, nickname
92	<i>-nono (akanono, icinono)</i>	<i>-nono (akanono, icinono)</i>	<i>-tici (akatici, icitici)</i>	<i>-(kée) kée, kée-p-a</i>	small, be small

93	<i>ukulungana, iculungane</i>	<i>ukulungana, iculungane</i>	<i>ukuwulungana, iciwulungane</i>	<i>bɔlonga, kolong-a</i>	round, make round
94	<i>uma, ukuma</i>	<i>uma, ukuma</i>	<i>ukukala</i>	<i>ɔm-a (be dry), jɔm-ɔ (dry), kɔt-a (be dry/hard)</i>	dry
95	<i>-suma/-zi:pa (icisuma/um usuma, ukuzipa, ukuyemba</i>	<i>-suma/-zi:pa (icisuma/umus ma, ukuzipa, ukuyemba</i>	<i>-zima (acizima, amuzima, ivizima)</i>	<i>jijá, jɔam-a</i>	good (be good, be beautiful)
96	<i>itʃípya, itʃípia, itʃípjá</i>	<i>itʃípya, itʃípia, itʃípjá</i>	<i>itʃípya, itʃípia, itʃípjá</i>	<i>-pɪ-a (<pí-a,, be burnt)</i>	new
97	<i>ukuzula</i>	<i>ukuzula</i>	<i>ukwizula</i>	<i>jíjal-a (be full)</i>	full
98	<i>ukuzuka, zii</i>	<i>ukuzuka, zii</i>	<i>ukutalala</i>	<i>pól-a, talal-a, mɔ-didi (3, „cold“ >dídíma, be cold”), píó(9), matíka (6)</i>	cold (be cold, cool down, cold weather)
99	<i>ukukaya</i>	<i>ukukaya</i>	<i>ukulungula</i>		hot
100	<i>usiku</i>	<i>usiku</i>	<i>uwusiku</i>	<i>bɔ-tíkɔ (14/6, also bɔ-túkɔ)</i>	night

Appendix B: SIL Comparative African Wordlist for Home Utensils in LuMaNa Varieties

SN	Item in English	Lungu	Mambwe	Namwanga
01	relish	<i>icifwa</i>	<i>icifwa</i>	<i>inyanyi</i>
02	bread	<i>umukaate</i>	<i>umukaate</i>	<i>umukaate</i>
03	milk	<i>umukaka</i>	<i>umukaka</i>	<i>umukaaka</i>
04	cooking oil	<i>amafuta yakwelekela</i>	<i>amafuta yakwelekela</i>	<i>amafuuta yakutendela</i>
05	fireplace	<i>pipembo, piziko</i>	<i>pipembo, piziko</i>	<i>pipembo, piziko</i>
06	fire wood	<i>ulukwi, inkwi (pl)</i>	<i>ulukwi, inkwi (pl)</i>	<i>ulukuni, inkuni (pl)</i>
07	fire	<i>umóto</i>	<i>umóto</i>	<i>umúlilo</i>
08	honey	<i>uci</i>	<i>uci</i>	<i>uwuci</i>
09	belt	<i>umusipi, imisipi (pl)</i>	<i>umusipi, imisipi (pl)</i>	<i>umusipi, imisipi (pl)</i>
10	bow and arrow	<i>ulapwa</i>	<i>ulapwa</i>	<i>uulapwa</i>
11	shoes	<i>insapato</i>	<i>insapato</i>	<i>insapato</i>
12	brazier	<i>imbewula</i>	<i>imbewula</i>	<i>imbewúla</i>
13	water	<i>amanzi</i>	<i>amanzi</i>	<i>aminzi</i>
14	slasher	<i>impupo, ickikwempo</i>	<i>impupo, ickikwempo</i>	<i>impuupo, ickikwakwa</i>
15	cooking stick	<i>umuzwa, imizwa (pl)</i>	<i>umuzwa, imizwa (pl)</i>	<i>umuzwa, imizwa (pl)</i>
16	salt	<i>umusilya</i>	<i>umusilya</i>	<i>umucele</i>
17	mirror	<i>icilola, ivilola (pl)</i>	<i>icilola, ivilola (pl)</i>	<i>icilola, ivilola (pl)</i>
18	egg	<i>iyayi, amayayi (pl)</i>	<i>iyayi, amayayi (pl)</i>	<i>ilyenza, amenza (pl)</i>
19	cassava powder	<i>usu wakwe kalundwe</i>	<i>usu wakwe kalundwe</i>	<i>uwusu we kalundwe</i>
20	maize meal	<i>usu wakwe cisaka</i>	<i>usu wakwe cisaka</i>	<i>uwusu wa visaka</i>
21	door	<i>iciseko/icisaasa, iviseko/ivisaasa (pl)</i>	<i>iciseko/icisaasa, iviseko/ivisaasa (pl)</i>	<i>icisakati, ivisakati (pl)</i>
22	clay pot for storing water	<i>insembo</i>	<i>insembo</i>	<i>insembo</i>
23	spear	<i>isumo, amasumo (pl)</i>	<i>isumo, amasumo (pl)</i>	<i>isumo, amasumo (pl)</i>
24	hoe	<i>ise</i>	<i>ise</i>	<i>inkundi</i>
25	mealie meal	<i>usu</i>	<i>usu</i>	<i>uwusu</i>