

# Translation of Paniya Language in Wayanad to Malayalam Using Lexical Analysis

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## ABSTRACT

A vast majority of tribes in Kerala state hail from the Paniya tribal sect. Paniyas inhabit in the regions of Wayanad and the neighbouring parts of Kannur and Malappuram Districts of Kerala. As bond labourers, the Paniyas were once sold along with plantations by the landlords. They were also employed as professional coffee thieves by higher castes. The name 'Paniyaan' means 'worker' as they were supposed to work for other non-tribes. Monogamy appears to be the general rule among the Paniyas. The objective of the paper is maintain the language and searches for new areas. There are 1000 words are stored in the database. These words are translated to Malayalam and vice versa. A website 'Paniyas' have beento created with Home, Gallery, Article, About tribes and Malayalam for performing the translation. The Home and Malayalam pages are the keypages. The words and sentences are being translated in these pages. Finally an accuracy graph will be displayed. Forward and backward translations are possible. In language, the forward precision is more than the backward. Around 1000 trained words are translated.

**Keywords** :-Paniya Malayalam Translation, Paniya Language, Lexical Analysis

## I. INTRODUCTION

Paniyas are scheduled tribes of India residing in Nilgiris Biosphere Reserve (NBR) mainly in Wayanad, Gudalur (North Kerala, South Karnataka and Northwest Tamil Nadu) regions. They speak Paniyabhasha, unintelligible dialect of Malayalam with a mixture of Tamil and Tulu words. Paniya belongs to Dravidian family of languages. The term 'Paniyas' literally means "a worker". The name has originated from the Malayalam word 'Panikkar' (labourers). It is also believed that the outsiders gave them this name, because mostly they worked in others fields. Paniyas or Paniyan or Paniyar is believed to be from the Dravidian tribe. They are the labour caste among the Nilgiri tribals. According to the 1981 Census, there were 63,827 speakers of Paniya which includes 56,952 in Kerala, 6,393 in Tamil Nadu, and 482 in Karnataka. Most of its speakers are found in the Wayanad, Kozhikode, Kannur and Malappuram districts of Kerala, and to the west of the Nilgiri Hills in Tamil Nadu.

An algorithm is applied to each translated word. This paper translates sentence in Paniya into Malayalam and vice-versa. The translation probability is the parameter that clearly depicts the relationship between a word in Malayalam and its Paniya translation. It also checks the Malayalam word is associated with Paniya language. In translation of Paniya language, separating the words in various phases. Translation works under the phases such as corpus, consonants, prefix, suffix and symbols.

The rest of this paper organized as follows: The history of this paper is presented in section 2. In section 3, the related work done in this research area. Section 4, overall architecture of Paniya Malayalam translation and it includes language

translated using conversion algorithm. Observations and results achieved from the experiments conducted on Paniya Malayalam translation is discussed in section 5. Finally, the work is concluded in section 6.

## II. EXISTING METHOD REVIEW OF PANIYA LANGUAGE TRANSLATION

Wayanad is one of the important tribal belts of Kerala. It is also one of the most neglected and most backward districts of Kerala though it has great economic potentialities. Apart from the peculiar geographical features and salubrious climate of the area, the uniqueness of Wayanad lies in the highest proportion of tribal population in the state. The scheduled caste population of the state is mainly concentrated in Wayanad, Idukki, Palakkad and Kasargod districts. Total population of the kerala according to 2001 census 81,940 persons.

The tribal people's main source of livelihood is based on the forest. Their mode of thinking about the forest universe, their social and cultural practices and work culture in wayanad. We can divide the tribal races into many groups on the basis of some basic factors like language, religion, isolated manner etc. like Paniya, Adiya, Kalanadi, Naicker, Kuruma, Kurichya and Pathiyar. All these Adivasis of Malabar area were known as kattukuruma and in Tiru-Kochi they were known as kattujadhikkar [3].

By the beginning of the twentieth century, some of the tribal groups emerged as advanced cultivators or as agricultural labourers. The result was that they got a definite shape in their occupational pattern. Yet some off the tribals still continued the primitive occupational patterns like hunting and slash and burn or punam cultivation.

The name Paniya comes from the root word pani, meaning work [1]. The word refers to a worker or labourer and in general, a member of the tribe Paniya. They were literally slaves to the landlords in northern Kerala. The paniyas is that they are closely related to the Negroes. Some Negroes escaped to India on their way to eastern countries when they were brought for slave trade from Zanzibar in Africa. The colour of the Paniyas varies from dark to darkbrown. They are dark-skinned tribe, short in stature, with broad noses and curly or wavy hair.

The festival of valliyurkavu is famous. Even in the last century it was the centre of 'bonded labour'. During this festival, slaves were sold, purchased or even exchanged by landlords and local cheftains in front of the Bhagavathi temple. Valliyuramma is the Goddess in whom the Paniyas had great belief and fear. The settlement region of the Paniyas is known as Padi. Traditionally they are settled in the landlord's estates, along the fringes of the wet paddy flats; as they contracted a new by another landlord at the next valliyurkavu festival.

Their huts are known as Kutumbu or Pire. They lay the foundation for house near the agricultural field of landlord. The walls are of bamboo wattle plastered with mud while the roof was of bamboo, thatched with straw. The huts generally are single roomed, sometimes partitioned into two by a wattle divider. The agricultural tools of Paniyas are very simple and useful. Polippacci is an instrument which is used to blow the chaff from paddy. They make a strong rattan with reed to prevent the loss of the grains of paddy while the paddy is tied into sheaf. This is known as okkalu.

In the past, the males used to wear only simple loin cloth and an under wear of a perinneal band tucked in front and back into a waist string. The woman can be identified by their particular way of wearing a sari, which is known as cela. They wore cela around the waist, reaching down waist, reaching down just above the knees with both ends brought up and knotted together at the right, covering the breasts; an aratti may also be worn round the waist to keep it position, a fold of this may be used as a purse, a bag and a miscellaneous container[3].

The Paniyas speak a language of their own; it has been identified as a member of the South-Dravidian family closely related to Malayalam, with borrowing from Kannada and Tamil. Their language has more similarity with Adiya language. The Paniya language had no script. Thus it is written by phonetic script in Malayalam.



Fig.1

The important religious functionary is the attali, a combined humanist, ritualist and medium-dancer, engaged for rituals in honour of the Gods, the spirits of the dead and for exorcising evil spirits who possess persons. There are certain beliefs among the Paniyas which are associated with the trees. The first fruit of any tree will be offered to God. But this offering is eaten by the Mooppan who is supposed to represent God [3].

The Paniya-dance is circular in form. This is the main feature of most tribal dances. Paniya woman stand in a circle, jump, rhythmically, turn left and right with their hands released and make sound rhythmically in groups. The Paniyas have special kind of dance to please the evil spirits or ghosts. Another ritual dance among the Paniyas is Daivamkanal. The Paniya folksongs are of several kinds. These are life style songs, sung at different occasions. The pani songs were sung at the time of working. They were also known as tozhilayama songs. The Paniya's proudest possessions are their musical instruments, the long double-headed drum and the small, the long musical pipe and a short pipe. The musical instruments close to the consecrated place of God [2].



Fig.2

The paniyas closely observe the nature, climate, movements of celestial bodies, etc. for the perfection in the construction of musical instruments. This traditional method clearly exhibits the scientific perception of these people. Another important instrument is tuti, one of the oldest among

the musical instruments. On both of the sides, it is covered with animal skin. It is slightly thin in the middle.

Now the Paniyas are facing several problems, especially in the cultural fields. According to K.N.Panikkar “due to the cultural colonialism the Wayanadan adivasis lost their own kavus and customs”. When- we modernize the tribal life, they lose their identity and originality.

### III. REVIEW OF LITERATURE

Paniya is a tribal belt of Kerala. The term Paniya is a worker or pani. This paper is mainly created to maintain the language, and research areas. The language is using in the radio mattolli in wayanad. In radio mattolli, news reading in paniya language, Thudichetham, Mochanam, etc. The photographic areas, study of the culture, dress coding, are collected and the study of the literatures.

#### A. Paniya Language in Kerala

Paniya is one of the Dravidian languages of India. It is spoken by the Paniya people, a scheduled tribe with a majority of its speakers in the state of Kerala. The language is also known as Pania, Paniyan and Panyah. It belongs to the Dravidian family of languages. According to the 1981 Census, there were 63,827 speakers of Paniya which includes 56,952 in Kerala, 6,393 in Tamil Nadu, 482 in Karnataka. Most of its speakers are found in the Wayanad, Kozhikode, Kannur and Malappuram districts of Kerala, and to the west of the Nilgiri Hills in Tamil Nadu[7], [9].

#### B. Paniyas Voices: Research Areas

The Paniya tribe was previously enslaved by upper castes, is extremely marginalized and deprived. The Paniyas live in colonies (clusters of houses in a small geographical area) in peripheral areas; they rarely interact socially outside their own colony. Colonies have poor transportation linkages and are particularly vulnerable to flooding during monsoons. Paniyas are predominantly landless 75% of Paniya households each own less than 10 cents of land (100 cents being an acre) and have poor housing and living conditions; for example, 50% of households have no sanitation facilities. Paniyas have low levels of education; 57% of women and 46% of men have never been to school. They spend a significant proportion of their household income on alcohol and tobacco, which represent 17% of total expenditure on food consumption. Hygienic practices common in Kerala are not universally adopted; over a quarter of the households do not systematically boil their drinking water. Their health needs are great (e.g. 60% are underweight, 15% are anaemic, 11% have a goitre). The Paniyas have low rates of health care utilization; among those who had experienced a severe episode of illness, 30% did not use any health service. Although there are special tribal schemes and programs, the Paniyas are less likely to avail themselves of these, compared to other tribal groups. Finally, the Paniyas also demonstrate high levels of resignation to their situation and have been found to

underreport their health conditions, which is an indication of their extreme levels of deprivation and marginalization [7].

#### C. Ethnologue Languages of the World

A language of India

ISO 639-3: pcg

Alternate Names: Nil, Pania, Paniyan, Panyah

Population: 94,000 (2003).

Location: Kerala, Wayanad, Kozhikode, Kannur, and Malappuram districts; Tamil Nadu, west of Nilgiris hills; Karnataka, Kodagu district.

Language Maps: India, Map 8

Language Status: 5 (Developing).

Classification: Dravidian, Southern, Tamil-Kannada, Tamil-Kodagu, Tamil-Malayalam, Malayalam

Dialects: Intelligibility of Malappura Paniya by Kodava [kfa] is 66%. Lexical similarity: 79%–88% between dialects and Malappuram Paniya, 71% with Kodaku [kszh] and Kodava [kfa].

Language Use: Home, religion. Also use Kannada [kan], Malayalam [mal], Tamil [tam].

Language Development: Literacy rate in L2: 41% for Kerala, 26% for Tamil Nadu (2001 census).

Language Resources: OLAC resources in and about Paniya

Writing: Kannada script [Knda], used in Karnataka. Malayalam script [Mlym], used in Kerala. Tamil script [Taml], used in Tamil Nadu.

Other Comments: A Scheduled Tribe. Hindu, traditional religion [9].

### IV. PROPOSED METHODOLOGIES

#### PANIYA MALAYALAM TRANSLATION

##### A. Testing

In translation of Paniya language, when a word is considered for translation, that word is separated as its corpus, consonants, prefix, suffix and symbols and the translation will be done by passing through each of these phases. An explanation of each phase of translation in Fig. 3.

In Lexical Analysis, it is also called Scanner or Linear Analysis. Complete source code is scanned and source program is broken into groups of strings called Tokens. A token is a sequence of characters having a collective meaning.

- 1) **Phase 1: Translating the Corpus Word:** Translating the corpus word depends on the meaning of the word. It has specific meaning and it cannot be changed accordingly. It may have two meanings. The usages of these words are mainly based on the meaning apt for the situation.
- 2) **Phase 2: Translating the Suffix Word:** Translating the suffix word depends on the meaning of the word. A word can have more than one meaning. So, translation is done according to the situation.
- 3) **Phase 3: Translating the Prefix Word:** Translating the prefix word depends on the meaning of the word. It is possible that a single word can have many different meanings according to its scene. While translating this

should be considered too. If the suffix or prefixes are noted as symbols, they cannot be translated only the letter between them can be translated.

- 4) **Phase 4: Translating the Consonants:** Translating the consonants depends on the meaning of the word. It may have one or more meanings in consonants. Choose the word according to the situation.
- 5) **Phase 5: Update a word:** If all the above phases are false then select the 'add one' option. The updated word will be stored in the database. From the next translation onwards this word will be translated and output will be displayed.

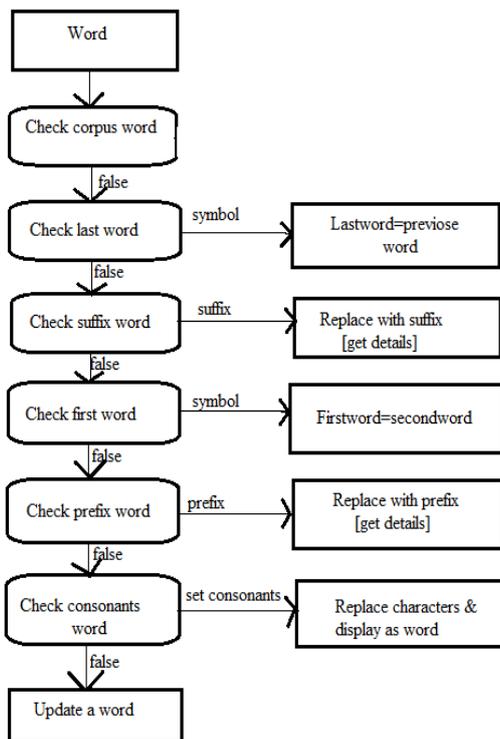


Fig. 3 Phases of Translation

**B. Table Design**

The most important aspect of building an application is the design of tables or database scheme. The data stored in the tables must be organized in some manner, which is meaningful. The overall objective in the process of table design has been to treat data as an organizational resource and as an integrated whole.

The major aim of the process of normalization is to reduce data redundancy and prevent losing data integrity. Redundancy refers to unwanted and unnecessary repetition of data. Data integrity has to be converted at all levels. The structure of data has always been an important part of the design. At the program component level, the design of data structures and the associated algorithms required to manipulate them is essential to the creation of high quality applications. At the application level, the transition of a data model into data base in pivotal to achieving the business objective of the system. A Database is a collection of

interrelated data stored with minimum redundancy to serve usage more quickly and efficiently.

There are five tables in the database. They are Consonants, Corpus, Prefix, Suffix, and Symbols. All tables commonly used primary key is ID.

**C. Conversion Algorithm**

The conversion algorithm used for the translating a paniya language in Malayalam and vice-versa. First, the corpus words are translated. The corpus words are null, replace the words and to check the last words then first words. The symbols are checked. After that a word, each space is considered. In check the prefix word, the first three and first words are checked. Otherwise replace the word. In suffix word, the last words are checked.

In consonants, the words are checked and replace the characters. In each word is translated with symbols. No one can translated in Malayalam, update a word. That is, Add One option is used. It is stored in a database. Evaluating a conversion algorithm in paniya language. We examine the accuracy of the translating a paniya language in forward and vice-versa.

**Algorithm**

Input: N words.

Output: Converted words

Procedure:

1. 1 for all word in words repeat 2 → 30
2. flag\_corpus=checkIsCorpus()
3. If flag\_corpus=true
4. converted=GetCorpusFromDb()
5. Go to step 31
6. If flag\_corpus= false
7. prefix= takePrefix
8. prefix\_symbol\_flag=checkIsSymbol
9. If prefix\_symbol\_flag=true
10. prefix=newxtToPrefix
11. prefix\_replacements=getPrefix()
12. For all replacements in prefix\_replacements repeat 12-->14
13. converted=replacements+lettersAfterPrefix
14. Go to step 31
15. suffix= takeSuffix
16. suffix\_symbol\_flag=checkIsSymbol
17. If suffix\_symbol\_flag=true
18. suffix=BeforeSuffix
19. suffix\_replacements=getSuffix();
20. For all replacements in suffix\_replacements repeat 20-->21
21. Converted=lettersBeforeSufix+ replacements
22. Go to step 31
23. consonants= takeconsonants
24. consonants\_symbol\_flag=checkIsSymbol
25. If consonants\_symbol\_flag=true
26. consonants=Afterconsonants
27. consonants\_replacements=getconsonants();
28. For all replacements in consonants\_replacements repeat 28-->30
29. converted=lettersBeforeconsonants+ replacements

- 30. Go to step 31
- 31. Print converted

The conversion algorithm used to converting in each word and sentence in paniya language and Malayalam language. This algorithm used in the each table such as corpus, suffix, prefix, consonants and symbols. Each step is checked and prints the correct translated word or sentence. In prefix and suffix table, after and before a symbol is checked and get the details of the word. In consonants, after consonants are checked and get the details of the word.

## V. RESULTS

In translation of Paniya language, there are some tables are created such as suffix, prefix, symbols, consonants and corpus. These tables are stored into some words, letters and replacements. In order to evaluate the performance of translation results, we define the Precision of translation as in equation

$$\text{precision} = \frac{\sum \text{Correct TWs}}{\sum Ws} * 100 \tag{1}$$

Where, Ws represents total number of words in table and Correct TWs represents the correct translated words.

In suffix table, 60 last letters are stored .we can replace 37 letters from 55 letters. The average precision is 67.27%. In prefix table, 13 letters are stored and the precision is 100%. In consonants table, 84.6% is precision. Finally, corpus table provide 1000 trained words. The average precision is 100%.

TABLE 1  
SUMMARY OF EVALUATION RESULTS

Modules	Average Precision	Backward Precision
Suffix	67.27	74.54
Consonants	84.6	77
Prefix	100	92.3
Corpus	100	90

The above table provides the bar graph is Fig. 4. There are five tables in database. Suffix, consonants, prefix, corpus and symbols. In suffix, Average precision is lower than Backward precision. The total precision is 74.54% in Malayalam. Consonants are more than in backward precision. 84.6% is correct translated words. The 77% is backward precision. The prefix and corpus are 90 above percentage. The small variation in between two lines.

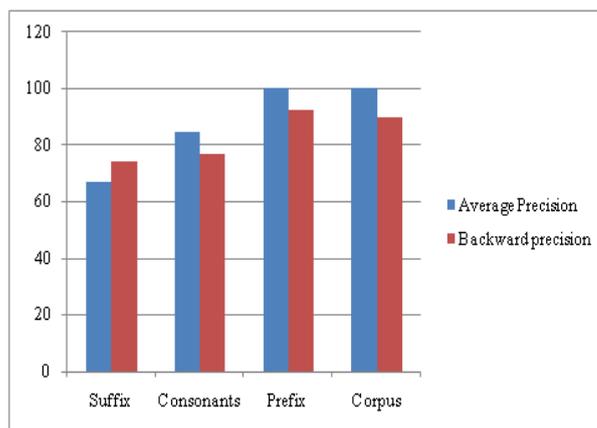


Fig. 4 Precision

The result of corpus is paniya and Malayalam is small variation and continuing the process. The blue line is represented as the average or forward precision and the brown line is represented as the backward precision.

We conducted a survey in Kuttimoola paniya colony in the district of Wayanad. It was concerned about Paniya language. About 23 families are living here. According to survey, we found that most of the people are communicating in their own Paniya language rather than Malayalam. They communicate to the outsiders who knows their native language. But if the outsider is not known Paniya language, they carry out the communication in Malayalam.

There are around 121 people living in the colony, they all uses Paniya language for communication, not Malayalam. There have been changes append in their customs due to modernization, but they still use Paniya language. Their speciality was that they lived in joint family. Especially the people who lived 50 years ago were talking in pure Paniya language. Gradually they started to use Malayalam words too and they gave up the joint family system. Lots of changes have come in their family lives. But still 98%of people are using Paniya language.

Since the population is being increasing day to day, it can be conducted that there is hardly any chance for this language to be extinct. And this survey found out that in the nearby also people uses paniya language to communicate.

TABLE 2  
SURVEY RESULT

Category	Percentage
Paniyar	98%
Speak	70%
Understand	50%

In survey, three categories of people are there. They are Paniyar, Speak and Understand. The Paniyar category(98%) only know their native language. The Speak category(70%) can speak and understand the Paniya language. Finally, the Undestand category(50%) only understand the Paniya

language but can't speak. The result is shown in the following Fig. 5.

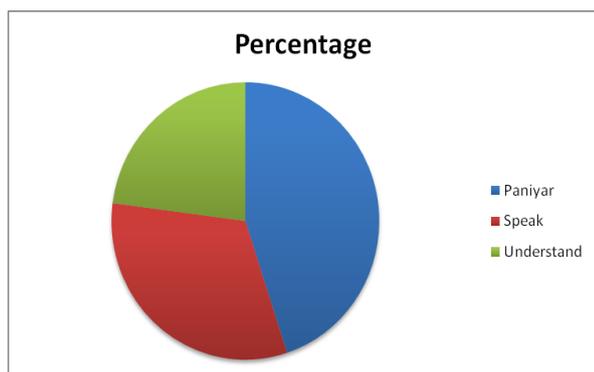


Fig. 5 Percentage of Survey

## VI. CONCLUSIONS AND FUTURE WORK

Paniya language is not a scripting language. The words and sentences are translated in Malayalam and vice versa. Conversion algorithm is used to convert Paniya language to Malayalam. It is possible to convert each word and sentences. The idea is that each word will be converted when the space bar or enter key or convert keys are pressed, the corresponding converted word will be displayed in the allotted box. Prefix and corpus words can be converted completely into Malayalam language since, Malayalam have more complex prefix and corpus words; it is not entirely possible to convert it into Paniya. An Add one option is available to add the translation of the Malayalam word which is stored into database. Five relations are created in database to store the suffix, prefix, symbol, consonants and corpus. For better understanding, the success percentage rate of translation graph is also added in the paper. However, for our future work to include Paniya language at least among the Paniyas. Combined between Paniyas lifestyles and our lifestyle, our language etc. And more understand a culture, region and tradition.

## ACKNOWLEDGMENT

I hereby dedicate this paper to the God Almighty whose abundant grace and mercy enabled its successful completion. I would like to profound gratitude to all the people who have inspired and motivated me to make this paper success.

I would like to thank my parents who show me the right way and gave me full support and help that made me confident to complete this paper.

Dr. Thomas Monoth, Head of the Department of Computer Science; Ms. Jisha T.E, my paper guide for their source encouragement and expert guidance throughout the paper period.

I would like to thank Mr. Regi, the principal of Pulpally Jayasree T.T.C department; Mr. Joseph K Job, Malayalam Professor of Mary Matha Arts & Science College is helping me out at data collection.

I would also like to Smt. Saritha, she is worked at Radio Mattolli 90.4 FM, and she is helping for my data collection. And some photograph gives the Mr. Aji Colonia and thankful to Paniya colony members.

I would like to extend my sincere thanks to my colleagues. I convey my thanks to all helped directly or indirectly to carry out the main paper successfully.

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