



Límbu

Parallel Text Corpus:

Linguistic Features and Structures



LIMBU PARALLEL TEXT CORPUS: LINGUISTIC FEATURES AND STRUCTURES



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*Annotated, quality language data (both-text & speech) and
tools in Indian Languages to Individuals, Institutions and
Industry for Research & Development - Created in-house,
through outsourcing and acquisition.*

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LIMBU PARALLEL TEXT CORPUS

Umesh Chamling Rai

1.1 LDC-IL PARALLEL TEXT CORPUS

LDC-IL has developed parallel corpus in Indian mother tongues. India has 270 mother tongues as per 2011 census. Most of these mother tongues have no written text readily available and they are mostly oral languages. Most of them do not have any script of their own or use one or more than one dominant script used in that region. Following the requirements of the NEP-2020, LDC-IL initiated to collect sentences from different mother tongues that could give an idea about the basic structure of these 270 mother tongues.

A parallel corpus is a collection of texts in two or more languages that are carefully aligned sentence wise in pairs and placed either side by side or matched with a common sentence/phrase identification number. It is widely used in linguistics, translation studies, and Natural Language Processing. Researchers use it to compare vocabulary, grammar, and meaning across languages, while computational systems rely on it to train statistical and neural machine translation models. Parallel corpora also support language learning by providing real translation examples and enable cross-language information retrieval, allowing users to access information in multiple languages efficiently.

LDC-IL developed a framework to accommodate all the linguistic features of mother tongues. The sentences were collected from Indian scheduled languages especially from descriptive grammar books. The sentences cover the general grammatical and structural types like adjectival phrases, adverbial phrases, compounding, Interrogative sentences, Imperative sentences, different speech types, statements, structural question, coordination, subordination and so on. Moreover, it includes linguistic features such as use of adposition, anaphora, derivational morphology, inflectional morphology and language specific features like emphasis, equative, possession, reciprocation, reflexive expression and so on. For more details on the source collection for this parallel corpus, please refer to the [LDC-IL Corpus Insights \(2025\)](#).

This parallel corpus can be used in AI development by enabling the creation of Indic multilingual foundation models, develop cross-lingual knowledge graphs and create low-resource language adapters. By providing high-quality linguistic data, it strengthens natural language understanding and generation. As India rapidly advances in the digital age, it is essential to preserve and promote undocumented mother tongues by bringing them onto digital platforms, ensuring they are sustained and able to thrive for future generations.

Low-resource languages have a significant impact on both AI development and digital world. When AI systems are trained mostly on high-resource languages, they become biased toward those linguistic and cultural contexts. Including low-resource languages helps build stronger multilingual foundational models. Exposure to diverse grammar structures, vocabulary, and linguistic patterns improves cross-lingual learning and generalization. Language carries cultural knowledge. Incorporating low-resource languages enriches AI systems with diverse worldviews, idioms, and traditional knowledge systems. If a language is not supported digitally, its speakers

may be excluded from online education, e-governance, healthcare services, and digital commerce. When digital tools support local languages, more people can participate in the economy. Local languages often contain indigenous knowledge about agriculture, medicine, environment, and culture and therefore bringing them into digital ecosystem safeguards the linguistic treasures that language might contain.

Supporting low-resource languages makes AI more inclusive, intelligent, and representative of linguistic diversity. In India, where hundreds of mother tongues co-exist, investing in low-resource language technologies is essential for equitable digital growth.

1.2 CHALLENGES IN CREATING A PARALLEL CORPUS

Creating a Parallel Corpus for mother tongues in India involves several linguistic, technical, and socio-cultural challenges. The major difficulty is the lack of standardized orthography in many regional and tribal mother tongues. Most of the mother tongues use the prominent script used in their region. Some mother tongues may use multiple scripts or even a newly created writing system, which complicates the corpus development. Another challenge is the scarcity of written and digitized resources. Many mother tongues are used for daily communication only.

Dialectal variation is another serious issue, as a single mother tongue may have numerous regional varieties with differences in vocabulary, pronunciation, and grammar. This makes it difficult to ensure consistency and representativeness in the corpus. Accurate translation is a concerned matter. Proficient bilingual speakers may be limited for low-resource languages. Maintaining semantic equivalence across mother tongues with different cultural contexts can be challenging. Sometimes equivalent words are not available due to the socio-cultural differences. These factors affect large-scale parallel corpus development in Indian mother tongues. The creation of reliable and balanced parallel corpora for Indian mother tongues is a complex and resource-intensive task.

1.3 LIMBU: A BRIEF INTRODUCTION

The Limbu language, also known as Yakthungpan, is one of the indigenous languages of the Eastern Himalayas. It is the mother tongue of the Limbu (Yakthung) community and carries deep cultural, historical, and ritual significance. The language has its own unique script called Sirijunga script, which was revived in the 18th century and is now used in education, literature, and cultural preservation.

Limbu language is rich in oral and written traditions. It is widely used in rituals such as Mundhum recitations, folk songs, and storytelling. The language reflects the worldview, beliefs, and identity of the Limbu people. Sikkim Government has recognised the Limbu language as a State Official language from the year 1981. The number of speakers of Limbu is estimated to be around 300,000 to 400,000 worldwide, with the majority residing in Nepal. According to the 2011 census report of India, Limbu speakers are estimated around 38,067 with the majority residing in Sikkim, Darjeeling, Assam, Manipur, Nagaland and Arunachal Pradesh.

1.4 LIMBU PARALLEL CORPUS

Limbu belongs to the Tibeto-Burman branch of the Sino-Tibetan language family. This language family includes many languages spoken across the Himalayan region and parts of East Asia. Limbu has several dialects, including Phedape, Tamorkhole, Panchthare, and Chatthare. The differences among these dialects are mainly found in pronunciation, vocabulary, and certain grammatical features. However, speakers of different dialects can generally understand one another.

The grammatical system of Limbu is agglutinative, meaning that words are formed by adding prefixes and suffixes to root words. The language follows a Subject–Object–Verb (SOV) sentence structure. It also uses a complex verb agreement system that includes markers for person, number, and tense. Another notable feature is the distinction between inclusive and exclusive forms of “we,” which is common in many Tibeto-Burman languages.

During interpretation and linguistic analysis, many scholars have observed that Limbu does not always have direct equivalents for certain terms from source languages such as English, Nepali and Hindi. In such cases, scholars often use descriptive phrases, borrowed terms, or culturally adapted meanings to convey the intended message.

The grammatical and linguistic experience during linguistic analysis can be both challenging and enriching. Researchers must carefully consider verb agreement, honorific forms, and cultural nuances. Differences in sentence structure and the lack of direct lexical equivalents often require creativity and a deep understanding of both the source and target languages. This process highlights the uniqueness of the Limbu language and emphasizes the importance of preserving its linguistic integrity. The above mentioned features contribute to Limbu’s uniqueness among the languages of India and highlight its importance in the study of linguistics.

Limbu is a valuable resource for developing parallel text corpora with other Indian mother tongues. This parallel text corpus can serve as a valuable research resource for studying syntactic divergence, morphological richness, code-mixing phenomena, and script variation, which are particularly relevant in multilingual contexts such as India.

1.5 SUMMARY OF LIMBU PARALLEL CORPUS

The Limbu parallel text corpus connected with English and 146 mother tongues of India. Those mother tongues are Anal, Angami, Are, Assamese, Awadhi, Bagheli/Baghel Khandi, Bagri Rajasthani, Bagri, Balti, Bengali, Bhadrawahi, Bharmauri/Gaddi, Bhojpuri, Bilaspuri Kahluri, Bodo, Brajbhasha, Bundeli/Bundel khandi, Chakru/Chokri, Chambeali/Chamrali, Chang, Chhattisgarhi, Chirr, Chungli, Churahi, Coorgi/Kodagu, Deori, Dhundhari, Dimasa, Dogri, Gangte, Garhwali, Garo, Gojri/Gujjari/Gujar, Gujarati, Gujari, Halabi, Handuri, Hara/Harauti, Haryanvi, Hindi Multani, Hindi, Irula/Irular Mozhi, Kabui, Kachchhi, Kangri, Kannada, Kashmiri, Khandeshi, Khari Boli, Khasi, Khezha, Khiemnungan, Khortha/Khotta, Kisan, Kodava, Kolami, Koli, Kom, Konda, Konkani, Koya, Kudubi/Kudumbi, Kuki, Kurmali Thar,

Lepcha, Liangmei, Lotha, Lyngngam, Magadhi/Magahi, Maithili, Malayalam, Malvi, Manipuri, Mao, Mara, Maram, Marathi, Maring, Mech/Mechhia, Mewari, Mewati, Miri/Mising, Mishmi, Mizo, Mongsen, Monpa, Mundari, Muwasi, Nawait, Nimadi, Nyishi, Nocte, Odia, Pahari, Paite, Palmuha, Pania, Pawari/Powari, Phom, Pnar/Synteng, Pochury, Poula, Punjabi, Purkhi, Rai, Rajasthani, Reang, Rengma, Rongmei, Sadan/Sadri, Sambalpuri, Sangtam, Sanskrit, Santali, Saurashtra/Saurashtri, Sema, Shina, Sindhi, Sirmauri, Sugali, Surjapuri, Talgalo, Tamil, Tangkhul, Telugu, Thado, Tibetan, Tikhir, Tripuri, Tulu, Urdu, Vaiphei, Wagdi, Wancho, Yerava, Yerukala/Yerukula, Yimchungre, Zeliang, Zemi, Zou.

There are 5,332 sentences/phrases in Limbu which are systematically structured based on 159 grammatical categories. Limbu has 23296 words count and 164517 character count. The corpus is aligned with 146 mother tongues and English, comprising 4,404,845 words (over 4.4 million tokens) and 23,374,289 characters (approximately 23.3 million).

1.6 REFERENCE

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