# **Research Report on Sinhala Lexicon**

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#### **Abstract**

Lexicons are one of the useful language resources both in localization and computational linguistics point of views. The extensive use of computers in language processing tasks demands the necessity for electronic lexicons. Sinhala language has a very long tradition in lexicon building in various domains. Existence of various linguistic traditions has given rise to several inconsistencies among the parts of speech and other linguistic data provided in them. Though efforts have recently been made to develop electronic lexicons at commercial level it appears that they were hindered by limitations of technology and insufficiency in linguistic research on lexicon structures for Sinhala. Traditional Sinhala grammar faces with various difficulties when it tries to analyze the modern behavior of language since structures of the language have undergone changes during the post independence era. This paper presents the importance revisiting traditional Sinhala grammar in order to keep abreast of current changes. The paper also proposes a reasonable classification for Sinhala words. It is expected that the proposed lexicon structure based on this classification will cater to the requirements of both ordinary users and computational linguists.

# 1. Introduction

# 1.1. Historical background

Sinhala language has a very long history in preparation of lexicon since 5<sup>th</sup> century A.D. Those were glossaries of technical terms, for example Buddhism, poetics, aesthetic theories etc and also as resources for language learning and teaching at different levels those were used by scholars, writers, teachers and scholars for their respective work. Words in these lexicons have been classified according to various linguistic traditions that were dominating at the

time of preparation or to the compiler(s) belonged to. The quantity and the quality of these lexicons vary according to the scopes which the compiler(s) had in mind. Due to these reasons several inconsistencies exist among them with respect to orthography, spelling, parts of speech, word separation, collation sequence etc. Dictionaries/lexicons were studied under this research are given in Appendix A.

# 1.2. Electronic dictionaries (lexicons) in Sinhala

Even though a considerable number of dictionaries/lexicons have been available for Sinhala and computers have extensively been used for Sinhala word processing for more than two decades a few electronic dictionaries are available in the market. These are based on most of the commonly used English-Sinhala dictionaries and the glossaries of technical terms published by the government during the last four decades for the purpose of teaching technical subjects in local languages. These lexicons give higher level syntactic information such as whether a word is a Nama (noun), Kriya (verb), Nipatha (prepositions, conjunctions, interjections), Krudanta (Gerund) etc, the meaning or synonyms and Tamil & English translation equivalents. It is clear that these applications have been developed in the ordinary person's point of view and they have less importance in computational linguist's point of view which requires a deep syntactic information such as in case of nouns gender, number, person, (in) definiteness, active/passive and case (vibhakthi) and in case of verbs number, person, gender, active/passive and tense.

# 1.3. Words in Sinhala

Words in the Sinhala language can basically be classified into three groups namely *nishpanna*(words

that have local origin), *thadbhava* (words derived from other languages), *thathsama* (words borrowed from other languages as they are). Pali and Sanskrit are said to be the mother language of Sinhala. Therefore most of the words used in Sinhala are borrowed from those two languages. Due to geographical proximity the influence of South Indian languages have contributed a considerable amount of words to Sinhala esp. Tamil. Portuguese, Dutch and English words entered the language during the period of colonialism. [1]

## 1.4. Problems of traditional Sinhala grammar

Traditional Sinhala grammar is based on the notions expounded in famous "Sidath Sangara" which was written in 13 century A.D. It was based on poetry language existed in that period. It was Munidasa Cumaratunga who revolutionized Sinhala grammar by critically analyzing the notions of "Sidath Sangara" and standardized Sinhala grammar as much possible at the beginning of the 20<sup>th</sup> century. His findings and recommendations are described in his two monumental "Vyakarana Vivaranaya" works: (Analysis Grammar) and "Kriya Vivaranaya" (Analysis of Verbs). [2],[3] After the independence in 1948 Sinhala language was used extensively in various domains government such as newspapers, literature, publications, and text books. This gave rise to an exponential growth of Sinhala language both in grammatical structures as well as in words. Due to changes occurred in the post independence era neither "Sidath Sangara" nor Cumaratunga's grammar is capable of analyzing modern Sinhala effectively. It is necessary to revisit the traditional grammar by linguists in order to describe the modern Sinhala.

# 2. Methodology

# 2.1. Survey on word classification

A literature survey was performed on word classification used in standard dictionaries/lexicons and the classification described in standard grammar books published since 13<sup>th</sup> century. It was also decided to consult a group of eminent scholars drawn from both linguistics and Sinhala regarding word classification of Sinhala since different schools hold different views on this issue. Results of this survey are given in Section 3.

# 2.2. Criterion for selection of words

It is very important to decide what kind of information is expected to be included in and what are the target groups of the present lexicon. At initial stage of this study it was decide that following characteristics should be taken into consideration when a set of words are selected for the lexicon:

- Words should be drawn from almost all the domains where language is being actively used.
- b) Considerable amount of words should represent the modern usage of language rather than old fashioned Sinhala.
- Technical terms and loan words should also be included according to the proportion of their usage.

It is also expected to include meanings or definitions, synonyms, English and Tamil translation equivalents, etymology and morpho-syntactic information of each lexical entry which can be used for language teaching/learning, linguistic research purposes and computational linguistic activities such as parsing, machine translation, grammar/spell checking. This broad range of information will cater the requirements of students, teachers, linguists and computational linguists as well.

#### 3. Results

# 3.1. Modern Sinhala & syntactic categories

Having made a substantial amount of effort to eliminate unnecessary formalisms in traditional grammar and preserve the positive aspects of it, the following classification has been developed after considering the classifications presented in traditional grammar books and views of the modern linguist. The requirements of the ordinary users of the lexicon and the computational linguistics processes were also kept in mind when it was designed. The observations made in dictionaries and standard grammar books during this study are given in Appendix B. [4]

**Table 1: Syntactic categories** 

Nama	Nouns
Kriya	Verbs
Nipatha <sup>1</sup> (particles)	(Conjunctions, Prepositions, Interjections)
Krudantha	Gerunds

<sup>&</sup>lt;sup>1</sup> There is no exact category in English grammar that matches with *Nipatha*.

Nama Visheshana	Adjectives
Kriya Visheshana	Adverbs

Table 2: Attribute-value pairs of syntactic categories

Category/ Attribute	Value
Nama:	
Definiteness	definite, indefinite
Number	Singular, plural, both
Person	1st, 2nd 3rd person
Gender	masculine, feminine, common, neuter
Animateness	animate, inanimate
Case	nominative, accusative, auxiliary, instrumental dative, ablative, possessive, locative, vocative
Kriya:	
Definiteness	Singular, plural, both
Number	1st, 2nd 3rd person
Person	masculine, feminine, common, neuter
Tense	past, non-past
Voice	active , passive
Transitiveness	transitive, intransitive

# 3.2. List of words

A list of 40,000 words has been prepared the National Institute of Education (NIE), Sri Lanka. NIE is the official government body of Sri Lanka that handles the issues related to curriculum development and educational publications for government schools. Having considered the quality and the quantity of this set of words and its availability in electronic form it was decided to adopt this list of words as the base of the present lexicon.

This list of words is based on the "Sinhala Sabdhakoshaya" which was published by the Ministry of Cultural Affairs in 26 volumes. It is the largest and comprehensive dictionary published in Sinhala. A group of scholars appointed by the NIE including the most senior linguist in Sri Lanka, Prof. Wimal G. Balagalle, who was also former Chief Editor of "Sinhala Sabdhakoshaya", has carefully selected the present list of words in such a way that it includes practical, commonly used and important word of Sinhala.

### 4. Lexicon structure

## 4.1. Lexical entries

Lexical entries of the lexicon will be displayed according to the collation order of Sinhala. Lexical entries generated by the same lexical entry will be displayed under one lexical entry which may be the root or the most common form of them. This is due to the fact that Sinhala is an inflectionally rich language. Lexical entries which have alternative spellings will be given along with most common form as the head word. Each of these lexical entries will be associated with a set of useful information relevant to each lexical entry. Sections 4.2 and 4.3 describe the information structures which will be used in the present lexicon.

## 4.2. Information structures of a lexical entry

Table 3 shows the information associated with each lexical entry in the lexicon. Meaning of each of these fields is described in the Appendix C.

**Table 3: Lexical entry information** 

Word
Spelling variants(optional)
Part of Speech
Pronunciation
Root Word
Etymology
Definition(s) (meaning(s))
Synonyms and cross references
Tamil and English translation equivalents

Table 4: POS subcategories and attributes<sup>2</sup>

Part of	Subcategory	Attributes
Speech		

<sup>&</sup>lt;sup>2</sup> Further description on this classification is available in Appendix D.

Nama	Simple Compound Complex	Animateness Gender Number Person Case
Kriya	Finite Verbs: Simple Constructed Complex constructed	Number Gender Tense Person Voice Transitivity Group
	Infinite Verbs: Purva Kriya (Past participle) Mishra Kriya (Present participle) Asambhavya Kriya (Conditional)	
	Prajojya Kriya(Causative) Vidhi Kriya (Imperative) Ashirvada Kriya (Blessing)	
Nipath a	(Biessing)	
Kruda ntha	Atheetha Krudantha (past)  Varthamana Krudantha (present)	
Nama Vishesh ana		
Kriya Vishesh ana	Akarartha (manner) Kalartha (time) Sthanartha (place) Hethvarth (reason)	

### 5. Discussion

The main objective of this study is to study the required structure and the content of the Sinhala lexicon that will be developed under the PAN Localization Project. As an important language resource tool lexicon will be used by people with different objectives to ranging from students, language teachers and researches, translators and computational linguists. It is hoped that the proposed information structure (in section 4) will meet the requirements of them adequately. The set of words going to be used will also cover a considerable number of words drawn

from various areas since that has carefully been selected from the most comprehensive and the largest dictionary in Sinhala by a group of scholars.

It was identified the existing classification of words proposed by traditional grammar is insufficient to handle the modern language styles. The classes and the attributes that characterize each part of speech have been proposed after a rigorous study of Sinhala grammar and the classifications used in standard dictionaries.

The results of the present research can effectively be used in the lexicon development stage. The authors and the Language Technology Research Laboratory would like to acknowledge the support given by the scholars to conduct this survey by contributing their knowledge and valuable time.

## 5. References

- [1] Jayatilake, K, *Nuthana Sinhala Vyakaranayee Mul Potha* Pradeepa Publishers, Colombo, 1993.
- [2] Cumaratunga, Munidasa. *Vyakarana Vivaranaya* M.D. Gunasena, Colombo, 2003.
- [3] Cumaratunaga, Munidasa *Kriya Vivaranaya* M.D. Gunasena, Colombo, 1993.
- [4] Karunatilake , W.S . Sinhala Vyakaranaya M. D. Gunasena, Colombo, 1997.

# Appendix A: Glossaries published in the Ancient Period

## **Anuradhapura Period**

 $Mahawamsayata\ Pali\ Atuwakaranaya\ -\ 5^{th}\ Century\ A.D.$ 

Abhidanppadipika Helamuwa Dampiya Atuwa Getapadaya

Visuddhi Sannaya Kudasika Sannaya

Abhidharmartha Varnanaya

## Dambadeni Period

Piyummala - 1270-1293 A.D.

# **Kotte Period**

Sinhala Namawaliya

Ruwanmala –1420 A.D. Nawa Namawaliya Heladiv Abhidanawatha Dhahamgetamalaya

# **Kandy Period**

Akaradiya

Shabdha Mukthawaliya

Shuddha Sinhalaya

Pali Sinhala Artha Kathana Granthaya

Pali Sinhala Katha Malawa

Perani Sidath Sangara Sannaya

Nigandu Grantha

Vararuchi

Saraswathi

Vasudewa

Siddhaushadha

## **Modern Period**

Clough's Dictionary

Benjamin Clough

English-Sinhala Dictionary - 1821 Sinhala-English Dictionary - 1830

John Callaway's Dictionary

John Callaway

English-Sinhala Dictionary - 1821

Sinhala-English Dictionary - 1821

Lambrick Lexicon

# Appendix B

## Nama

This is the classification proposed by Cumaratunga Munidasa in *Vyakarana Vivaranaya* for Nouns.

වාාකරණ විවරණය - කුමාරතුංග මුනිදාස Vyakarana Vivaranaya —Cumaratunga Munidasa.

තින්න නාම *– Bhinna Nama* (Referring for specific things)

ජාති තාම – *Jathi Nama* (Referring for general things)

එකෙක නාම – Ekaika Nama (Referring for one thing)

Though this is not a dictionary, but the words of English, Sinhala and Portuguese are included.

W.Bidgnell's Dictionary

English-Sinhala Dictionary - 1848

Nicholson's Dictionary

English-Sinhala Dictionary – 1864

Charles Carter's Dictionary

Charles Carter

 $English\hbox{-}Sinhala\ Dictionary-1881$ 

Sinhala-English Dictionary – 1892

Sinhala Shabdhakoshaya – 1937

Published by the Department of Cultural Affairs.

An Etymological Glossary of the Sinhala Language Prof.Wilhelm Geiger – 1941

Malalasekara English-Sinhalese Dictionary Prof.G.P.Malalasekara –1948

Sri Sumangala Shabdhakoshaya Rev.Veliwitiye Soratha –1952

Nuthana Sinhala Paribhashika Shabdakoshaya Harishchandra Wijetunge –1978

Prayogika Sinhala Shabdakoshaya

Harishchandra Wijetunge –1982

සමුදාය තාම – Samudaya Nama

(Referring more than one thing)

දුවා තාම – *Dravya Nama* (Referring for inanimate things)

ඉණ නාම - Guna Nama (Referring for modifiers)

තාව තාම *- Bhava Nama* (Referring for modifiers or verbal nouns)

සංඥා තාම – Sagna Nama (Proper Noun)

අභින්න නාම/ සව් නාම

Abhinna Nama/ Sarva Nama (Pronoun)

පෞරුෂ - Paurusha (Person)

උත්තම පූරුෂ – Uttama Purusha

(First Person)

මධාම පූරුෂ – Madyama Purusha

(Second Person)

දුවා තාම - Dravya Nama (Referring for පුථම පුරුෂ – Prathama Purusha (Third Person) inanimate things) සුවක - Suchaka (Locative) ගුණ නාම - Guna Nama (Referring for පුශ්ත *–Prashna* (Interrogative) modifiers) අතියම - Aniyam (Indefinite pronoun) - Bhava Nama (Referring for භාව නාම භෙදක - Bhedaka modifiers or verbal nouns) සංදො තාම – Sagna Nama (Proper Noun) සමුදාය - Samudaya (Collective) අවධාරණ ජ් Avadharana (Emphatic) සර්ව තාම – Sarva Nama (Pronoun) සංඛාන තාම – Sankya Nama (Numerals) කෘදන්ත තාම - Krudantha Nama(Verbal Noun) ලිංග – Linga (Gender) තද්ධිත තාම – Thadditha Nama (According to පුරුෂ ලිංග – Purusha Linga (Masculine) appending suffixes to the stem of the ස්තී ලිංග – Stree Linga (Feminine) noun) නපුංසක ලිංග – Napunsaka Linga (Neuter) සමාස තාම – Samasa Nama (Compound Noun) සාධාරණ ලිංග – Sadharana Linga (Common) නණා නාම – Ganya Nama (Countable Noun) අගණා තාම – Aganya Nama (Uncountable Noun) අන්ත වශයෙන් –Antha (Endings) ලිංග භේදය *– Linga* (Gender) ස්වරාත්ත -Swarantha (Vowel endings) තලන්ත -Halantha (Consonant endings) පුාණවාචී Pranavachi Nama නාම (Animate) - Purusha Linga වචන – Vachana (Number) (Masculine) ඒක වචන – Eka Vachana (Singular) ස්තී ලිංග – Stree Linga (Feminine) බනු වචන – Bahu Vachana (Plural) මාතව – Manava (Human) අමාතව – Amanava (Non-Human) විභක්ති - Vibhakthi (Case) අපුාණවාචී නාම - Apranavachi Nama (Inanimate) This is the classification proposed by Prof. W.S. නපුංසක ලිංග – Napunsaka Linga Karunatilaka in Sinhala Bhasha Vyakaranaya for (Neuter) Nouns. පොදු ලිංග – *Podu Linga*(Common Noun) සිංහල භාෂා වාාකරණය - ඩබ්.එස්.කරුණාතිලක Sinhala Bhasha Vyakaranaya - W.S.Karunatilaka වචන - Vachana (Number) ඒක වචන – Eka Vachana (Singular) තාම පද - Nama (Nouns) බහු වචන – Bahu Vachana (Plural) නියත / අනියත භේදය – Niyatha/Aniyatha සරල තාම – Sarala Nama (Simple Nouns) (Definite/Indefinite) සංකීරණ නාම – Sankirana Nama (Complex Nouns) සමාස තාම – Samasa Nama (Compound Nouns) විභක්ති භේදය – Vibhakthi (Case) පුථමා – Prathama(Nominative) නාම නාම- Nama Nama කර්ම - Karma (Accusative) ජාති තාම - Jathi Nama (Referring for කතීa - Kartru (Instrumental) general things) කරණ - Karana (Auxliary) කේවල නාම – Kevala Nama සම්පුදාත – Sampradana (Dative) (Referring for one thing) අවධි – Avadhi (Ablative) සමූහාර්ථවාචී മായ සම්බන්ධ – Sambandha (Genetive) Samuharthavachi Nama(Referring more than one අාධාර – Adhara (Locative) thing) ආලපත - Alapana (Vocative)

අනියත - Aniyatha (Indefinite) කෘදන්ත නාම – Krudantha Nama(Gerund Noun) තද්ධිත තාම – Thadditha Nama (According to පූරුෂවාචී Purusha Vachi appending suffixes to the stem of the (Masculine) noun) ස්තීවාචී – Stree Vachi (Feminine) ඨාතාත්තර වාචී තාම – Tanantharavachi Nama අපුාණවාචී ApranaVachi (Referring for positions) (Inanimate) This is the classification proposed by Prof. කාර්ය භේදය - Karya Bhedaya (Voice) J.B.Disanayaka in Nama Padaya for Nouns. උක්ත - Uktha (Subjective) අනුක්ත - Anuktha (Objective) නාම පදය - ජේ.බී.දිසානායක Nama Padaya - J.B.Disanayaka රූප පුතා යෙදෙන ආකාරය අනුව – Rupa Pratya (According to appending suffixes to සරල තාම - Sarala Nama (Simple Nouns) the stem of the සංයුක්ත තාම – Sanyuktha Nama(Compound Nouns) noun) සර්ව තාම – Sarva Nama (Pronoun) පුරණ - Prana (Animateness) පුාණ හේද - Prana Bheda (Animateness) වචන – Vachana (Number) පූරුෂ - Paurusha (Person) පුරුණවාචී - Pranavachi Nama (Animate) කාර්ය – Karya (Voice) සචේතනික ලිංග – *Linga* (Gender) Sachethanika(Animate) පුාණභාස අමුර්ත නාම - *Amurtha Nama* (to convey Pranabhasa(Inanimate things use as animate) the feelings of human beings) පුාණාරෝපිත Pranaropitha(Inanimate things use as animate) සංඛාන තාම - Sankya Nama (Numerals) අපුරණවාචී - Apranavachi (Inanimate) සමුදාය නාම Samadaya Nama (Collective Noun) ජාති තාම - Jathi Nama (Referring the වචන – Vachana (Number) names of trees) ඒක වචන – Eka Vachana (Singular) බහු වචන – Bahu Vachana (Plural) නිපාත නාම - Nipatha Nama ( ශූනා පුතා හා ඊට පරව අපුාණවාචී විභක්ති සහිත තාම ලිංග – Linga (Gender) අත, අතර, අද්දර, කරා, පුාණවාචී පස්සෙන්, ගාවින්, තුළට, ළහින් Pranavachi Nama (Animate) සංදො තාම – Sagna Nama (Proper Noun) – Purusha Linga (Masculine) ස්තී ලිංග – Stree Linga (Feminine) කිුයා පුකෘති අනුව – Kriya Prakruti (According to appending suffixes to the stem of the verb) නියත - Niyatha (Definiteness) භාව තාම - Bhava Nama (Verbal Noun) තියත - Niyatha (Definite) කෘදන්ත පුතා අනුව- Krudantha Pratya (According Purusha පූරුෂවාචී Vachi to appending suffixes to Gerund) (Masculine) ස්තීවාචී – Stree Vachi (Feminine) කෘදන්ත නාම - Krudantha Nama(Gerund අපු ණවාචී *ApranaVachi* Noun) (Inanimate)

# Verbs

This is the classification proposed ancient "Sidath Sangara" in 13 century A.D.

## සිදත් සහරාව

# Sidath Sangarawa

"නොදැව්, නුගුණ, දැව් නිසා සකරුමණන් දා මුව වැ සිදු කිරිය නම්"

කම විමුත් - අකර්මක කිුයා පදය Akarmaka kriya (Intransitive)

සකම - සකර්මක කුියා පදය *Sakarmaka* kriya (Transitive)

තෙකල් කිරිය - තෙුකාලික කුියා පදය *Thraikalika* kriya (Tense)

විදි කිරිය - විධි කියා පදය Vidhi kriya (Imperative)

ආසි කිරිය - ආශිර්වාද කුියා පදය Ashirvada

kriya

අසබහව කිරිය - අසම්භාවා කුියා පදය *Asambhavya* kriya (Conditional Mood)

පියෙදු කිරිය - පුයෝජා කියා පදය *Prayojya* kriya (Causative)

කම කිරිය - කර්මකාරක කිුියා පදය Karmakaraka kriya (Passive)

මෙර කිරිය - පූර්ව කුියා පදය *Purva kriya* (Past Participle)

මුසු කිරිය - මිශු කුියා පදය *Mishrakriya* (Present Participle)

This is the classification proposed by Cumaratunga Munidasa in *Vyakarana Vivaranaya* for Verbs.

# කියා විවරණය - කුමාරතුංග මුනිදාස

Kriya Vivaranaya - Cumaratunga Munidasa.

ශුද්ධ කුියා - Shuddha kriya (Simple verbs) වචන හේදය - Vachana (Number) ඒක වචන – Eka Vachana

(Singular)

බහු වචන *– Bahu Vachana* (Plural)

පුරුෂ- Purusha (Person)

උත්තම පුරුෂ – Uttama Purusha

(First Person)

මධාම පූරුෂ – Madyama Purusha

(Second Person)

පුථම පුරුෂ – Prathama Purusha

(Third Person)

කාල භේදය - Kala Bhedaya (Tense)

අනතීත කාල - Anathitha kala

(Non-past tense)

අතීත කාල - Athitha kala (Past

tense)

පද භේදය - Pada Bhedaya

පරස්මෙම පද - Parasmai pada

ආත්මනේ පද - Athmane pada

කාරක ඉහ්දය - Karaka Bhedaya (Voice)

කතීෘ කාරක - Kartrukaraka (Active

voice)

කම් කාරක - Karmakaraka (Passive

voice)

නාම කියා - Nama Kriya (Verbal Noun)

නිපාත කිුයා - Nipatha Kriya

This is the classification proposed by Prof. J.B. Disanayaka in *Kriya Padaya* for Verbs

කියා පදය - ජේ.බී.දිසානායක Kriya Padaya – J.B.Disanayaka

සරල කියා පද - Sarala kriya pada (Simple verbs)

සරල ශුද්ධ කිුයා පද - Sarala Shuddha kriya pada (Simple verbs)

සරල සාධිත කිුයා පද - Sarala Sadhitha kriya pada (Simple compound verbs) පුලයෝජන කියා පද - *Prayojya kriya pada* (Causative verbs)

පුමයෝජන ශුද්ධ කියා පද - *Prayojya shuddha* kriya pada (Simple Causative verbs)

පුමයෝජන සාධිත කිුයා පද - *Prayojya sadhitha* kriya pada (Compound Causative verbs)

සකර්මක කුියා පද - Sakarmaka kriya pada (Intransitive)

අකර්මක කියා පද *- Akarmaka kriya pada* (Intransitive)

අවසාන කියා පද - Avasana kriya pada (Endings) අනවසාන කියා පද - Anavasana kriya pada (Nonendings)

වර්තමාන කෘදන්ත කියා පද - Varthamana Krudantha kriyapada (Gerund-past)

අතීත කෘදත්ත කියා පද - Athitha Krudantha kriyapada (Gerund-present)

ලක්ෂා කියා පද - *Lakshya kriyapada* (Infinitive)

සාධනීය අසම්භාවා කියා පද - Sadhaniya Asambhavya kriya (Conditional)

නිමේධනීය අසම්භාවා කුියා පද Nishedhaniya Asambhavya kriya (Concessive)

පූර්ව කිුිිිිිිිි පද - *Purva kriyapada* (Past Participle)

වචන භේදය - Vachana (Number)

ඒක වචන – Eka Vachana (Singular)

ඛනු වචන *– Bahu Vachana* (Plural) කාල හේදය - Kala bhedaya (Tense)

වර්තමාන කියා පද - Varthamana kriyapada (Present)

අතීත කිුිිිිිිි පද - Athitha kriyapada (Past) පුරුෂ- Purusha (Person)

උත්තම පුරුෂ – *Uttama Purusha* (First Person)

මධාම පුරුෂ – *Madyama Purusha* (Second Person)

පුථම පුරුෂ – *Prathama Purusha* (Third Person)

විධි කියා පද - *Vidhi kriyapada* (Imperative) මිශු කියා පද - *Mishrakriya* (Present Participle) සමාන්තර කියා පද - *Samanthara kriyapada* (Paralel Verbs)

අතන්තර කුියා පද - *Ananthara kriyapada* (Temporal gerund)

පුමයෝගා කියා පද - *Prayogya kriyapada* (Verbal Adjrctive)

තාවරූප කියා පද - *Bhavarupa kriyapada* (Paralel Verbs)

උපකාරක කිුයා පද - *Upakaraka kriyapada* (Reflexive verb)

# Appendix C

Table 1 describes the meaning of syntactic categories used in the lexicon structure.

Table C.1: Syntactic categories used in the lexicon structure

Sinhala	English	Description
විකල්ප අක්ෂර විනාහස	Spelling variants	The alternative ways of writing the same word

වාසාකරණාංග	Part of speech	One of the traditional categories of words intended to reflect their functions in a grammatical context.
උච්චාරණය	Pronunciation	The manner of someone utters a word
ධාතු / පුකෘති	Root Word	Base, stem - the form of a word after all affixes are removed.
නිරුක්ති	Etymology	Structure of words.
අර්ථය	Definition(s)(meaning(s))	Explanation of the meaning of a word.
පර්යාය පද	Synonyms and cross references	Equivalent word
ලදමළ / ඉංගීසි අර්ථය -	Tamil and English translation equivalents	Tamil and English version of a word.

Table C.2: Syntactic categories used in the lexicon structure

නාම / Nama	Noun	A word that can be used to refer to a
		person or place or thing.
කිුයා / Kriya	Verb	Expresses some state or action
		affecting some person or thing.
නිපාත Nipatha	Nipatha	The syntactic categories of
		prepositions, conjunctions and
		interjections.
කෘදන්ත / Krudantha	Gerund	Words formed by adding suffixes to
		roots of verbs.
තාම වීශේෂණ / Nama Visheshana	Adjectives	The word class that denotes some
		quality or attribute of the noun.
කිුයා වීමශ්ෂණ / Kriya Visheshana	Adverbs	The word class that qualifies verbs
		or clauses.
වචන	Number	Singularity or Plurality of nouns
		and verbs.
ඒක වචන	Singular	The form of a word that is used to
		denote a singleton.
බහු වචන	Plural	The form of a word that is used to
		denote more than one.
පුරුෂ	Person	A grammatical category of pronouns
• •		and verb forms.
උත්තම පුරුෂ	First person	Pronouns and verbs used to refer to
		the speaker.
මධාාම පුරුෂ	Second person	Pronouns and verbs used to refer to
10		the person addressed.
පුථම පුරුෂ	Third person	Pronouns and verbs that are used to
		refer to something other than the
0		speaker or addressee.
ලිංග	Gender	A grammatical category based on
	1	sex or animateness.
පුරුෂ ලිංග	Masculine	A grammatical category that refers
		to males or to objects classified as
	1	male.
ස්තුී ලිංග	Feminine	A grammatical category that refers
		to females or to objects classified as

		male.		
නපුංසක ලිංග	Neuter	A grammatical category that refers		
		to inanimate objects (neither		
		masculine nor feminine).		
සාධාරණ ලිංග	Common	A grammatical category that refers		
		to both masculine and feminine.		
සචේතනික/අඓතනික බව	Animateness	A grammatical category that denotes		
සවේතනික (සපුාණවාචී)	A	living beings or nonliving things.		
	Animate	A grammatical category that denotes living beings		
අවේතනික (අපුාණවාවී)	Inanimate	A grammatical category that denotes		
		nonliving beings.		
විභක්ති	Case	A grammatical case (nouns or		
		pronouns or adjectives related in		
		some way to other words in a sentence).		
පුථමා විභක්ති	Nominative case	The category of nouns serving as the		
9000 00	Nonlinative case	grammatical subject of a verb.		
කර්ම විභක්ති	Accusative case	The category of nouns serving as the		
	1 Toolasati ve Gase	direct object of a verb.		
ආලපන විභක්ති	Vocative case	The category of nouns used when a		
		person or thing is addressed.		
කාල	Tense	A grammatical category of verbs		
		used to express distinctions of time		
අතීත කාල	Past tense	A verb tense that expresses actions		
		or states in the past.		
අනතීත කාල	Non-past tense	A verb tense that expresses actions		
කාරක	** .	or states in the Present or Future.		
කාරක	Voice	The grammatical relation (active or		
		passive) of the grammatical subject of a verb to the action that the verb		
		denotes.		
කර්තෘ කාරක	Active voice	The voice used to indicate that the		
		grammatical subject of the verb is		
		performing the action or causing the		
		happening denoted by the verb.		
කර්ම කාරක	Passive voice	The voice used to indicate that the		
		grammatical subject of the verb is		
		the recipient (not the source) of the		
සකර්මක/අකර්මක බව	Transitiveness	action denoted by the verb. the grammatical relation created by		
	Transiti veliess	a transitive or intransitive verb.		
සකර්මක	Transitive	Denotes an action passing from the		
		doer to an object.		
අකර්මක	Intransitive	Express a state or condition, or an		
		action or feeling that does not pass		
		over to an object.		
ආඛානත කිුියා / Akyatha Kriya	Predicate	Final verb of a sentence		
පූර්ව කිුයා / Purva Kriya	Past Participle	The predicates of the subject which		
		precede its final predicate.		
අසම්භාවා කිුයා / Asambhavya Kriya	Conditional Mood	Expresses uncertainty or the time when an action is done.		
	Present Participle	Expressing present action or the		
Sa Sa / Michra Vriva	i resent i articipie			
මිශු කුියා / Mishra Kriya		Lactions doing in the same time		
	Gerund – past	actions doing in the same time.  Words formed by adding suffixes of		
මිශු කිුයා / Mishra Kriya අතීත කෘදන්ත / Atheetha Krudantha	Gerund – past	Words formed by adding suffixes of		
	Gerund – past  Gerund – present			

# Appendix D

#### **Nouns**

#### 1. Simple nouns.

Sinhala noun roots and the nominative forms of the nouns are categorized under the section of simple nouns.

## 2. Complex nouns.

Complex nouns are produced by adding a word formation affix to the noun stem. Mainly, krudantha කෘදන්ත (gerund) and thaddhitha තද්ධිත (derivative nouns) are included in this section. Apart from them adjectives and adverbs are also being made in this procedure.

## 3. Compound nouns

Compound nouns are made by adding number of other noun roots to the primary noun base.

#### Nouns

Animate nouns Inanimate nouns

## Animate nouns

 Masculine- Singular – Definite/ Indefinite

Plural

• **Feminine-** Singular – Definite/ Indefinite

Plural

• **Common-** Singular- Definite/ Indefinite

Plural

### Inanimate nouns

• Neuter- Singular – Definite Indefinite

## Plural

A few nouns inflect in a different manner rather than the above mentioned criteria. Although the nouns like bonikka මබ්නික්කා (doll) pambaya පඹයා (scarecrow) are inanimate by their nature, they inflect like animate nouns. In contrary, the noun of ibba ඉබ්බා (containing two meanings — tortoise/padlock) bear animateness and inanimateness according to the context.

Ibbo dennek innawa. There are two tortoises. ඉබ්බො දෙන්නෙක් ඉන්නවා

*Ibbo dennek dala thiyenava*. Two padlocks have been fixed. ඉබ්බො දෙන්නෙන් දාලා තියෙනවා Sinhala singular nouns are always marked with definiteness or indefiniteness.

The animate nouns can be conjugated within the framework of all three persons. The inanimate nouns only bear the third person.

Animate nouns - First person
 Second person
 Third person

Inanimate nouns-Third person

## Case

Sinhala nouns inflect according to the case they bear. Nouns which make their primary manifestation within discourse commonly appear in the direct case.

1. Nominative/ Direct case (පුළුමා)

#### 2. Accusative (කර්ම)

The singular forms of the accusative case are similar to the singular forms of the nominative case. The plural forms have different inflection.

## 3. Auxiliary case (කර්තෘ)

The auxiliary case is marked with *visin* (වෙස්) functional morpheme and it is added to the accusative form of the noun. Auxiliary case is not marked with any suffixation.

These three cases are considered as the preliminary forms within the hierarchy of case study. The other case markers, which have given below would be added to either Nominative case marked singular noun or accusative case marked plural noun.

Table D.1: Case Markers

Case	Case marker			
	Animate		Inanimate	
Instrumental	sin	pl	sin	pl
(කරණ)			-en- එන් -in- ඉන්	-walin- වලින්
Dative (සම්පුදාන)	-ta- ⊙	-ta- ⊙	-ta- ⊙	-walata- වලට -hata- හට
Ablative (අවයි)	-gen- ගෙන්	-gen- ගෙන්	-en- එත් -in- ඉත්	-walin- වලින් -keren- කෙරෙන්

Possessive /genitive (සම්බන්ධ)	-ge- ගේ	-ge- ගේ	-e- ඇ - ehi- එහි	-wala- වල
Locative (ආධාර)			-e- ඇ - ehi- එහි	-wala- වල
Vocative (ආලපන)	Zero -a- ¢ -ee- ඒ -o- ®	-i- ඉ -ee- ඒ		

Further information on nouns. There will be a further classification on nouns regarding their semantic aspects. In that stage they will be categorized according to their semantic values. Ex. Jathi nama ජාති තාම, guna nama ගුණ තාම etc. And will also focus on the features like onomatopoeia and reduplication.

Verb

- Verb a. Finite verb
  - **b**. Non finite verb
- Finite verbs: a. Simple constructed verbs b. Complex constructed verbs

- c. Causative verbsd. Imperative verbs
- Finite verbs: a. person

b. numberc. tense

• **Person:** 1<sup>st</sup> person

2<sup>nd</sup> person 3<sup>rd</sup> person

• Gender: (Exceptional)

Verbs occur with animate objects: masculine

b. femininec. common

Verbs occur with inanimate objects: a. neuter

• Number: a. singular

**b**. plural

• Tense: a. past

**b.** non-past

Table D.2: Tense

Non past		Past		
singular	present	constructed present	Short past	Long past
1st person	balami	balannemi	balimi	baluvemi
2 <sup>nd</sup> person	balahi	balannehi	balihi	baluvehi
3 <sup>rd</sup> person	balai	Balanneya – mas/neuter Balanniya- fem		
Plural				
1st person	balamu	balannemu	balimu	baluwemu
2 <sup>nd</sup> person	balahu	balannahu	baluhu	baluvahu
3 <sup>rd</sup> person	balati	Balannahu/balannoya	baluha	baluvoya

Sinhala verb is divided into three categories according to its function in the syntactic level. Although there are three categories, the same two forms of the verb occur in each category.

• Transitive and Intransitive verbs (Sakarmaka/ Akarmaka)

In Sinhala some verbs are transitive by their nature. They always expect an object in the string. Some verbs like *-handa-*, *-duva-* and *-siti-* are originally intransitive.

- Voice (karaka bhedaya)
  - o Active voice (kartru karaka)
  - o Passive voice (karma karaka)

The verb's relationship with either agent or object is depicted in the voice.

- Ohu <u>v</u>eDa <u>karai.</u> ඔහු වැඩ කරයි Active
- Ohugen veDa <u>kerei</u>. ඔහුගෙන් වැඩ කෙරෙයි Passive
- Volitive and Involitive verbs

If an action is done without any mediation of the agent that verb is an involitive verb. The Sinhala verb is presented in volitive and involitive forms.

- *Lamaya <u>natai</u>* ළමයා නටයි volitive
- Bera gahana vita lamaya <u>netavei.</u>
   මෙර ගහන විට ළමයා නැටවෙයි
   involitive
- Causative verb

Verb stem+ -va-

## Imperative verb

	singular	plural
2 <sup>nd</sup> person	Zero, va	vu
	බල/බලව/බලපිය	බලව්/ බලපියව්

# • Blessing verb (Ashirvada kriya)

Present/ future tense+ va

1 <sup>st</sup> person	Sin	Pres/fut tense+-mi-/m
1 <sup>st</sup> person	pl	Pres/fut tense+ -mu-/-mo-
3 <sup>rd</sup> person	pl	Pres/fut tense+ -t-/-ti-

# **Complex constructed verbs**

In respect of the morpho-syntactic constructions of the verbs, there are two main patterns in Sinhala Language. The first one may call as the simple constructed verbs and the other the complex constructed verbs. Simple constructed verbs behave like one word and complex constructed verbs connect two different grammatical categories.

# • Simple constructed verbs Duvanava

## Complex constructed verbs:

An initial stem (verb, noun, adjective or etc) + main verb

Pata (noun)+ karanava

Pasu (adj)+ (karanava

*Kapala*(non-finite verb form)+ *danava* 

According to the structural pattern of the complex verbs, the most common verbs used as the second constituents are following:

- 1. karanava
- 2. venava
- 3. gannava
- 4. denava
- 5. danava
- 6. thienava
- 7. gahanava

Most of the borrowed nouns are used with the above mentioned verbs to make complex verbs.

### Non finite verbs

- a. gerund (krudanrha)
- b. past participle (purva kriya)
- c. present participle (misra kriya)
- d. conditional verbs (asambhavya kriya)

The analysis of the gerund structure is due to be presented in a separate paper.

• The past participle (purva kriya)

Verb stem+ -aa-/-x-/-ii-Balaa/ xdx /vxtii බලා/ ඇද/ වැටි

• **present participle** (misra kriya)

verb stem+ -min-/-mina-/-mini-/-mni balamin/balamina/balamina/balamini

• **conditional verbs** (asambhavya kriya)

a. verb stem+ -t-/-ta-+ (prep;di) ( balat/balata+di) b. verb stem+ -t-/-da-/-du- ( baluvath, baluvada, balatudu)

## **Particles**

Particles are used to link words within the structure of a sentence. They also could be utilized as conjunctions to link phrases in complex sentences.

• Case marking particles

Case	Particle
auxiliary	-visin- විසින්
Ablative	-gen-,-keren මගන්
	.මකරෙන්
dative	-(ha)ta- හට
possessive	-ge- ଡଣ
locative	-kerehi-
	tula matha uDa

# කෙරෙන්.තුළ, මත,උඩ

- Collective particles
  - o −da- ę
  - o −th- න්
  - o −saha- ಱಀ
  - o −ha- &>>
- Particles for 'with' meaning
  - ୦ Saha ଅଷ୍ଠ
  - o Samaga සමග
  - o Ha ∞
  - o katuva/kativa කැටුව/කැටීව
- Emotive particle
  - o Vismayartha- ha ,aha, ah, aa ,oho හා/ අහා/ආଟ୍ର/ ආ/ ଷ୍ଟିଡ୍ଡ୍ରୀ
  - େ Khedartha- ane ,ando, apoi, ayyo අବର୍තୀ/අବନ୍ତୀ/ අපොයි/ අය්ෂයୀ
  - େ Vedanartha- aai ,uui ,uu දୃଷ୍ଟ/ ୯୭୪/ ୯୭୪
  - ୦ Kuthsithartha- chi, chih, ଥି/ ଥିଅ
- Particles expressing possibility
  - o ho/ho මහා්/මහා්
  - o do oçi
  - o doho ලදා්මහා්
- Particles expressing similarity
  - o Men මෙන්
  - ୦ Se ଡଣ
  - o Vani වැනි
  - ୦ Bandu ରଣ୍ଣ
  - o Van වන්
  - o Ayuru क्ट्राठ्य
  - ୦ Lesa ୭୯୫
- Comparative particles
  - o vaDi වැඩි
  - o vaDa වඩා
  - o vaDathma වඩාත්ම
- Temporal particles
  - Nithi නිති
  - o Nithin නිතින්
  - o Nithora නිතොර
  - o Ikbithi ඉක්ඛිති
  - o Dan ඇන්
  - ୦ Yali ଌଞ
  - o Puna පුන
  - Vali වැළි
  - o Ithin ඉතින්
- Particles expressing duration
  - o Sita සිට
  - o Sitan සිටන්
  - o Patan පටන්
  - o Thek තෙක්
  - o Dakva දක්වා

- Quantitative particles
  - Sa &s
    - Thak තාක්
  - o Thuvak තුවක්
- Particles expressing meanings of 'too'/'at least
  - o Pava පවා
  - o Da ç
  - o Ho ඉහර
  - o Vath වන්
- Particles expressing exception
  - O Vina විතා
  - o Hara හැර
  - Misa මිස
  - o Muthමුත්
- Question particles
  - ට **Kima කිම**
  - o Kim කිම
  - o Ay ඇයි o Manda මන්ද
  - 0 *Da ç*
- Particles expressing alternative meaning
  - o Hevath මහවත්
  - o Nohoth නොහොත්
  - o Ho/ho මහා්/මහා්
- Time adverbial particle
  - o Patha පතා
  - o Pasa පාසා
  - o Gaane ගාමන
- Adjective/ adverb emphasizing particle
  - o Thava තුව
  - o Itha ඉතා
  - o Boho බොහෝ
- Emphasizing particles
  - o −ma- -@-
  - Quoting particle
    - o −yi- **-**&-
    - o -yayi- wz&
- Sentence ending particles
  - o –ki- කි
  - o –ya- ය
  - o −yi- ឱ
  - o –yae- ധു
- Imperative particles
  - o Epa එපා
- Negative particles
  - o No+ noun base නො+ නාම
  - No+ verb නො+ කියා
  - 0 A &
- Particles expressing manner of adjectives and adverbs

- o visal විසල්
- o vaha වනා
- ୦ seda ୭୫୧
- o sanin සැතින්
- o hanikaහනික
- Vocative particles
  - o emba එම්බා
  - o embala එම්බල
  - o kola කොල
  - o bola බොල
- Particles expressing a suggestion
  - o nam නම
  - o vanahi වනාහි
  - o kali කලී
  - kalකල්
  - o vukali වූ කලී
- Particles expressing straightforwardness
  - o indura ඉදුරා
  - o kelinma ලකලින්ම
- Particles focusing on attention
  - o anna අන්න
  - o onna ඔන්න
  - o menna මෙන්න
- Reported speech particles
  - o −la- **-**C-
  - o −lu- **-**g
- Particles stand for 'for'
  - ୦ Udesa ୯୭୧୯୬
  - Pinisa &&&&
  - o Sandaha සඳහා
- Reason particles
  - o Arabaya අරබයා
  - ୦ Pinisa ଞ୍ଚିଷ୍ଟ
  - Nisa නිසා
  - o Bavin බැවින්
  - o Heyin මහයින්
- Honorific particles
  - o Sek මස්ක්
  - o Seka මස්ක
- Reporting particles
  - o Gana ගැන
- Particles stand for the meaning of 'according

to'

- o Anuva අනුව
- ୦ Paridi ଅଧି
- Conjunction particles
  - o Vita වීට
  - o Nisa නිසා
  - o Bavin බැවින්
  - o Thek ලතක්
  - o Thuru କୃତ୍ୟ

- o −da- <del>-</del>ç-
- o *−th-* **-**න්-
- o −du-**-**g-
- o Namut නමුත්
- Namudu නමුදු
- Conditional particles
  - o -oth- ඔන්
  - o –hoth- මහාත්
  - *-nam- නම්*
- Particles expressing reason for an action
  - Pinisa &&&&
  - O Sandaha සඳහා
  - o Vas වස්
  - o Men මෙන්
  - ୦ Lesa ୭୯୫
  - ০ Paridi শু৪ই
- Particles used to link clauses
  - o namuth නමුත්
  - o eheth එගෙන්

(The terms given here are subject to change.)

# Krudantha (gerund) and Thaddhitha (suffixes which are used in noun inflection)

Krudantha

Sinhala gerund is a word which bears a verb base and an inflectional suffix. This suffix will convert the verb base into a gerund.

- Gerund
  - o Present
  - o Past
- Gerund –Present

This gerund form is made by adding -na- suffix into the verb base.

Verb base+ -na- =  $bal \partial n \partial$ 

gerund –past

There are six gerund suffixes can be identified in past gerund forms. They are:

0	-uu-	bala+-uu-	b <b>æ</b> luu
0	- <i>ə</i> -	vasi+ <b>ə</b>	væssa
0	u <b>N</b> u	sinase+unų	sinasunu
0	-L-	athura	athuLa
0	-T-	basi	baTa
0	-n-	upadi	ирап
	Sin	di sun	

• Bhavartha krudantha /Emotive gerund

The Emotive gerund is normally used to express emotions.

o −iim- nata+ iim -nætiim

- o −ili- nata+ili nætili
- o −man- nata+ man nætuman
- o −nu- nata+ nu natanu
- o −um- nata+ um nætum

Most of the verb forms inflect according to these five procedures.

Shakyartha krudantna / gerunds with the meaning of competence

Verb stem+ -iya- Bala+ -iya- bæliya Daki+ -iya- dækiy

Voice and Gerund

The voice of a sentence is determined by the gerund suffixes.

- Kapa+-unu- kæpunu
- o Kapa+-ana- kapana
- Thaddhitha

Thaddhitha is the counterpart of Krudantha (Gerund), while both come under the category of affixes. Gerund suffixes function on the verb base and thaddhitha suffixes on the noun.

Thaddhitha

- Animate
  - o Masculine natya+karu
  - o Feminine kreeDa+ ika kreeDika
  - Honorific *puth+ aNu puthaNu*
- Inanimate

The range of the *thaddhitha* allomorphs;

Noun affixes

These affixes will occure with a noun base. Eg. vasəna+vantha Vasənavantha

• Verb affixes

These affixes will occur with a verb base. Eg. Kara + va + (i) karavai.

## **Adjectives**

Adjectives(Nama Visheshana) is a wording which describes the nature of the noun. Nominal nouns, pronouns, gerund nouns, thaddhitha nouns and numeral nouns occur as adjectives in Sinhala

language. The nominal nouns can be again classified in two sections.

- Jathi nama categorical nouns
- Dravya nama metirial nouns
- Sagna nama proper nouns
- *Guna nama* qualitative

Nominal noun adjectives

- Jathi nama minis+ ruva මිනිස් රුව
- Dravya nama lii væda ලී වැඩ
- Sagna nama Mugalan +thera මුගලන්
- Guna nama suvanda +mala සුවඳ මල

These examples present the probability of occurrence all the noun roots as adjectives in the nominal noun category.

- Pronoun adjectives Apa + raTa අප රට tham  $\partial$  + de faya තම දේශය
- Gerund adjectives Hamana+ sulanga හමන සුළහ Hindina +asuna හිදින අසුන
- Thaddhitha adjectives Gunavath minisa ගුණවත් මිනිසා Silvath himi සිල්වත් හිමි
- Numeral adjectives
   Thun pola තුන් පොළ
   Pasvana mahala පස්වන මහල

#### **Adverbs**

Adverbs can be divided into 4 sections according to their meaning.

- Akarartha ( how the action is done)
- *Kalartha* ( when the action is done)
- Sthanartha ( where the action is done)
- *Hethvartha* (cause for the action)

Adverbs can be also divided into three sections according to the quality of their occurrence.

- Adverb + verb *ohu* <u>vegayen</u> duvai
- Adverb + adjective + noun *Lalith itha* honda lamayek
- Adverb + adverb + verb *ohu <u>boho semin</u> riya padavai*.

The Sinhala adverb set could be mainly categorized into two parts.

- Non-inflected adverbs (avyas/ අවා)
- Inflected adverbs
- Non-inflected adverbs (avyas)

These adverbs normally do not inflect according to the context.

Vaha, ithin, semin, pasulu, indura, yali, pili, puna punaa are examples for the above mentioned adverbs.

## Inflected adverbs

The inflected adverbs are exclusively made out of instrumental, ablative, locative and dative case markers.

Inflected particles as adverbs
 Vetha
 vethata
 vethin

Temporal nouns as inflected adverbs
 Ada
 Adata

adin

## o Adverbs compounded with adjectives

Adjective	noun	adverb
		-ta-,-in-,-e
Sudu	suda	Sudata, sudin, sude
Rathu	ratha	Rathata, rathin, rathe
Kota	kota	Kotata, kotin, kote

# **Further information**

Greater number of particles has been used as adverbs. They are as follows.

Men, vashayen, thek, thuvak, tharam, pamana, sa,va, kota, vara, vaara, vita.

In some cases numerals reduplicate to make an adverb.

Amma mal <u>thuna thuna</u> keduva <u>Denna denna</u> enna