



Nyishi

Parallel Text Corpus:

Linguistic Features and Structures



NYISHI 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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e-ISBN: 978-81-69099-17-2

CIIL Publication No.: 1589

First published: AD 2026 March :: Phalguna 1947 Śaka

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Publisher: Prof. Shailendra Mohan, Director, CIIL

Printing & Publication Unit

Aleendra Brahma, Officer-in-Charge, Printing Press & Publication Unit
B Manju Bhargavi, Unit-in-Charge, Printing Press & Publication Unit
M.N. Chandrashekar, Compositor, Printing Press & Publication Unit

Cover design: Umesh Chamling Rai

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NYISHI 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 NYISHI: A BRIEF INTRODUCTION

Nyishi is one of the major languages spoken in the state of Arunachal Pradesh in Northeast India. The term 'Nyishi' refers both to the ethnic community and to their language. All communities officially recognized as Nyishi share a broader ethnic and linguistic identity. The Nyishi constitute the largest tribal group in Arunachal Pradesh and are distributed across six districts, including Papum Pare, East Kameng, Kurung Kumey, Kra-Dadi, Kamle, and Pakke-Kessang. Due to this wide geographical spread, the language exhibits noticeable regional, cultural, and linguistic variations.

According to the 2011 census of India, there are approximately 289,166 Nyishi speakers in India. However, population size does not necessarily reflect the vitality of the language, as many members of the younger generation are not fluent speakers.

1.4 NYISHI PARALLEL CORPUS

Nyishi belongs to the Tibeto-Burman family, specifically to the Tani subgroup of languages spoken in Arunachal Pradesh. The Tani group includes Nyishi, Apatani, Tagin, Adi, Galo, and Mishng. These communities trace their ancestry to the mythical progenitor Abotani and are collectively known as the Tani tribes. Although they share a common origin, each language has developed distinct features over time.

The Nyishi language can be categorized into four major regional variants based on geographical distribution. Pare-Panyor, Kameng, Kurung and Kamle-Sinyik variant. Here is an example, the word for ‘rice’ shows phonological variation across these variants:- Pare-Panyor – acin, Kameng – aping, Kurung – aching, Kamle – acin. The Nyishi exhibits phonological features that are characteristic of Tibeto Burman languages, with some regional variations across its major dialect groups. A very important feature of Nyishi phonology is the velar nasal /ŋ/ frequently occurs in syllable-final position and is a common feature in many Nyishi words. The palatal nasal /ɲ/ appears in palatal environments, particularly before front vowels or palatal approximants.

A notable phonological feature observed in some areas, particularly in varieties influenced by the Apatani-speaking region, is the presence of the palatal lateral /ɭ/. The Kameng variant of Nyishi displays additional distinct sounds such as /f/ and /v/, which are not generally found in the other variants. Overall, phonological differences among variants are mainly related to pronunciation and sound inventory, while the grammatical structure remains largely consistent across regions.

Nyishi is an agglutinative language. It follows a Subject–Object–Verb (SOV) word order. The verb typically appears at the end of the sentence. The above mentioned features contribute to Nyishi’s uniqueness among the languages of India and highlight its importance in the study of linguistics.

Nyishi 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 NYISHI PARALLEL CORPUS

The Nyishi 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, Chirri, Chungli, Churahi, Coorgi/Kodagu, Deori, Dhundhari, Dimasa, Dogri, Gangte, Garhwali, Garo, Gojri/Gujjari/Gujar, Gujarati, Gujar, 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, Kurmal 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, 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 Nyishi which are systematically structured based on 159 grammatical categories. Nyishi has 32368 words count and 149388 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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