

Proposal to Encode Chisoi in the Universal Character Set

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1. Introduction

This is a proposal to encode Chisoi in the Universal Character Set. Chisoi is used to in West Bengal, Odisha and Jharkhand for writing the Kurmali /Kudmali language. This document provides a description of the writing system, implementation details, a code chart and names list, and a few specimens. It supersedes the following documents:

- [L2/21-183](#) 'Proposal to Encode Chisoi in the Universal Character Set'

It incorporates comments regarding previous proposals made in:

- [L2/21-174](#) 'Recommendations to UTC #169 October 2021 on Script Proposals'

2. Backgrounds

Chisoi(ଚିଶୌ/କିଶୌ) is a script used for writing **Kurmali** (Devanagari:कुड़मालि, Bengali:কুড়মালি, Odia:କୁଡ଼ମାଲି, Chisoi:କିଶୌ, IPA:[kuɾma:li]) (ISO 639-3:kyw), is an Indo-Aryan language (classified under Bihari group) of 311,175 people (census 2011) primarily spoken in Seraikela Kharsawan, Khunti, East Singhbhum, West Singhbhum Districts of Jharkhand; Mayurbhanj, Keonjhar, Balasore Districts of Odisha; Purulia, Bankura, Jhargram, South Dinajpur and Paschim Medinipur Districts of West Bengal. Kurmali is closely related to **Khortha** language of Jharkhand. **Panchapargania** (ISO 639-3:tdb) is a dialect of Kurmali language. It is spoken by 257,000 people (2011)(Ethnologue) in 'Panchapargana' (Bundu, Silli, Rahe blocks of Ranchi; Tamar, Arki blocks of Khunti and Jhalda I & II blocks of Purulia) region of India. It is an unwritten language. Kurmali is also mother tongue of some people of Chhattisgarh, Assam and other parts of India even in Bangladesh and Nepal. Kurmali language is spoken by Kur(d)mi people. Kur(d)mi people of Assam (Golaghat district) mostly referred Assamese as their first language as like Kur(d)mi people of Nepal^[13] referred Bhojpuri. Kur(d)mi people of Bangladesh (Sylhet, Moulavibazar and Habigonj districts) still using Kurmali as their primary language. Kur(d)mi includes Mahato, Mahata, Kurmi, Kudumi, Mohanta, Mahanta, Bagal, Kamar, Kamhar, Tanti, Harhi, Muchi, Napit, Dhopa, Dhai, Morol, etc sobriquet. Kurmali was recognized as an additional official language of Jharkhand and West Bengal.

Kurmali Language written in four scripts i.e. Chisoi, Devanagari, Bengali and Odia. Devanagari and Bengali are commonly used in official purposes in Jharkhand and West Bengal, but Chisoi is the own script of Kurmali Language. Many peoples and Kurmali linguists created their own version of Kurmali script in last few decades, but unfortunately those are not accepted by the people and not implemented later. Jayanta Kumar Mahata of Bamundiha village, Medinipur district had invented Chisoi scripts in 1986. He gets inspiration to create a new writing system from his grandfather. His grandfather was one of the famous Kurmali folklore singer of his time. He started to collect various ancient symbols, Rangolis, Alpanas, ritual signs of Kurmali community from his school time [see fig.1]. After completing his graduation, he created a new script in 1986[see fig.6] and named 'Chisoi'. Most of the letters derived from ✎, reflects their deity *Burhābābā*. This symbol ✎ also known as 'Svastika' in Bengali Hindu community.



Figure 1: Showing various Kurmali traditional symbols as well as Rangoli and Alpanas.

2.1 Developments

Jayanta Kumar Mahata named the script as ‘*Kurmali Lipi*’. But the word ‘Chisoi’ is very popular and well known among to Kudmali community. There is a very famous rhyme among the Kurmali linguistic community i.e

‘*Cis Cisôî Cisio, Cisā Cisi Sikhio*’ ଚଟକ୍ ଚଟକଟ ଚଟକଟେ, ଚଟକା ଚଟକଟେ କଟକଟେ

And the meaning of word ‘Chisoi’ is drawn /written in Kurmali language. Therefore he considered ‘**Chisoi**’ is an appropriate name for this new script. He used name **Chisoi** first time in his publication ‘*Kurmali Chisoi Chinhap*’ in 1994.

In 1994, Jayanta Kumar Mahata established ‘*All India Kurmali Chisoi-A Society*’ ଚନ ଚମ୍ପୁଟିଆ ଚଦାଧାଚନଟ ଚଟକଟେ—ଚ କଠକାଚଟେ and ‘*Kurmali Chisoi-A writers and Artist Association*’ in 2009. In 2016, Jayanta Kumar Mahata, Narayan Mahata along with 3 more people established ‘*Kurmali Chisoi Chari Foundation*’ trustee-board. Later, he established ‘*Kurmali Chisoi-A Teachers’ Association*’ ଚଦାଧାଚନଟ ଚଟକଟେ-ଚ ଚଟକଟେଲ୍ ଲକାକଟିଆଲକାଚ in 2019.

All India Kurmali Chisoi-A Society opened first Kurmali private elementary schools and adult education center in 2009. In 2021-22, 49 new primary schools got opened only in Purulia district. At present Jhargram has 20 schools, 606 students and 49 teachers. Similarly, there are 52 schools, 817 students, 104 teachers in Purulia and 3 schools, 8 teachers and 61 students in Paschim Medinipur. And 2 schools run over Jharkhand and Odisha. These schools are specifically for Kurmali and Chisoi learning. In 2009, some schools got formal recognition from State Government. Nowadays, 10 Kurmali elementary schools are running under Govt. of India’s *Samagra Shiksha Mission* *ସମଗ୍ର ଶିକ୍ଷା ଅଭିଯାନ* schemes, like Gadra, Sonakhuli, Joypur, Barsole, Dwarkanath, etc. Some other private organizations are teaching Chisoi script in Odisha and Jharkhand.

In 2009, *All India Kurmali Chisoi-A Society* published first ever Kurmali primer ‘*Kurṃāli Cisoî Cinhāp*’ ଚଦାଧାଚନଟ ଚଟକଟେ ଚଟମ୍ପୁଚିନ୍ for class-I [see fig.7]. Later on Mangal Mahata compiled another primer ‘*Kurṃāli Ô-Bô-Āi Suluk Pūthi*’ ଚଦାଧାଚନଟେ-ଚ-ଚ କନକଟ କିଦାକି in 2017. Ujjwal Mahata from Rajshahi, Bangladesh compiled first ever Kurmali primer ‘*Gidôrūenke Kurṃāli Cisôî*’ ଏଟେକ୍ଠିଲକାଚ ଚଦାଧାଚନଟ ଚଟକଟେ for Kurmali speakers of Bangladesh in Feb 21, 2021. In Bangladesh, Tapan Mahato conducting online Chisoi teaching learning workshops for Kurmali speakers of Bangladesh

Two digitized fonts are available for Chisoi, ‘*KurmaliChisoy*’ (True Type) was designed by Pankaj Mahato in 2000. All old Kurmali books, magazines, banners, pamphlets, etc used this font. Another True Type font ‘*Biswa_Chisoi*’ designed by Biswajit Mandal in the year of 2021. It is being used to print all new editions of books; banners, etc. like new edition of textbooks ‘*Kurṃāli Sārā Bāhār*’ ଚଦାଧାଚନଟ କାଚାଚ ଚାଚାଚାଚ for III & ‘*Kurṃāli Sārā Bāhār*’ ଚଦାଧାଚନଟ କାଚାଚ ଚାଚାଚାଚ for IV.

2.2 Usage

Chisoi is currently used in writing and print for various purposes:

- **Educational Materials**

Primary level educational materials for Kurmali published by All India Kurmali Chisoi-A Society, Raghunathpur, Jhargram District (W.B.). Examples of primers are ‘*Kurṃāli Cisoî Cinhāp*’ ଚଦାଧାଚନଟ ଚଟକଟେ ଚଟମ୍ପୁଚିନ୍ for class-I and ‘*Kurṃāli Cisoî Cinhāp Dôri Khôarā*’ ଚଦାଧାଚନଟ ଚଟକଟେ ଚଟମ୍ପୁଚିନ୍ ଚାଚାଚ ଚିଂଚାଚାଚ for class-II, etc in 2009. [see fig.7]

Mangal Mahata compiled another primer ‘*Kurṃāli Ô-Bô-Āi Suluk Pūthi*’ ଚଦାଧାଚନଟ ଚ-ଚ-ଚ କନକଟ କିଦାକି in 2017. Ujjwal Mahata (Bangladesh) compiled first ever Kurmali primer ‘*Gidôrūenke Kurṃāli Cisôî*’ ଏଟେକ୍ଠିଲକାଚ ଚଦାଧାଚନଟ ଚଟକଟେ for Bangladesh in 2021. [see fig.27]

Chariyan Mahato has written pre-primary textbook ‘*Hāmôr Kurṃāli Cisôî*’ ଏଚାଚାଚ ଚଦାଧାଚନଟ ଚଟକଟେ in 2022.

- **Newspaper**

A weekly newspaper of Kurmali ‘*Āddās*’ ଚକ୍ଠକାଚ in Chisoi first time published in 16th June 2013, edited by Narayan Mahata. Now it is not publishing from 2 years due to COVID pandemic. New edition will be published in new font so soon. Another monthly magazine ‘*Pôrôm*’ ପରମ (2017) published in Bengali, sometime it carries Kurmali articles.[see fig.26]

- **Ephemera**
‘Kurmali Chisoi-A Teachers’ Association’ ଚଳାପାଳନଟି ଚିତ୍ରକଳା-ର ଚିତ୍ରକଳା ଓ ଲିଖନିଆଲିଖନିଆ produces and distributed various posters, banners and pamphlets. [see fig.22]
- **Linguistic works**
The Kurmali-to-English dictionary ‘*Kuṛmāli Sārābhōārār*’ ଚଳାପାଳନଟି ଶାବ୍ଦକୋଷ ଗଠନା ପାଇଁ ପ୍ରକାଶିତ ହୋଇଥିଲା। And Chisoi-to-English-to-Bengali – Kurmali dictionary ‘*Kuṛmāli Sārā bhōārār*’ ଚଳାପାଳନଟି ଶାବ୍ଦକୋଷ ଗଠନା ପାଇଁ ପ୍ରକାଶିତ ହୋଇଥିଲା। [see fig.19a &b]
- **Literary Works**
Kurmali poetry book ‘*Kuṛmāli Cāri Disā*’ ଚଳାପାଳନଟି ଗଠନା କଲେଇଲେଇ by Mangal Mahata in both Chisoi and Bengali scripts in 2016 [see fig.29].
Kurmali poetry book ‘*Cāriceṭhā*’ ଗଠନା କଲେଇଲେଇ by Narayan Mahata in 2014 [see fig.30].
The Kurmali prose ‘*Bulān*’ ଗଠନା କଲେଇଲେଇ by Maniklal Mahata in 2018 [see fig.28].
- **Workshops**
‘All India Kurmali Chisoi-A Society’ ଦ୍ଵାରା ଅନୁଷ୍ଠାନିତ ଚଳାପାଳନଟି ଚିତ୍ରକଳା-ର ଶିକ୍ଷାଗ୍ରହଣ କରେ। Conducts Half Yearly Chisoi Teaching-Learning Workshop every year. In 2017, it conducted a workshop in Jharkhand collaborately with ‘*Kurmi Sanskriti Bikas Samiti Dhalbhumgarh*’.[see fig. 16(d)]
In 2022, ‘One day workshop on Kurmali Chisoi chari education & its future aspect’ organized by ‘*Manbhum Dalit Sahitya O Sanskriti Sangha*’ in Jhargram. [see fig.16(e)]
- **Digital Works**
‘All India Kurmali Chisoi-A Society’ launched ‘All India Kurmali Shaksharta Mission of Chisoi’ and ‘ChisoiKurmali’ Android App (available in Google Playstore) in the November, 2021. It is a digital platform to learn Chisoi. [see fig.31]^A

3. Script

The script is assigned the name ‘**Chisoi**’. The proposed characters are intended for presenting current forms of Chisoi. The set consists of 41 characters: 28 letters, 1 sign, 2 punctuation and 10 digits. [see fig.6,7,10]

3.1 Structure

Chisoi (also called as *Kuṛmāli Cisoī* ଚଳାପାଳନଟି ଚିତ୍ରକଳା, *Cisōi lipi* ଚିତ୍ରକଳା ନିଦାନିକା or *Cisoī lipi* ଚିତ୍ରକଳା ନିଦାନିକା) is written from left-to-right. It has a feature of an alphabet: vowels are written as full letters. However consonants may have an inherent vowels; it typically is pronounced [ɔ] or [ə], normally never occurs in final position but some cases it can occur during to pronounce ‘*Tadbhav* तद्भव’ words. It means ‘a word used in one language which is a distorted from of a word in another language’. For examples: *ମାହାତମ* ‘*māhātō*’ Surname, *ଶାନ୍ତମ* ‘*sāntō*’ Peaceful, *ମୌଷ୍ଟମ* ‘*mōstō*’ Big in size, *ଜଣାଣମ* ‘*ōbgônōtō*’ Known, etc[see fig.19].

The script has no regular system of conjuncts but it has SISO to mute the inherent vowel[see fig.2,3,4 &5].The letter ୠ JARAHA[^h] is used after consonants to indicate aspirations: ୠ khô [k^hɔ], ୠ ghô [g^hɔ], ୠ chô [tʃ^hɔ], ୠ jhô [dʒ^hɔ], etc.

Chisoi is an alphabetical script that is written from left-to-right. There are no attested ligatures. The typical didactic presentation of Chisoi is shown with one major section; signs are included in this section. The section is a chart with ten rows and three columns, where first to fourth, sixth and seventh row’s first letter is a vowel, and the letter names are based on Brahmic style. [see fig.6,7,8,9,10]

ଅ	ଠ	ଡ
A	BA	AAI
ଠ	ଏ	ଟ
AA	GA	TA
ଈ	ଶ	ଠ
E	SA	NA
ଊ	ଢ	ଠ
I	KA	RA
ଋ	ଠ	ଠ
MA	HA	RRA
ୠ	ଈ	ୠ
U	DA	LA
ଠ	ଠ	ଠ
O	NYA	NGA
ଠ	ଠ	ଠ
CA	JA	PA
ଠ	ଠ	ଠ
anusvara	YA	DDA
ଠ	ଠ	ଠ
TTA	JARAHA	SISO

3.2 Chisoi sign anusvara<ଠ>

- The sign (ଠ) is written on the top of the vowels and consonants in question except JARAHA. It is a nasalization mark of Chisoi. It corresponds to the Candrabindu in Devanagari, Bengali and Odia. Its IPA is [̃]. For examples: ଠ[ṣ̃], ଠ[ā̃], ଠ[ṣ̃], ଠ[kṣ̃], ଠ[ḡṣ̃], etc. To represent the nasalized aspirated consonants, the position of sign (ଠ) will be, For examples: ଠ: [kʰṣ̃], ଠ: [gʰṣ̃], ଠ: [pʰṣ̃], ଠ: [tʰṣ̃], ଠ: [dʰṣ̃], etc. [see fig.18]
- In the attached specimens sign anusvara shown as (ୠ), it is due to font's standard. The actual sign of anusvara is (ଠ). It has similarity in glyph with 'COMBINING RING ABOVE' U+030A (ଠ), so it can be unified.

3.2.1 Position of Chisoi Sign anusvara<◌◌>

The position of sign (◌◌) will on the top of the both vowels and consonants. But in the old font “KurmaliChisoy” shows different positions for different letters. It occurs due lack of Unicode standardization. Actually the correct position of sign (◌◌) is the top middle of the letters. For example:

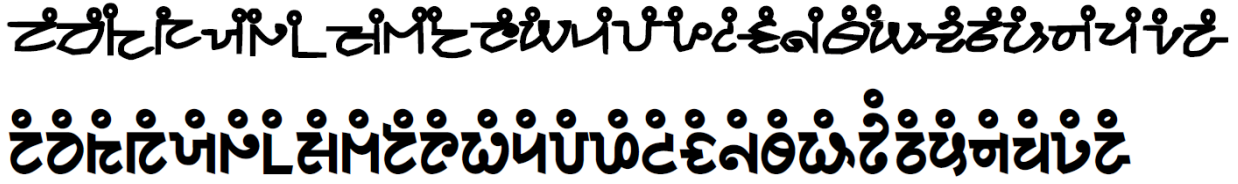


Figure 2: Comparison between original font (first line) and new font (bottom line). Old font is showing non similarities in position of Anusvara but the new font showing accurate top middle position of Anusvara.

3.3 Chisoi letter JARAHA<:;>

- The letter (:;) JARAHA ‘Jôṛô’hô’ ଧରୁ means ‘to add’. It is used after consonants to **indicate aspirations** [ʰ].JARAHA never place in the initial position of any Kurmali words, always used after consonants. For examples: ଢ[kɔ]+:;>=ଢ:;>[kʰɔ], ଏ[gɔ]+:;>=ଏ:;>[gʰɔ], ଢ[tɔ]+:;>=ଢ:;>[tʰɔ], ୟ[tɔ]+:;>=ଞ:;>[tʰɔ], ଢ[ʧɔ]+:;>=ଢ:;>[ʧʰɔ] ,etc.
- In Kurmali writing system there is no use of visarga. JARAHA is the unique character which is not available in Devanagari, Bengali and Odia scripts because it used to make aspirated consonants. It has similarity in glyph with ‘BENGALI SIGN VISARGA’ U+0983 (ᳵ), but this proposal for **separate** encoding of CHISOI LETTER JARAHA.

3.3.1Position of Chisoi letter JARAHA<:;>

- To represent the nasalized aspirated consonants, the position of (:;) JARAHA will be after the sign anusvara, For examples: ଢ:;>+◌◌=ଢ:;>:;> [kʰᳶ], ଏ:;>+◌◌=ଏ:;>:;> [gʰᳶ], ଞ:;>+◌◌=ଞ:;>:;> [pʰᳶ],ଢ:;>+◌◌=ଢ:;>:;> [tʰᳶ],ଏ:;>+◌◌=ଏ:;>:;> [dʰᳶ], etc.[see fig.13][§ 3.2]
- To represent the inherent vowel less aspirated consonants, the position of (:;) JARAHA will be after the SIGN SISO, For examples: ଢ:;>+◌◌=ଢ:;> [kʰ],ଏ:;>+◌◌=ଏ:;> [gʰ], ଞ:;>+◌◌=ଞ:;> [pʰ],ଢ:;>+◌◌=ଢ:;> [tʰ],ଏ:;>+◌◌=ଏ:;> [dʰ], etc. [see fig.13][see fig.][§ 3.4]

3.4 Chisoi Sign SISO<◌◌>

- The sign (◌◌) ‘Sis’ô’ ଶିଷ’ଠ is written in the beneath of the letters in question. Chisoi has no regular system of conjuncts, SISO functions as like to mute the inherent vowel either [ɔ] or [ə] of the consonants. For examples: ଢ[kɔ]+◌◌=ଢ:;>[k], ଏ[gɔ]+◌◌=ଏ:;>[g], ଞ[pɔ]+◌◌=ଞ:;>[p], ଢ[ɲɔ]+◌◌=ଢ:;>[ɲ], etc.
- To represent the inherent vowel less aspirated consonants, the position of sign (◌◌) will be, For examples: ଢ:;>[kʰɔ]+◌◌=ଢ:;>:;>[kʰ], ଏ:;>[gʰɔ]+◌◌=ଏ:;>:;>[gʰ], ଞ:;>[pʰɔ]+◌◌=ଞ:;>:;>[pʰ],ଢ:;>[tʰɔ]+◌◌=ଢ:;>:;>[tʰ],ଏ:;>[dʰɔ]+◌◌=ଏ:;>:;>[dʰ], etc.[see fig.12]And there is no single letter in Chisoi orthography which is containing both **SISO** and **anusvara** together like ଢ:;>:;>, ଏ:;>:;>, ଞ:;>:;> etc.

3.4.1 Other uses of Chisoi Sign SISO <◌◌>

- **Glottalizational mark:** If the last consonant letter of any word carries SISO <◌̚>, it reflects glottal stop phoneme. For examples: ଝମ୍ଭୁ [ɔnhɔʔ] ‘inexpert’, ଝମ୍ଭ [ɔgɔmʔ] ‘not moving’, ଝମ୍ଭୁ [ɔbɔʔ] ‘dirty’, etc.

If any word ended with letter LETTER A <ଌ> and its left sided letter contains SISO <◌̚>, then that letter will carry glottal stop phoneme. For example: ଝମ୍ଭୁ [sisʔ] ‘stop’, etc.[see fig.17,12]

$$\langle \text{Consonant} + \text{◌̚} + \text{ଌ} \rangle$$

- If LETTER I <ଌ> carries SISO <◌̚> in a word, then left sided letter of <ଌ> will pronounce with inherent phoneme [ɔ] or [ə]. For examples: ଝମ୍ଭୁ [aɔɪnɔʔ] ‘Eight’, ଝମ୍ଭୁ [ɔʔɪdʰa] ‘warrior’ and ଝମ୍ଭୁ [ʧɪsɔɪ] ‘Chisoi’ [see fig.12].

$$\langle \text{Consonant} / \text{Vowel} + \text{ଌ} + \text{◌̚} + \text{Consonant} / \text{Vowel} \rangle$$

3.5 Chisoi letter AAI<ଌ>

It is a diphthong vowel letter with combination of LETTER AA and LETTER I. Its glyph is a combination of two letters ଝ+ଌ=ଌ. Its IPA is [ai]. To represent this sound we use आइ (in Devanagari), আই (in Bengali) and ଆଇ (in Odia). For examples: ଝମ୍ଭୁ [aina:] ଆଇନା/ଆইନା/ଆଇନା, ‘Mirror’ and ଝମ୍ଭୁ [āisa:] ଆଇସା/ଆଇସା/ଆଇସା, ‘name of a month’, etc.

3.6 Chisoi letter RRA<ଌ>

It is the voiced retroflex flap [ɾ] of Chisoi. To represent this sound we use ढ (in Devanagari), ড় (in Bengali) and ଢ (in Odia). For examples: ଝମ୍ଭୁ [ɔbgɔʔ] ଅନ୍ଧ/ଅବ୍‌ଗଢ଼/ଅବ୍‌ଗଢ଼, ‘Stupid’, ଝମ୍ଭୁ-ଝମ୍ଭୁ [ɔgɔʔ-bɔgɔʔ] ଅଗଢ଼-ଅଗଢ଼/ଅଗଢ଼-ଅଗଢ଼/ଅଗଢ଼-ଅଗଢ଼, ‘Meaningless’, ଝମ୍ଭୁମାଲି [kuʔma:li] କୁଢ଼ମାଲି/କୁଢ଼ମାଲି/କୁଢ଼ମାଲି, etc.

3.7 Digits

There is full set of decimal digits: ୦ ZERO, ୧ ONE, ୨ TWO, ୩ THREE, ୪ FOUR, ୫ FIVE, ୬ SIX, ୭ SEVEN, ୮ EIGHT, ୯ NINE [see fig.10, 25].

3.8 Punctuation

Chisoi uses DANDA <|> and DOUBLE DANDA <||> at the end of the sentence. DOUBLE DANDA <||> was not included in previous proposal L2/21-183 [24]. Many Indic scripts use the *danda* U+0964 and *double danda* U+0965 from the Devanagari block. The Chisoi *danda* and *double danda* are used in a similar way to how they are used in Devanagari. But this proposal is for separate encoding of DANDA and DOUBLE DANDA for Chisoi. There are no script-specific punctuation marks. Latin marks, such as : ; ‘ ’ () ? / - and ! are used [see fig.24].

4. Character names

The name of the script is Chisoi ‘Chisoi’ ଝମ୍ଭୁ ‘Written’ or ‘Drawn’. The name Chisoi first time found in the literature of Kurmali ‘*Kurmāli Chisoi Cinhāp*’ in 1994. Proposed character names for this proposal are given below [see table no.1].

A	B	C	D	A	B	C	D	A	B	C	D
ꣳ	A	ô	[ɔ]	ꣳ	KA	kô	[kɔ]	ꣳ	NGA	ôñ	[ŋɔ]
ꣴ	BA	bô	[bɔ]	ꣴ	RA	rô	[rɔ]	ꣴ	CA	cô	[tʃɔ]
ꣵ	AAI	ā'i	[ai]	ꣵ	MA	mô	[mɔ]	ꣵ	JA	jô	[dʒɔ]
ꣶ	AA	ā	[a]	ꣶ	HA	hô	[hɔ]	ꣶ	PA	pô	[pɔ]
ꣷ	GA	gô	[gɔ]	ꣷ	RRA	rô	[rɔ]	ꣷ	anusvara	õ	[~]
꣸	TA	tô	[tɔ]	꣸	U	u	[u]	꣸	YA	ôy	[jɔ]
꣹	E	e	[e]	꣹	DA	dô	[dɔ]	꣹	DDA	ô'd	[dɔ]
꣺	SA	sô	[sɔ]	꣺	LA	lô	[lɔ]	꣺	TTA	tô	[tɔ]
ꣻ	NA	nô	[nɔ]	ꣻ	O	o	[o]	ꣻ	JARAHA	jôrô'hô	[h]
꣼	I	i	[i]	꣼	NYA	'iñ	[ŋɔ]	꣼	SISO	sis'ô	

Table 1: column A is showing letters and signs, column B is showing proposed character names, column C is showing native name of letters and column D is showing IPA.

5. Character Shapes

The Chisoi proposed here for encoding in the UCS in the Standard Chisoi, the font “BISWA_CHISOI” for the proposed was drawn by Biswajit Mandal in the year 2021 [see fig.9]. The original font “KURMALICHISOY” was drawn by Pankaj Mahato in the year 2009. All the Kurmali books, documents, specimens, etc those attached here are in original font. The new “BISWA_CHISOI” font used here because original font having lots of imperfections ,that islack of standard qualities in glyphs, problems in positioning of signs, non collinearity in letters and kerning problems in letters. The comparison table no. 1 includes Pankaj Mahato’s original font “KURMALICHISOY” and new “BISWA_CHISOI” font [see table no.2].

5.1 Shapes and collinearities

In the original font having the problem of standard quality in glyphs of letters as well as having problem in coaxial of letters. Some letters heights and sizes are different from others. Attached specimens are showing this problem. The new font is perfectly collinear and good looking.

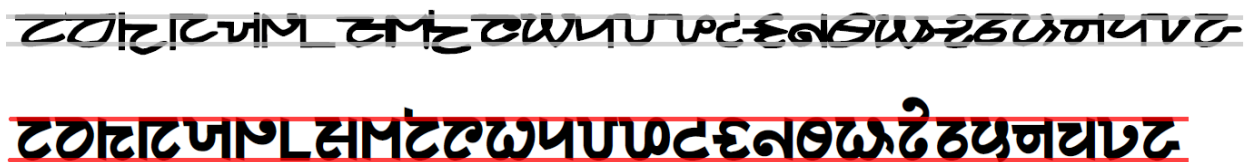


Figure 3: Comparison between original font (first line) and new font (bottom line). Old font is showing non collinearities of letters but the new font showing perfect collinearities as well as beautiful sorts.

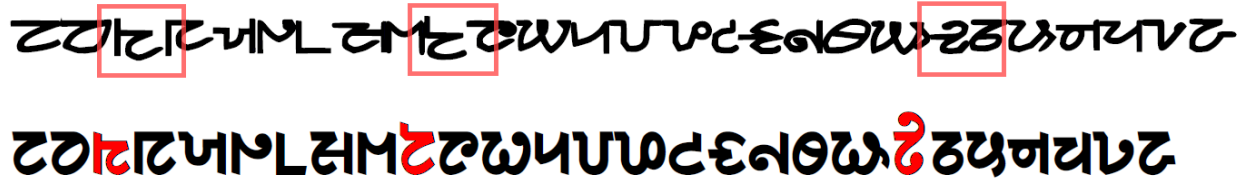


Figure 4: Comparison between original font (first line) and new font (bottom line). Old font is showing the wrong position and size of letter AAI, I and NGA but the new font showing the perfectness.

5.2 Kerning issues between two letters

We are having the proper kerning problem between two letters in the original font. Letters are not perfectly set in the position that is why some letters become stuck with each other and look like a conjunction.[see fig.13]



Figure 5: Comparison between original font (first line) and new font (bottom line). Old font is showing the kerning issues between two letters but the new font showing accurate gap between two letters.

6. Tentative Characters Properties

```

xxxx00;CHISOI LETTER A;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx01;CHISOI LETTER BA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx02;CHISOI LETTER AI;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx03;CHISOI LETTER AA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx04;CHISOI LETTER GA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx05;CHISOI LETTER TA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx06;CHISOI LETTER E;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx07;CHISOI LETTER SA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx08;CHISOI LETTER NA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx09;CHISOI LETTER I;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx0A;CHISOI LETTER KA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx0B;CHISOI LETTER RA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx0C;CHISOI LETTER MA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx0D;CHISOI LETTER HA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx0E;CHISOI LETTER RRA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx0F;CHISOI LETTER U;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx10;CHISOI LETTER DA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx11;CHISOI LETTER LA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx12;CHISOI LETTER O;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx13;CHISOI LETTER NYA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx14;CHISOI LETTER NGA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx15;CHISOI LETTER CA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx16;CHISOI LETTER JA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx17;CHISOI LETTER PA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx18;CHISOI LETTER YA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx19;CHISOI LETTER DDA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx1A;CHISOI LETTER TTA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx1B;CHISOI LETTER JARAHA;Lo;0;L; ; ; ; ;N; ; ; ; ;
xxxx1C;CHISOI SIGN SISO;Mc;220;NSM; ; ; ; ;N; ; ; ; ;
xxxx1D;CHISOI DANDA;Po;0;L; ; ; ; ;N; ; ; ; ;
xxxx1E;CHISOI DOUBLE DANDA;Po;0;L; ; ; ; ;N; ; ; ; ;
xxxx20;CHISOI DIGIT ZERO;Nd;0;L; ; ; ; ;0;0;0;N; ; ; ; ;

```


xxxx21;CHISOI DIGIT ONE;Nd;0;L;;1;1;1;N;,,,;
 xxxx22;CHISOI DIGIT TWO;Nd;0;L;;2;2;2;N;,,,;
 xxxx23;CHISOI DIGIT THREE;Nd;0;L;;3;3;3;N;,,,;
 xxxx24;CHISOI DIGIT FOUR;Nd;0;L;;4;4;4;N;,,,;
 xxxx25;CHISOI DIGIT FIVE;Nd;0;L;;5;5;5;N;,,,;
 xxxx26;CHISOI DIGIT SIX;Nd;0;L;;6;6;6;N;,,,;
 xxxx27;CHISOI DIGIT SEVEN;Nd;0;L;;7;7;7;N;,,,;
 xxxx28;CHISOI DIGIT EIGHT;Nd;0;L;;8;8;8;N;,,,;
 xxxx29;CHISOI DIGIT NINE;Nd;0;L;;9;9;9;N;,,,;

7. Collations

The collation order is as follows:

ꠠ A < ꠡ BA < ꠢ AAI < ꠣ AA < ꠤ GA < ꠥ TA < L E < ꠧ SA < ꠨ NA < ꠩ I < ꠪ KA < ꠫ RA < ꠬ MA < ꠭ HA < ꠮ RRA < ꠯ U < ꠰ DA < ꠱ LA
 < ꠲ O < ꠳ NYA < ꠴ NGA < ꠵ CA < ꠶ JA < ꠷ PA < ꠸ YA < ꠹ DDA < ꠺ TTA < ꠻ JARAHA < ꠼ SIGN SISO < ꠽ | DANDA < ꠾ || DOUBLE DANDA
 < ꠿ 0 DIGIT ZERO < ꡀ DIGIT ONE < ꡁ DIGIT TWO < ꡂ DIGIT THREE < ꡃ DIGIT FOUR < ꡄ DIGIT FIVE < ꡅ DIGIT SIX < ꡆ DIGIT SEVEN < ꡇ
 DIGIT EIGHT < ꡈ DIGIT NINE

8. ‘Confusable’ characters

Below is a list of Chisoi characters that are ‘confusable’ with those encoded in other scripts blocks:

L CHISOI LETTER E	;	004C	LATIN CAPITAL LETTER L
M CHISOI LETTER NA	;	004D	LATIN CAPITAL LETTER M
꠬ CHISOI LETTER MA	;	0427	CYRILLIC CAPITAL LETTER CHE
꠪ CHISOI LETTER O	;	0472	CYRILLIC CAPITAL LETTER FITA
꠮ CHISOI LETTER DDA	;	09A2	BENGALI LETTER DDHA
꠻ CHISOI JARAHA	;	0983	BENGALI SIGN VISARGA
꠼ CHISOI SIGN SISO	;	09CD	BENGALI SIGN VIRAMA
CHISOI DANDA	;	0964	DEVANAGARI DANDA
CHISOI DOUBLE DANDA	;	0965	DEVANAGARI DOUBLE DANDA
0 CHISOI DIGIT ZERO	;	0030	DIGIT ZERO
ꡀ CHISOI DIGIT ONE	;	09E7	BENGALI DIGIT ONE
ꡂ CHISOI DIGIT THREE	;	09E9	BENGALI DIGIT THREE
ꡅ CHISOI DIGIT SIX	;	0065	LATIN SMALL LETTER E
ꡆ CHISOI DIGIT SEVEN	;	03C1	GREEK SMALL LETTER RHO
꠽ CHISOI DIGIT EIGHT	;	0055	LATIN CAPITAL LETTER U
ꡈ CHISOI DIGIT NINE	;	03C9	GREEK SMALL LETTER OMEGA

9. Acknowledgement

I would like to thank Jayanta kumar Mahata, Narayan Mahata, Dr. Deborah Anderson, Nurul Alom Ador, Susanta Mahata, All India Kurmali Chisoi-A Society and Kurmali Chisoi-A Teachers’ Associations for support on a draft of this proposal and sharing insights on various aspects of encoding Chisoi.

xxxx00

CHISOI

xxxx2F

	xxx0	xxx1	xxx2
0	Ꞥ xxx00	ꞥ xxx10	Ꞧ xxx20
1	ꞧ xxx01	Ꞩ xxx11	ꞩ xxx21
2	Ɜ xxx02	Ɡ xxx12	Ɬ xxx22
3	Ɪ xxx03	ꞯ xxx13	Ʞ xxx23
4	Ʇ xxx04	Ʝ xxx14	Ꭓ xxx24
5	Ꞵ xxx05	ꞵ xxx15	Ꞷ xxx25
6	ꞷ xxx06	Ꞹ xxx16	ꞹ xxx26
7	Ꞻ xxx07	ꞻ xxx17	Ꞽ xxx27
8	ꞽ xxx08	Ꞿ xxx18	ꞿ xxx28
9	ꞿ xxx09	Ꞿ xxx19	ꞿ xxx29
A	ꞿ xxx0A	ꞿ xxx1A	
B	ꞿ xxx0B	ꞿ xxx1B	
C	ꞿ xxx0C	ꞿ xxx1C	
D	ꞿ xxx0D	ꞿ xxx1D	
E	ꞿ xxx0E	ꞿ xxx1E	
F	ꞿ xxx0F		

Letters and signs

xxxx00 ꞑ CHISOI LETTER A
xxxx01 Ꞓ CHISOI LETTER BA
xxxx02 ꞓ CHISOI LETTER AAI
xxxx03 ꞔ CHISOI LETTER AA
xxxx04 ꞕ CHISOI LETTER GA
xxxx05 Ꞗ CHISOI LETTER TA
xxxx06 L CHISOI LETTER E
xxxx07 ꞗ CHISOI LETTER SA
xxxx08 Ꞙ CHISOI LETTER NA
xxxx09 ꞙ CHISOI LETTER I
xxxx0A Ꞛ CHISOI LETTER KA
xxxx0B ꞛ CHISOI LETTER RA
xxxx0C Ꞝ CHISOI LETTER MA
xxxx0D ꞝ CHISOI LETTER HA
xxxx0E Ꞟ CHISOI LETTER RRA
xxxx0F ꞟ CHISOI LETTER U
xxxx10 Ꞡ CHISOI LETTER DA
xxxx11 ꞡ CHISOI LETTER LA
xxxx12 Ꞣ CHISOI LETTER O
xxxx13 ꞣ CHISOI LETTER NYA
xxxx14 Ꞥ CHISOI LETTER NGA
xxxx15 ꞥ CHISOI LETTER CA
xxxx16 Ꞧ CHISOI LETTER JA
xxxx17 ꞧ CHISOI LETTER PA
xxxx18 Ꞩ CHISOI LETTER YA
xxxx19 ꞩ CHISOI LETTER DDA
xxxx1A Ɦ CHISOI LETTER TTA
xxxx1B Ɜ CHISOI LETTER JARAHHA
xxxx1C Ɡ CHISOI SIGN SISO

Punctuation

xxxx1D | CHISOI DANDA
xxxx1E || CHISOI DOUBLE DANDA

Digits

xxxx20 0 CHISOI DIGIT ZERO
xxxx21 1 CHISOI DIGIT ONE
xxxx22 2 CHISOI DIGIT TWO
xxxx23 3 CHISOI DIGIT THREE
xxxx24 4 CHISOI DIGIT FOUR
xxxx25 5 CHISOI DIGIT FIVE
xxxx26 6 CHISOI DIGIT SIX
xxxx27 7 CHISOI DIGIT SEVEN
xxxx28 8 CHISOI DIGIT EIGHT
xxxx29 9 CHISOI DIGIT NINE

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ORG	NEW	ORG	NEW		
ଠ	ᱠ	୨	୩		
୩	୪	୫	୬		
୭	୮	୯	୧୦		
୧୧	୧୨	୧୩	୧୪		
୧୫	୧୬	୧୭	୧୮		
୧୯	୨୦	୨୧	୨୨		
୨୩	୨୪	୨୫	୨୬		
୨୭	୨୮	୨୯	୩୦		
୩୧	୩୨	୩୩	୩୪		
୩୫	୩୬	୩୭	୩୮		
୩୯	୪୦	୪୧	୪୨		
୪୩	୪୪	୪୫	୪୬		
୪୭	୪୮	୪୯	୫୦		
୫୧	୫୨	୫୩	୫୪		
୫୫	୫୬	୫୭	୫୮		
୫୯	୬୦	୬୧	୬୨		
୬୩	୬୪	୬୫	୬୬		
୬୭	୬୮	୬୯	୭୦		
୭୧	୭୨	୭୩	୭୪		
୭୫	୭୬	୭୭	୭୮		
୭୯	୮୦	୮୧	୮୨		
୮୩	୮୪	୮୫	୮୬		
୮୭	୮୮	୮୯	୯୦		
୯୧	୯୨	୯୩	୯୪		
୯୫	୯୬	୯୭	୯୮		
୯୯	୧୦୦	୧୦୧	୧୦୨		

Table 2: Comparison of Chisoi font ‘KurmaliChisoy’ drawn by Pankaj Mahato(column ‘ORG’) and Nurul Alam Ador and Biswajit Mandal’s font ‘Chisoi’(column ‘NEW’)

CHISOI	DEV	BEN	ODIA	CHISOI	DEV	BEN	ODIA
ଟ	अ	অ	ଅ	ଠ	ओ, ो	ଓ, ୋ	ଓ, ୋ
ଠ	ब	ব	ବ	ଡ	व	৳	ଓ
ଢ	आइ, ाइ	আই, ই	ଆଇ, ଇ	ଢ	ड	ড	ଢ
ଢ	आ, ा	আ, া	ଆ, ା	ଟ	च	চ	ଟ
ଞ	ग	গ	ଗ	ଝ	ज	জ	ଞ
ଢ	त	ত	ତ	ଞ	प	প	ଢ
ଢ	ए, ऐ	এ, ऐ	ଏ, ୈ	ଞ	ँ	ँ	ଞ
झ	स	স	ସ	ଝ	य	য়	ଝ
म	न	न	ନ	ଞ	ड	ড	ଞ
ट	इ, ि	ই, ি	ଇ, ି	ଟ	ट	ট	ଟ
ठ	क	ক	କ	ଃ	N/A	N/A	N/A
ड	र	র	ର	ଃ	ँ	ँ	ଞ
ढ	म	ম	ମ				
उ	ह	ह	ହ				
ड	ड	ড	ଡ				
ट	उ, ु	উ, ু	ଉ, ୁ				
ड	द	द	ଦ				
न	ल	ল	ଲ				

Table 3: Comparison of Chisoi with Devanagari, Bengali and Odia. In Chisoi letter Jaraha is used to make aspirated letters but it is absent in Devanagari, Bengali and Odia.

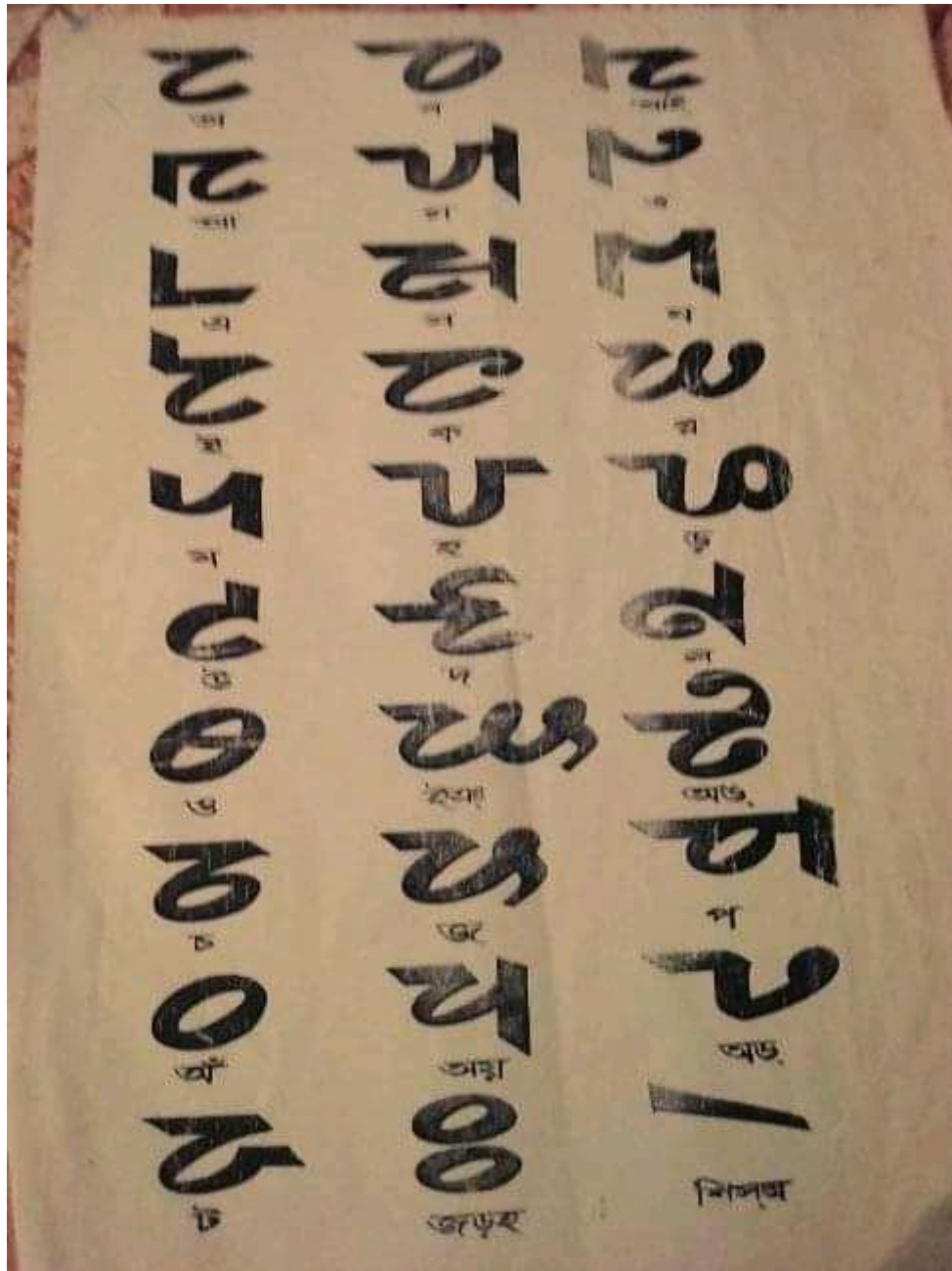


Figure 6: A chart showing letters of Chisoi with Bengali pronunciation from first ever draft of 'Kuṛmāli Cisoī Cinhāp' (1986).

ন আ A	ব B	ই I
র আ AA	য গ G'	ত TA'
ল এ A	শ স s	ন N
হ E	ক K	র R
ই ই	ক ক	র র
ম M	খ H	ড RH
ন M	ঙ H	ণ RH
উ U	দ D	ল L
ও O	ন IN	ঙ NG
ঙ O	ইএঙ ইএঙ	অঙ অঙ
চ CH	জ J	প P
চ চ	জ জ	প প
অ on	য় Ay	ড D
অ অ	অয় অয়	অড অড
ট T	ঃ HH	অড A"
ট ট	জড়হ জড়হ	শিস্অ শিস্অ

১১

Figure 7: A chart showing letters of Chisoï with Bengali pronunciation from book 'Kuṛmāli Cisoï Cinhāp' কুর্মালি চিসৌ চিনহাপ (for class-I) (15:2009).

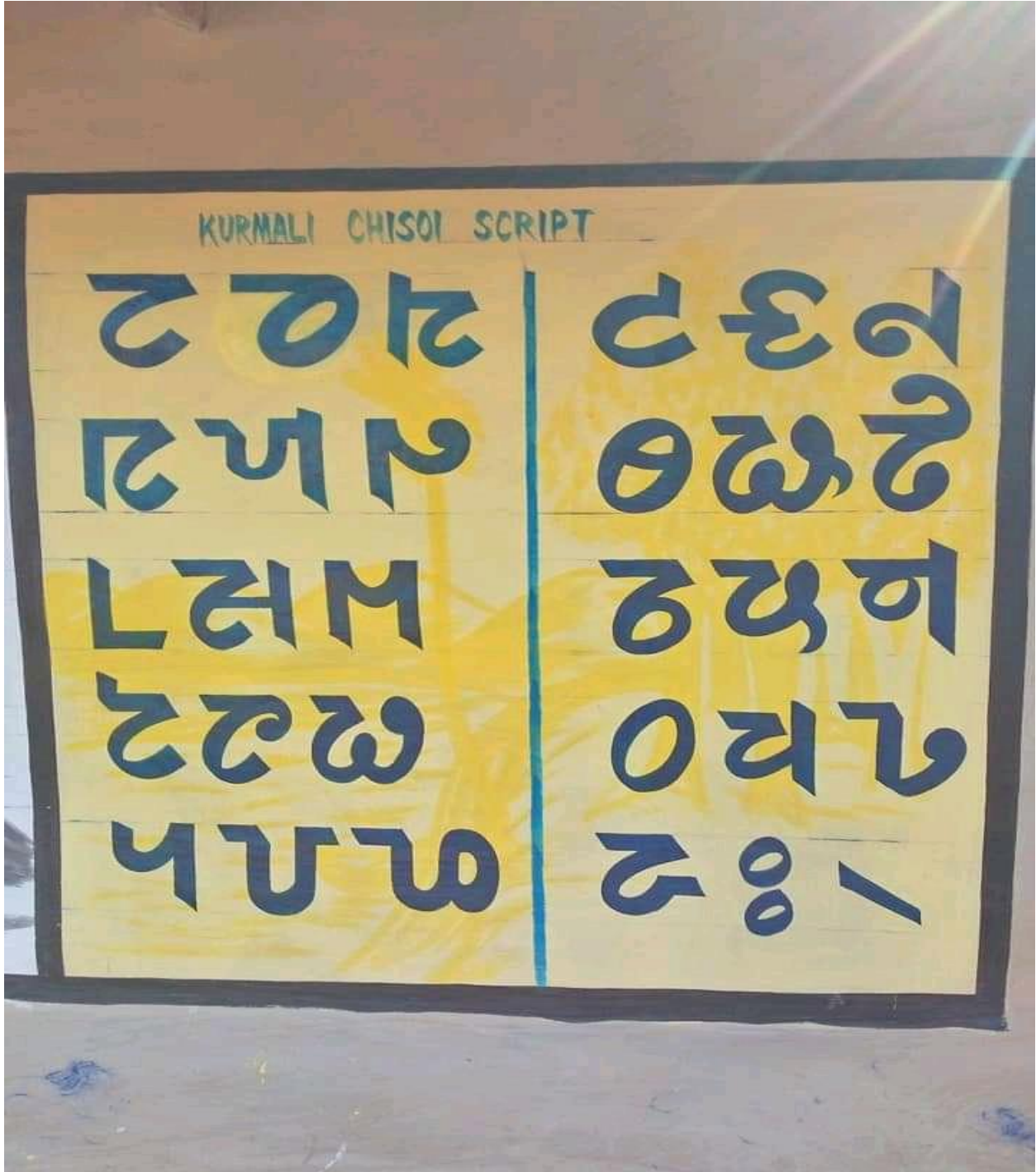


Figure 8: A school wall showing letters of Chisoi (2019).

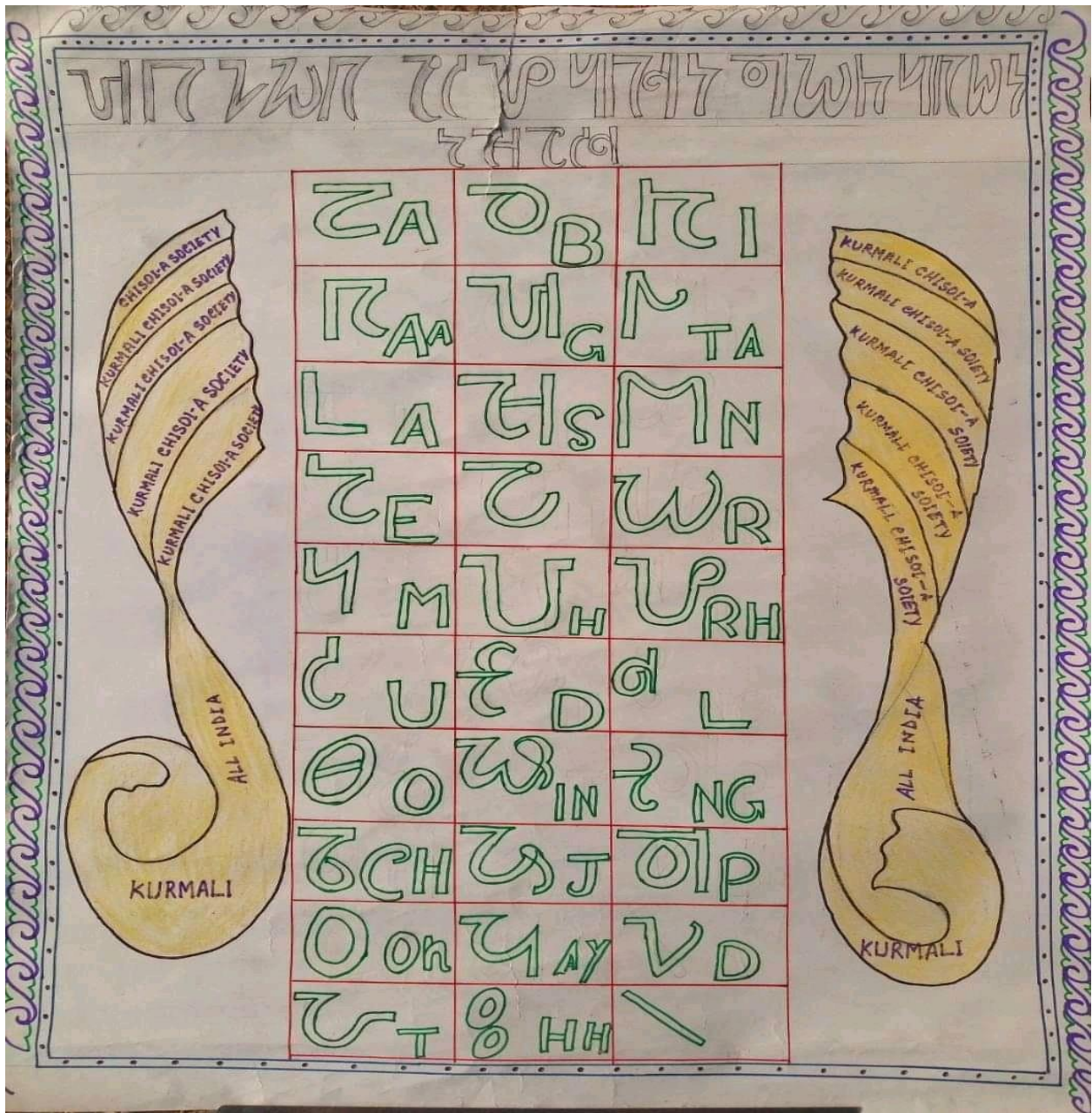


Figure 9: showing chart of Chisoi drawn by a school student.

ଚଳିତାବଦି ଚଳିତାବଦି ଚଳିତାବଦି
 (କୁଡ଼ମାଳି ଚିସି ଚିନହୀମ)

ଅ A	ବ B	ଆଇ I	ଏଢ଼ି
ଆ A	ଖ G	ଇ I	ଦଢ଼ି
ଏ E	ଗ G	ଠ TA	ଢୁରିୟନ
ଇ E	ଘ S	ଡ R	ଚାହିଲ
ମ M	ଙ H	ଢ RH	ଚମପା
ଊ U	ଚ D	ଢ L	ହେମ
ଋ O	ଛ IN	ଢ NG	ସତେଲ
ଞ CH	ଝ J	ଢ P	ଆଇନଟାଲ
ଝ ON	ଞ AY	ଢ D	ନେମି
ଟ T	ଞ :	ଢ D	ଠେମି
	ଛଢ଼ HH	ଢିସ୍ଵ A"	

Figure 10: showing chart of Chisoi and numerals.(courtesy:Facebook)



Figure 11(a): Showing the first edition of Kurmali newspaper ‘Addās’ (Jun 16th, 2013).

ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ

ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ

ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ

ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ

ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ



ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
(FOR CLASS - I)



ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ALL INDIA KURMALI CHISOI-A SOCIETY
RAGHUNATHPUR, JHARGRAM
DIST. PASCHIM MEDINIPUR (W.B.)

ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ
ᱠᱚᱰᱚᱨ ᱠᱚᱰᱚᱨ

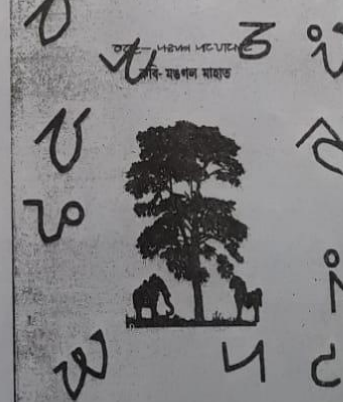


Figure 11(c): Showing the 4th page of Kurmali newspaper 'Āddās' ᱠᱚᱰᱚᱨ (Dec 16th, 2016).

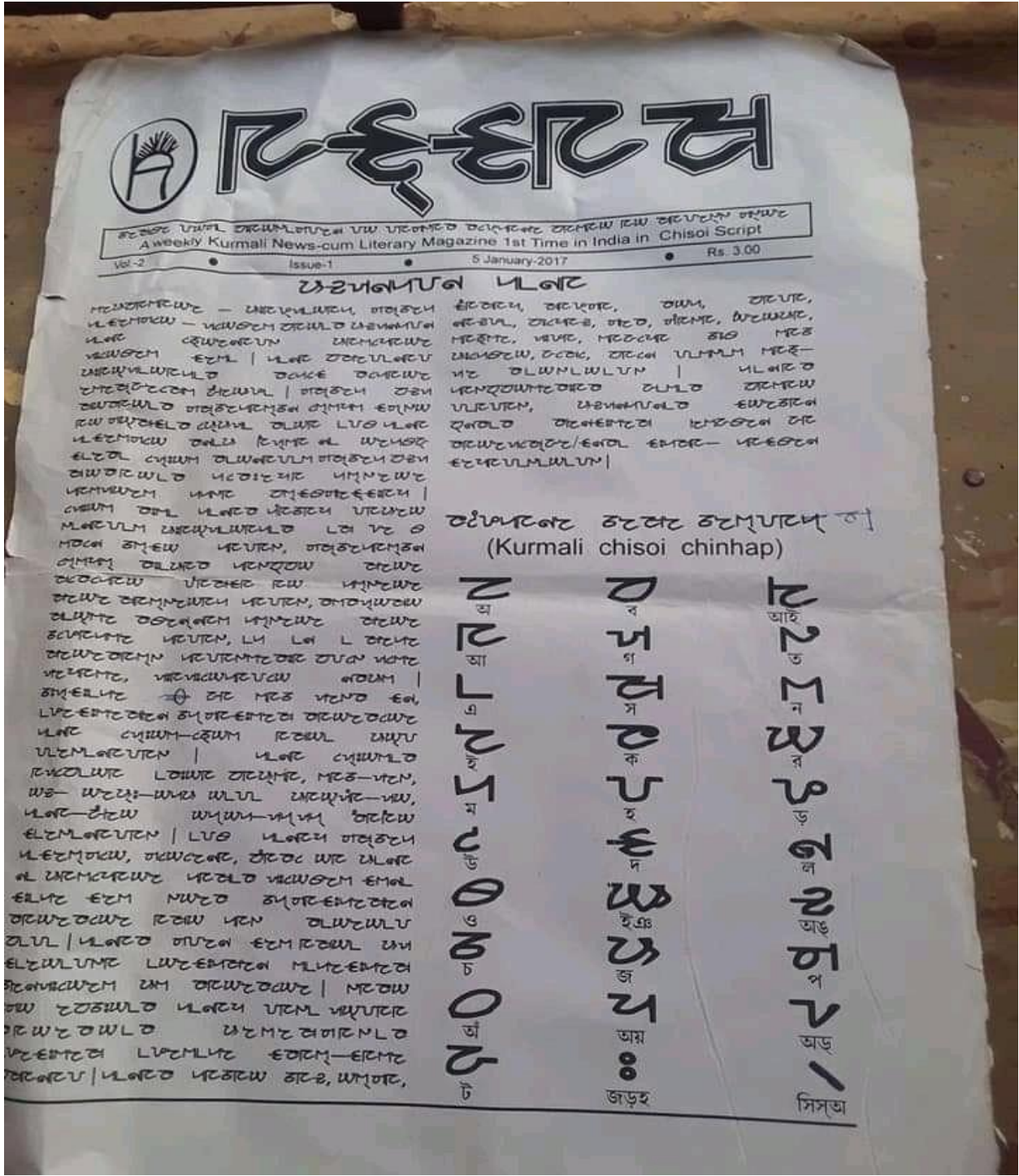


Figure 11(d): Showing the front page of Kurmali newspaper 'Āddās' (Jan 5th, 2017).

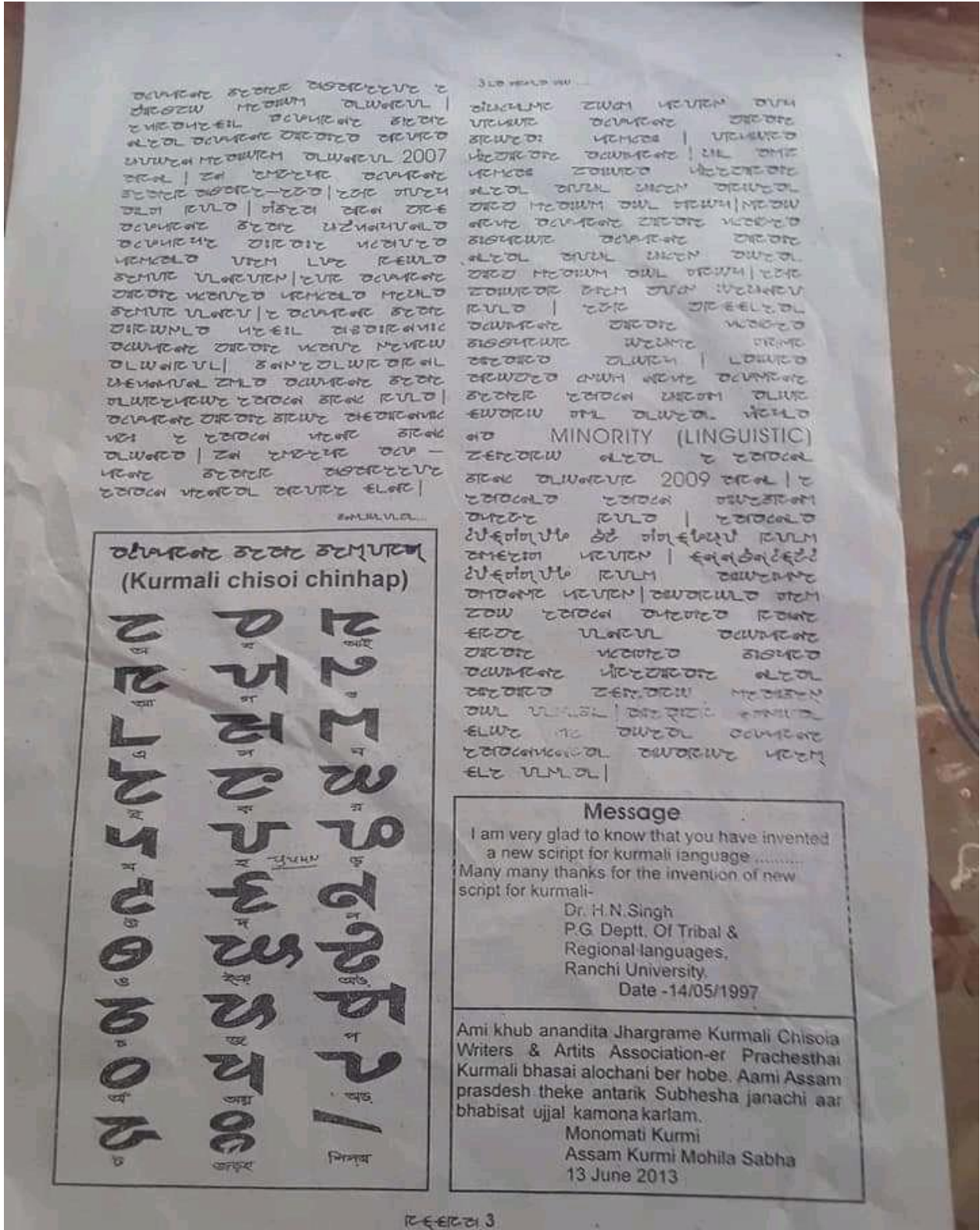


Figure 11(e): Showing the 3rd page of Kurmali newspaper 'Addās' with Chisoi chart (Jan 5th, 2017).

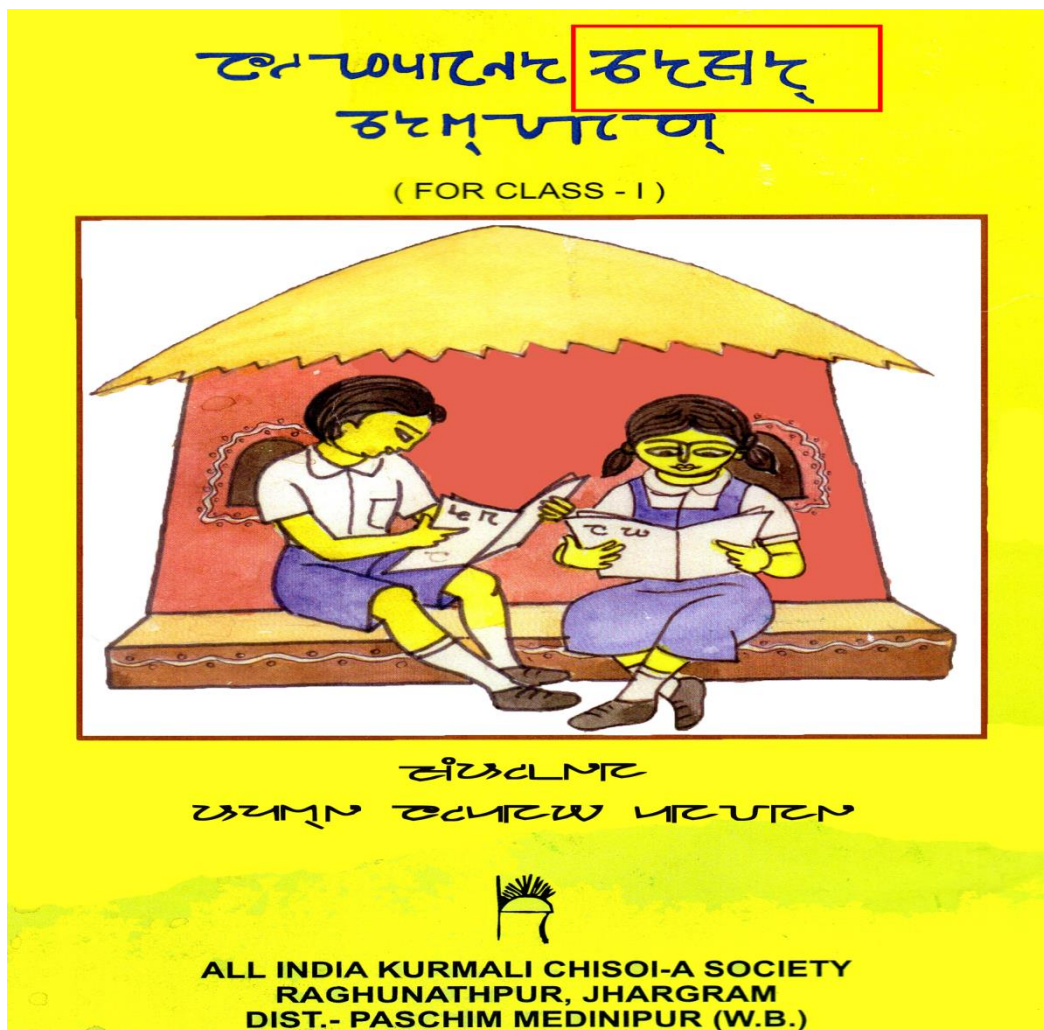


Figure 12: Heading showing the spelling of Chisoï ଚିତ୍ରାଙ୍କୁ (handwritten form) having LETTER I with SISO from the cover of Kurmali primer 'Kurmalī Cisoī Cinhāp' ଅଲଫାବେଟ୍ ଚିତ୍ରାଙ୍କୁ ଅକ୍ଷରାଙ୍କୁ (for class-I)(2009)



Figure 13: Showing the banner of Kurmali Chisoi-A Teachers' Association' ଚକ୍ରମାଳିକା ଚିସୌ-ଆ ଟିଚାର୍ସ ଏସୋସିଏସନ having kerning issues between two letters.

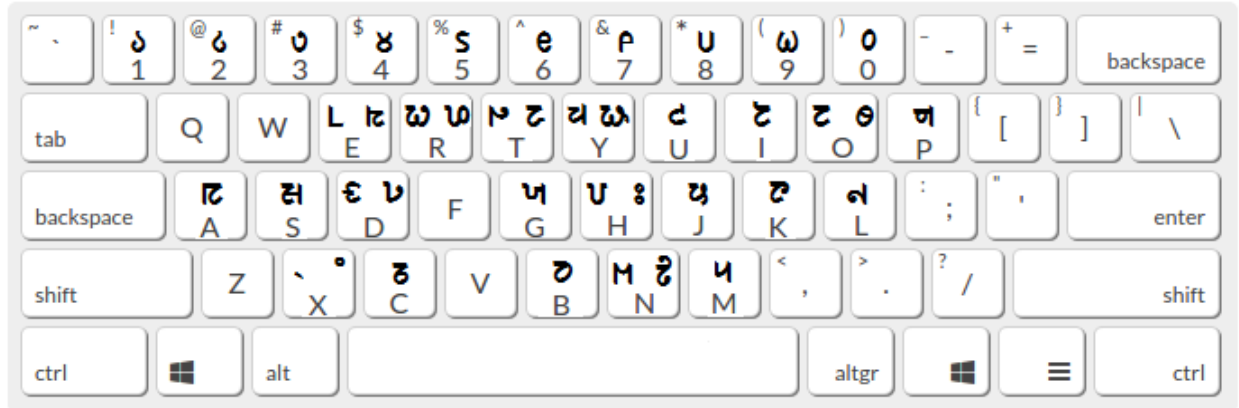


Figure 14: Showing the keyboard layout of new 'Biswa_Chisoi' font (2021).

ସଂସ୍କୃତ ବିଭାଗର ଅଧ୍ୟାପକଙ୍କୁ ଶୁଭାଶୀର୍ବାଦ ପତ୍ର

ESTD-2009

Class - IV

(FINAL EXAMINATION 2018-19)

F.M-50

Subject- Kurmali

Time - 2 hour Date-4/12/2019

Name -

Roll No -

1. ଚିତ୍ରଟିର ନାମ କଣ ? 2
2. ଚିତ୍ରଟିର ଉତ୍ପତ୍ତି କେଉଁଠି ? 2
3. ଚିତ୍ରଟିର ଉଦ୍ଦେଶ୍ୟ କଣ ? 3
4. ଚିତ୍ରଟିର ଉତ୍ପତ୍ତି କେଉଁଠି ? 3
5. ଚିତ୍ରଟିର ନାମ କଣ ? 5
6. ଚିତ୍ରଟିର ଉତ୍ପତ୍ତି କେଉଁଠି ? 5
7. ଚିତ୍ରଟିର ଉଦ୍ଦେଶ୍ୟ କଣ ? 5

୧	୨
୩	୪
୫	୬
୭	୮
୯	୧୦

8. ଚିତ୍ରଟିର ନାମ କଣ ? 10
9. ଚିତ୍ରଟିର ଉତ୍ପତ୍ତି କେଉଁଠି ? 10
10. ଚିତ୍ରଟିର ଉଦ୍ଦେଶ୍ୟ କଣ ? 5

Figure 15: Showing the class 4th annual examination question paper of Kurmali subject from Sonakhuli Kurmali Primary School ESTD-2009(2019).



Figure 16(a): Showing the Chisoi teaching is going on in 'Ānganwāḍī' Courtyard Shelter school.



Figure 16(b): Showing the picture of Kurmali-Chisoi school from Mayurbhanj, Odisha.



Figure 16(c): Showing the picture of Kurmali-Chisoi school from Chakulia, Jharkhand.

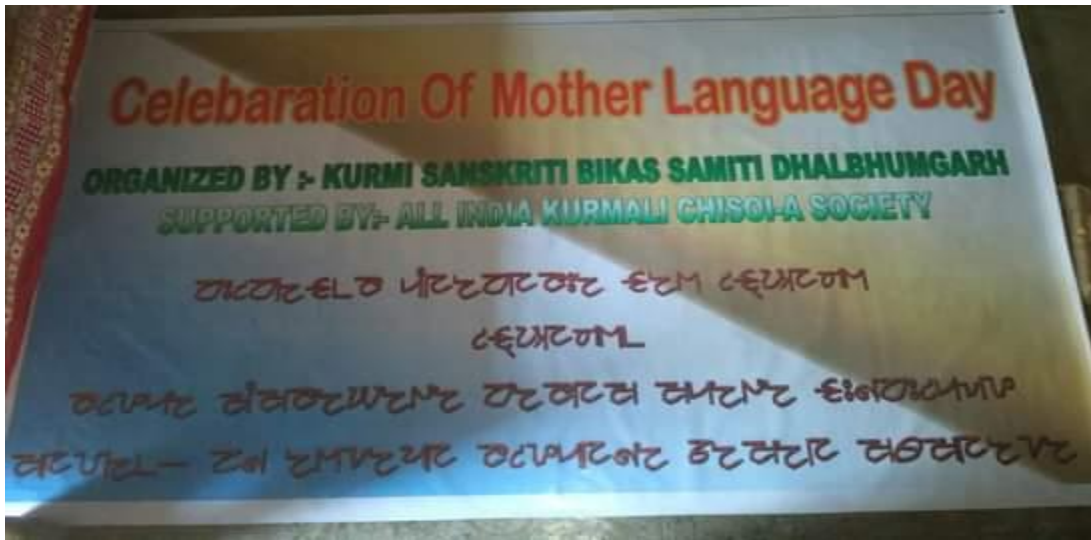


Figure 16(d): A workshop conducted on the occasion of International Mother tongue Day at Dhalbhumgarh, Jharkhand.(2017)

ಒಂದು ದಿನದ ಕಾರ್ಯಾಗಾರದ ವಿವರಣೆ
 ಕುರ್ಮಲಿ ಚಿಸೋ-ಚಾರಿ ಶಿಕ್ಷಣ ಮತ್ತು ಅದರ ಭವಿಷ್ಯದ ಅಂಶಗಳ ಬಗ್ಗೆ

One day Workshop on -
 KURMALI CHISOI-CHARI EDUCATION
 AND ITS FUTURE ASPECT.

Date :- 26.th June - 2022, Sunday
 Time :- 10-30 AM to 3.30 P.M.
 Venue :- Khudiram Mahato Mand. (Com. Hall at M.D.335) - Purulia Town
 Signature of participants -

PURULIA
 DIST. PURULIA
 W.P.O. 1980

Sl. No.	Name / MRU -	Village / Village Block	Phone No -
1	Puspabala Mahato	Kultar	811686718
2	ಶಿವಲಿಂಗ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	9932171794
3	ಮಹೇಶ್ ಕುರ್ಮಲಿ	Ansha Purulia	9064995939
4	ವಿಜಯಲಕ್ಷ್ಮಿ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	8597486210
5	ಪ್ರಿಯಾ ಕುರ್ಮಲಿ	ಬಿಜ್ಜಿ	6297097972
6	ಪುಷ್ಪಾ ಕುರ್ಮಲಿ	Puncha	7679393579
7	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	ಬಿಜ್ಜಿ	8436735456
8	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	ಬಿಜ್ಜಿ	7797757340
9	ಮಹೇಶ್ ಕುರ್ಮಲಿ	Balia	6297759077
10	Anwesha Mahato	Murguma	9907072128
11	Purnima Mahato	Panradda	8250474478
12	ಶಿವಲಿಂಗ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	9732310483
13	ಮಹೇಶ್ ಕುರ್ಮಲಿ (NUPUR Roy)	Murguma/ಬಿಜ್ಜಿ	8597974034
14	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	Hetgugui	8918986042
15	ಶಿವಲಿಂಗ್ ಕುರ್ಮಲಿ	Hetgugui	8912950099
16	ಶಿವಲಿಂಗ್ ಕುರ್ಮಲಿ	ANARA / Purulia	9800689882
17	ಮಹೇಶ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	9800689832
18	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	Shappa - Ansha	8158913027
19	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	9608767095
20	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	9902786782
21	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	8067889949
22	Harzekrishna Mahato	Kodapara Puncha	9932694894
23	ಶಿವಲಿಂಗ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	6281207331
24	Satyajit mahato	Dihrahi	7679405996
25	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	ಬಿಜ್ಜಿ	8972512002
26	ಪ್ರದೀಪ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	7319192059
27	ಶಿವಲಿಂಗ್ ಕುರ್ಮಲಿ	ಕುರ್ಮಲಿ	8967109079

Figure 16(e): Participants list of 'Kurmali Chisoi Chari education and its future aspect' one day workshop at V Pally, Purulia.(2022)

୦	୪	୮
ଠିଃ	ଠିଃ	୮ୱ
ଠିଃଃ	ଠିଃଃ	୮ୱଃ
ଠିଃଃଃ	ଠିଃଃଃ	୮ୱଃଃ
ଠିଃଃଃଃ	ଠିଃଃଃଃ	୮ୱଃଃଃ
ଠିଃଃଃଃଃ	ଠିଃଃଃଃଃ	୮ୱଃଃଃଃ
ଠିଃଃଃଃଃଃ	ଠିଃଃଃଃଃଃ	୮ୱଃଃଃଃଃ
ଠିଃଃଃଃଃଃଃ	ଠିଃଃଃଃଃଃଃ	୮ୱଃଃଃଃଃଃ



Figure 18: Showing the positing of Chisoi sign Anusvara from book 'Kurmāli Cisoī Cinhāp' ଚର୍ଚ୍ଚିତା ଚିତ୍ରମାଳା (for class-I) (13:2009).

କୂର୍ମାଳୀର ଶବ୍ଦକୋଷ
(Kurmali Sarha Bhnarhar)

ଅ [a]—କୂର୍ମାଳୀର ଶବ୍ଦକୋଷର ପ୍ରଥମ ଅକ୍ଷର। ଅକ୍ଷରର ନାମ। The first letter of the Kurmali chisoi alphabet.	ଅଗାର୍ହ (abgarh)—ନି. Stupid, Worthless ମୂଢ଼ତା ଶୂନ୍ୟତା ।
ଅ [a]—ଅ. ଶିକ୍ଷା ଉପରେ ମନୋନିବୃତ୍ତି	ଅଗାୟିତା (abgairhna)—ନି. ill shaped; ugly ଖରାପ ଗଠନ ମୂଢ଼ତା।
ଅ [a]—ଅ. ଉଚ୍ଚାରଣ ଉପରେ ଅଭିପ୍ରାୟ, —ହା ହା ।	ଅଗାର୍ (abgar)—ଫି. harm; disser- vice ହାନି ।
ଅ [a]—ନି. ମୂଢ଼ତା ଉପରେ ନିରାଶନା। ନା ।	ଅଗାଧ (abas)—ନି. unruly; ଅ ନିୟମିତ ମୂଢ଼ତା ଅନିୟମିତ uncontroellabla ଅନିୟମିତ ।
ଅ [ah]—ନି. ହା. yes	ଅଗାଧି (abais)—ନି. certainly; ଅନିଶ୍ଚିତ ମୂଢ଼ତା ।
ଅ [ah ba]—ନି. ଉପର ଉପରେ ନି. ଉପରେ ଉପରେ ଉପରେ ଉପରେ —ଉପରେ ଉପରେ ଉପରେ ଉପରେ। ଉ. ad- dressed between uncle and nephew; ଉପରେ ଉପରେ ଉପରେ ।	ଅଗାର୍ (absar)—ଫି. leisure, respite, ଅନିୟମିତ ଉପରେ ।
ଅଗାନାତା (abganata)— ଫି. known ଅନିୟମିତ ।	ଅଗାଧ (abka)—ଅ. noisy playing or frisking in sport; ଉପରେ ଉପରେ ଉପରେ ଉପରେ ମୂଢ଼ତା ଉପରେ ଉପରେ (ଉପରେ ଉପରେ) ଉପରେ ଉପରେ ଉପରେ ।
ଅଗାର୍ (abgar)—ଅ. ଫି. harm ହାନି ।	ଅଗାଧ (abra)—ଅ. inactive; im- proper sittine position; ନି. ଉପରେ ଉପରେ ଉପରେ ।
ଅଗୁଆ (abguina)—ନି. having no qualities; ଅନିୟମିତ ମୂଢ଼ତା ।	

Figure 19(a): Showing the front page of Kurmali-English Dictionary 'Kurmāli Sārābhōārār' କୂର୍ମାଳୀର ଶବ୍ଦକୋଷ (1:2014)

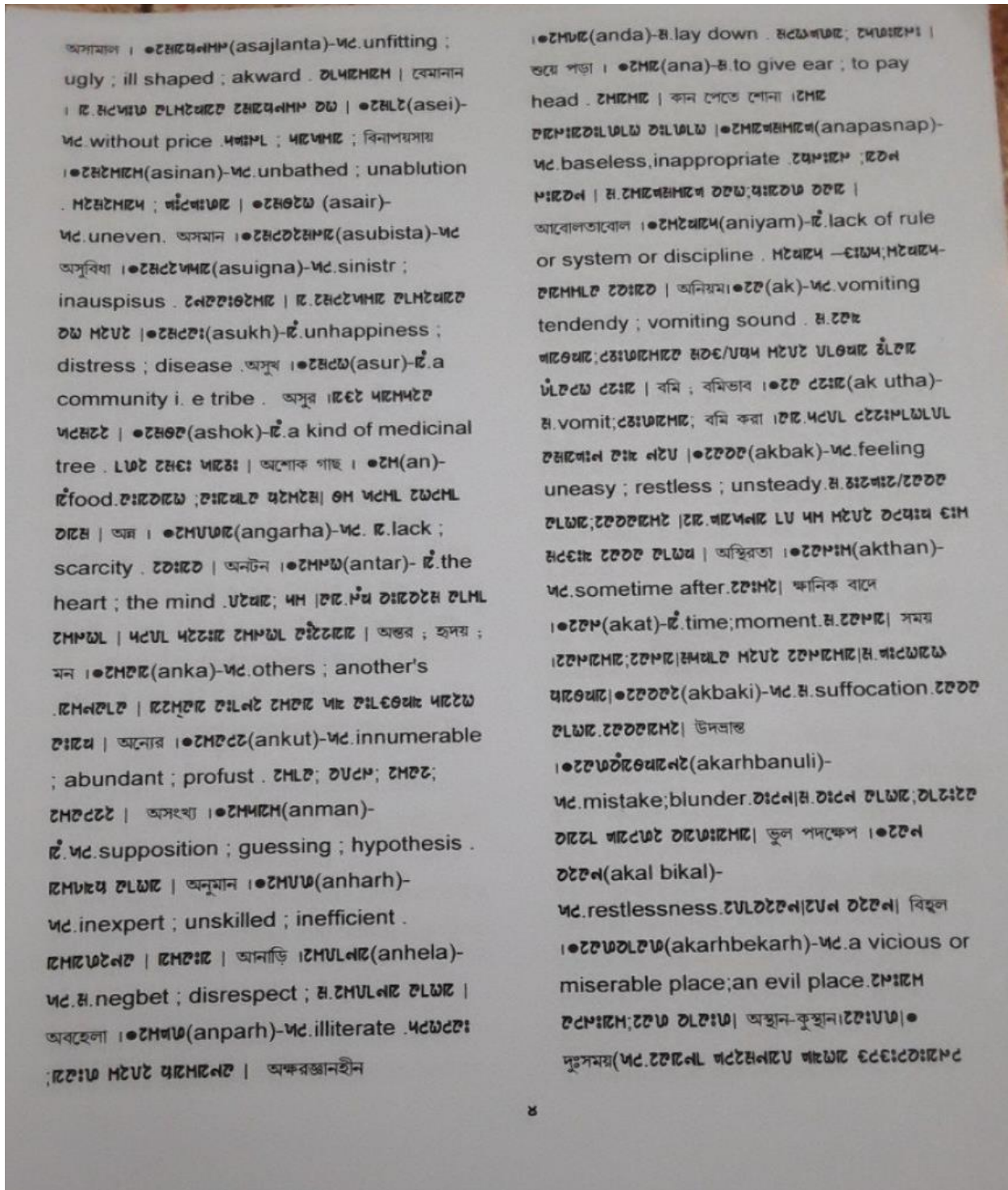


Figure 19(b): Showing the front page of Chisoï-English-Bengali (Kurmali Dictionary) 'Kuṛmāli Sārā bhōār' (2022)



Figure 20: Showing the logo of 'Sarva Śikṣā Abhiyān' Education for All written in Chisoi (2019).

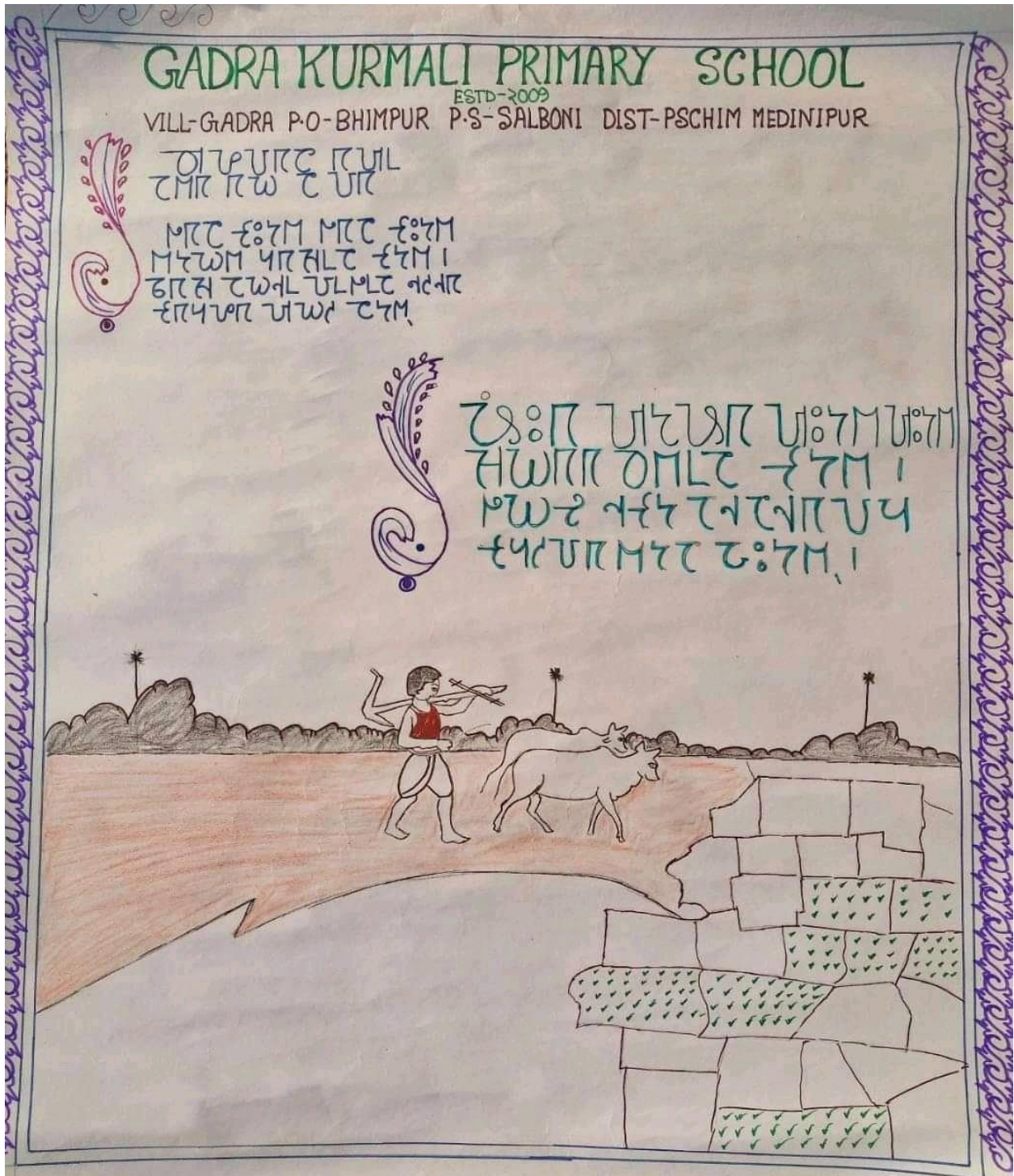


Figure 21: Showing the Kurmali poem chart drawn by a student from Gadra Kurmali primary school.



Figure 22: Showing the school banner and classroom of 'Gādrā Kurmāli Pārāimāri Iskul' গাদ্ৰা কুৰ্মালী পৰাইমাৰী ইশ্কুল (2009)

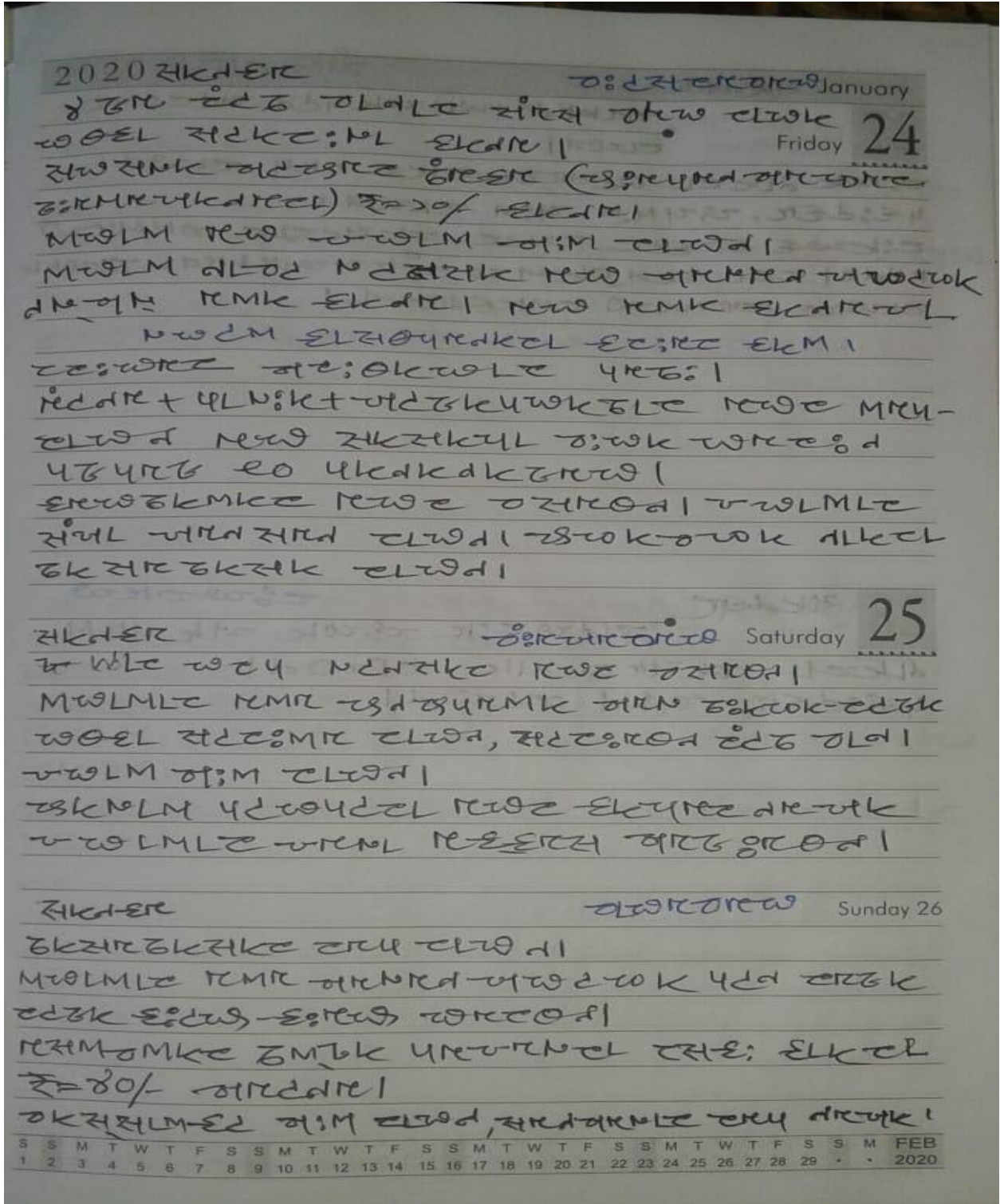


Figure 23(a): Showing the diary maintaining in Chisoi, provided by Narayan Mahata. (2020, Jan)

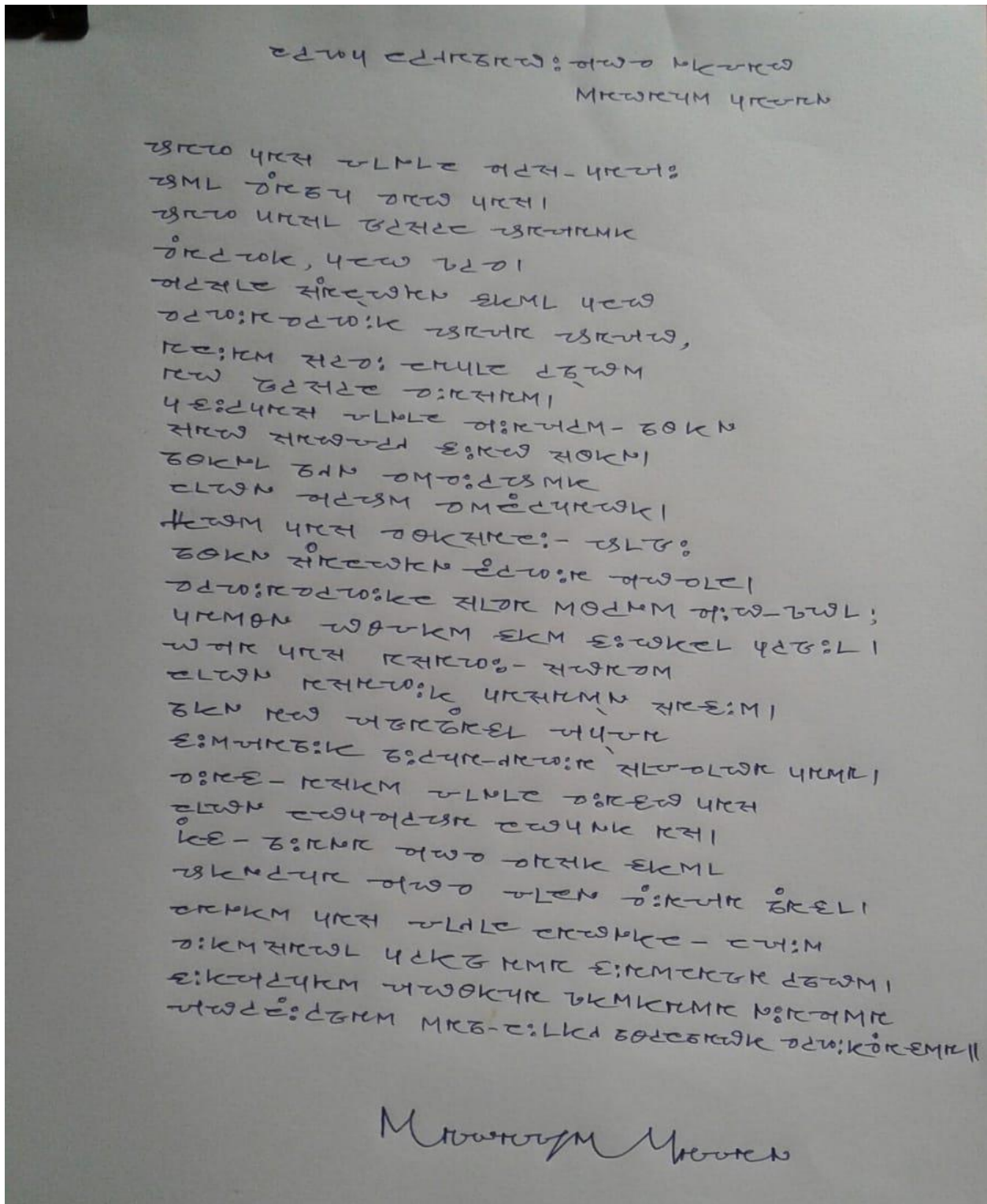


Figure 23(b): Kurmali poem written in Chisoi, provided by Jayanta Kumar Mahata. (2021)

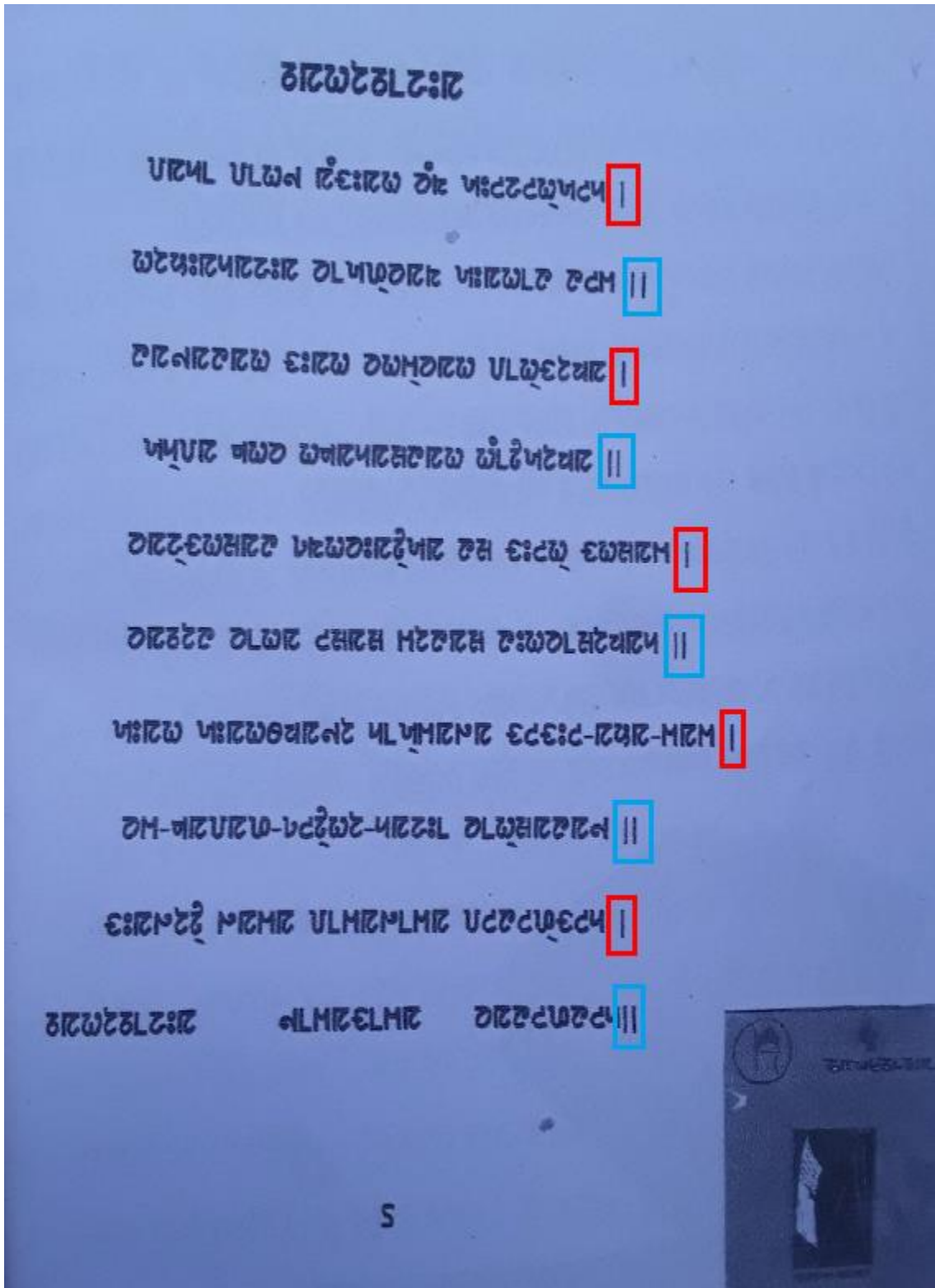


Figure 24(b): Showing the usage of Chisoi DANDA and DOUBLE DANDA from textbook 'Kurmāli Sārā Bāhār' ଶବ୍ଦକୋଷଃ (for class-III). (5:2022)

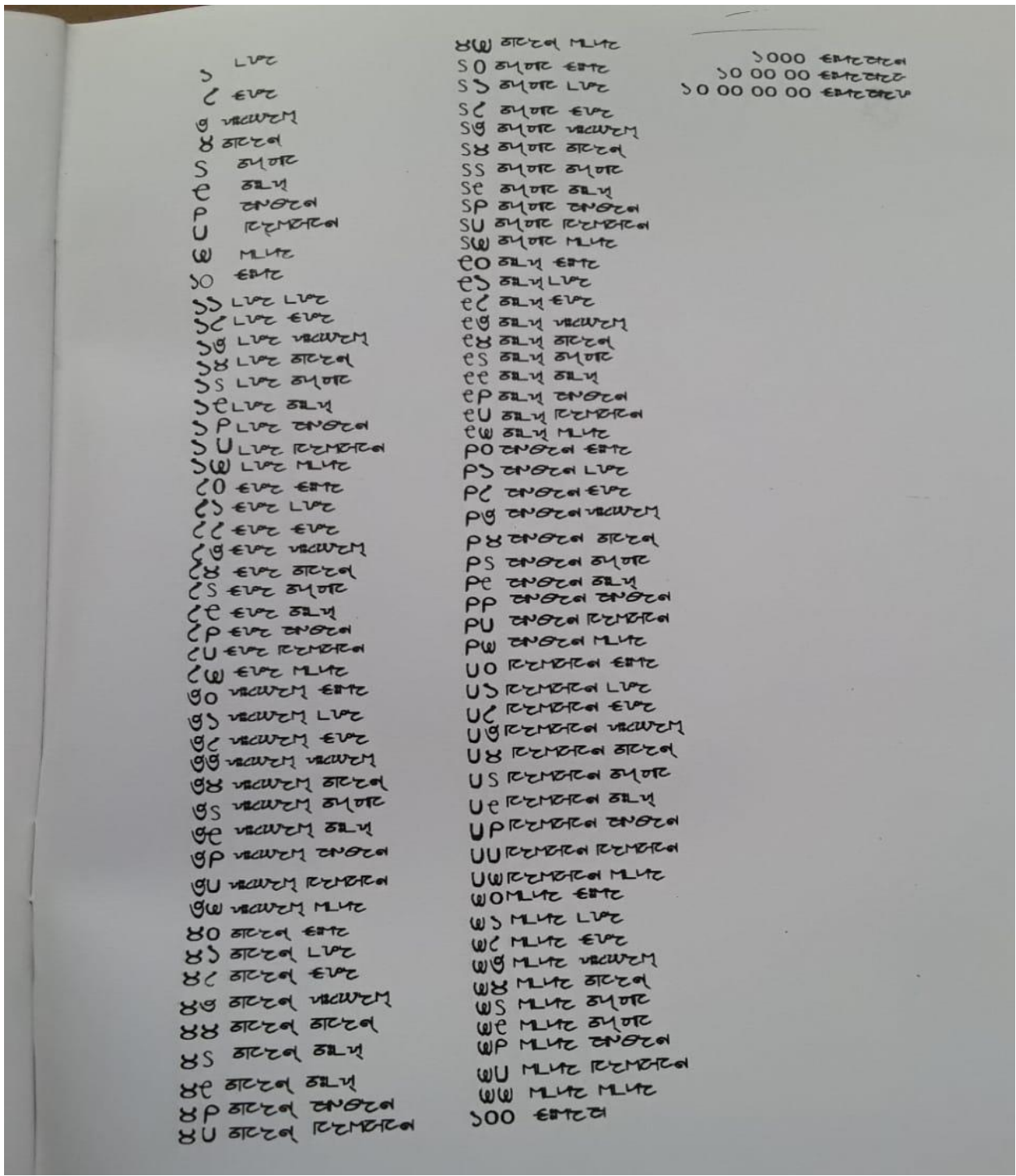


Figure 25(a): Showing the Chisoi digits from book 'Kurmāli Cisoī Cinhāp' *ಕುರ್ಮಾಲಿ ಚಿಸೋ ಚಿನ್ಹಾಪ* class-I, last page (2009).



Figure 25(b): Showing the Chisoi digits 1-10 from pre-primary book 'Hāmōr Kuṛmāli Cisōi' ପଞ୍ଚମାଳା ଚିସୌ, back cover (2022).

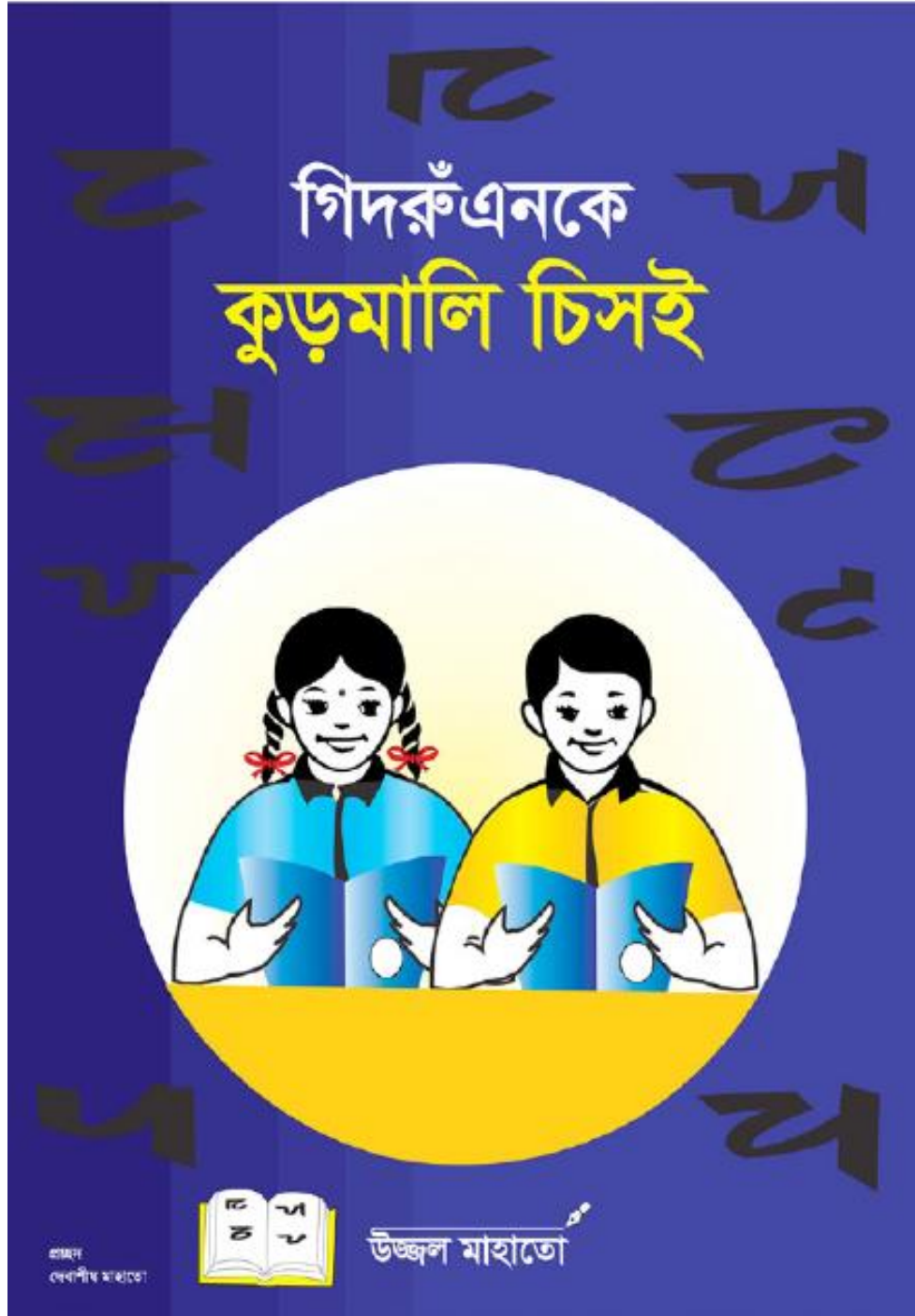


Figure 27: Cover picture of first ever Kurmali primer of Bangladesh 'Gidôrūenke Kurmāli Cisôî' ଗିଡ଼ରୁଏନକେ କୁଡ଼ମାଲି ଚିସଇ , using the latest font. (2021)

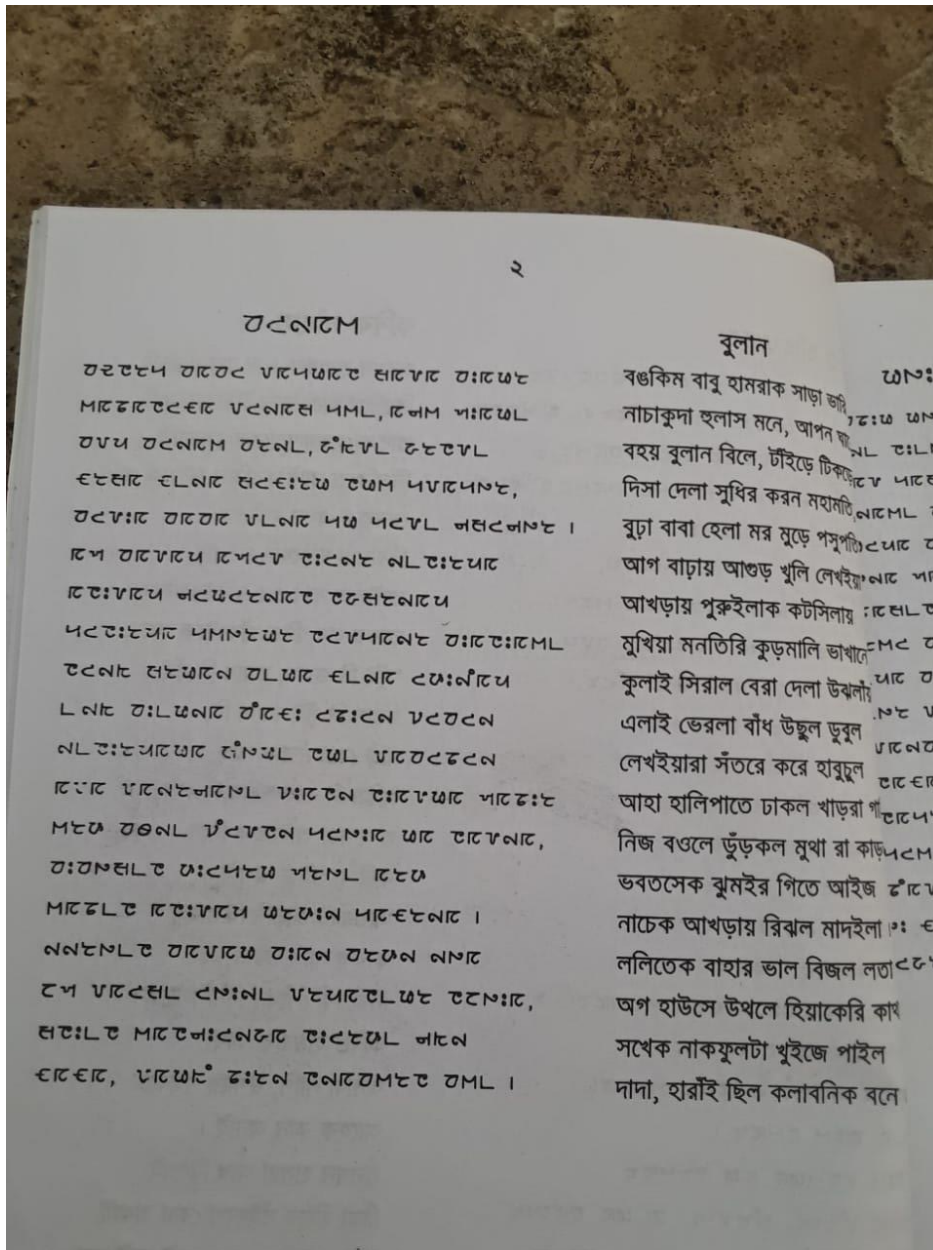


Figure 28: Showing the first poem of Kurmali book *ବୁଲାନ* 'Bulān' written in both Chisoi and Bengali script (2:2018).

ମୁଦୁଂ ମୁସୁଂ

ମଧୁର ଗୁଣ୍ଡ ଚିତ୍ରଣେ ପଦ୍ମେଶୁ
 ପାଦମଃ ନିତ୍ୟେ ମଧୁର, ଉଲ୍ଲସ ଚାପାଠ୍ୟ ନିଧୁର,
 ମୁଦୁଂ ମୁସୁଂ ମୁସୁଂ ମୁସୁଂ ଧର ନିଧୁର ।
 ପରାଧର ପୁଲକିତେ ପରାଧର ଶୁଭର,
 ଚିତ୍ର ଗୁଣ୍ଡ ପୁଲକିତେ ଚିତ୍ର ଶୁଭର ଶୁଭର ।
 ପରାଧର ମଧୁର ଶୁଭର ଶୁଭର ଶୁଭର,
 ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ।
 ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ।
 ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ।
 ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ।
 ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ।
 ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ।
 ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ଶୁଭର ।

Figure 29: Showing Kurmali poem 'Muduñ Musuñ' ମୁଦୁଂ ମୁସୁଂ from book 'Kurmāli Cāri Disā' କୁର୍ମାଲି ଚାରି ଦିସା (15:2014).

৫। সারুল পূজা

সারুল পূজাক আহিদবাইস
 গাঁ গইঠা সডে উপাস।
 থানে নি, পূজা ফুরালে,
 চুলহায় নি, আগ সলগে।
 চইত মাসে সারুল পূজা
 পইত্ ঘারে চাঁদা ভেজা।
 ডেহইর ছাঁছাই সালই গুঁজা।
 লইতন পাত লইতন মহল ফুল
 ঘারে ঘারে দেবে লায়া
 নি, কেরতা ভুল।
 মাটিক হাখি মাটিক ঘড়া
 সডে দেতা জড়া জড়া
 সাজলনত্ হেতা গরাম ঠাকুর
 সাল মহলেক গড়া।
 আউয়া চাল কাঁচা দুখ
 বেইল তুলসা গুলাজফুর
 আর দেতা আবাটা
 হেতা পূজা নাল সাঁড়াটা।
 সারুল পূজা থানে হেতা
 সালই ফুর সডু ঘারে জাতা।
 লায়াক মুড়ে গরাম ডালা
 সালই ফুরেক লইতন কুলা।
 বইঠা ঢাক বাজাতা
 সডে লগ নাচলে রেহতা।
 গরাম ডালা রাখতা লায়া
 ঠাকুর পিড়্হাক থানে
 হরিদ জলে গইড়্ ধুয়াতা
 ঘারেক মাই বহিনে।

S। সারুল পূজা (সারুল পূজা)

সারুল পূজাক আহিদবাইস
 গাঁ গইঠা সডে উপাস।
 থানে নি, পূজা ফুরালে,
 চুলহায় নি, আগ সলগে।
 চইত মাসে সারুল পূজা
 পইত্ ঘারে চাঁদা ভেজা।
 ডেহইর ছাঁছাই সালই গুঁজা।
 লইতন পাত লইতন মহল ফুল
 ঘারে ঘারে দেবে লায়া
 নি, কেরতা ভুল।
 মাটিক হাখি মাটিক ঘড়া
 সডে দেতা জড়া জড়া
 সাজলনত্ হেতা গরাম ঠাকুর
 সাল মহলেক গড়া।
 আউয়া চাল কাঁচা দুখ
 বেইল তুলসা গুলাজফুর
 আর দেতা আবাটা
 হেতা পূজা নাল সাঁড়াটা।
 সারুল পূজা থানে হেতা
 সালই ফুর সডু ঘারে জাতা।
 লায়াক মুড়ে গরাম ডালা
 সালই ফুরেক লইতন কুলা।
 বইঠা ঢাক বাজাতা
 সডে লগ নাচলে রেহতা।
 গরাম ডালা রাখতা লায়া
 ঠাকুর পিড়্হাক থানে
 হরিদ জলে গইড়্ ধুয়াতা
 ঘারেক মাই বহিনে।

Figure 30: Showing the 5th poem 'Sārul Pujā' written in both Chisoi and Bengali scripts from book 'Cāriceṭhā' (2014).



ALL INDIA KURMALI CHISOI SAKSHARATA MISSION

Figure 31: web page of All India Kurmali Shaksharta Mission of Chisoi (2021).



Figure 32: New Banner of ‘Sarva Śikṣā Abhiyān’ in Chisoi (2021).(courtesy: Facebook)

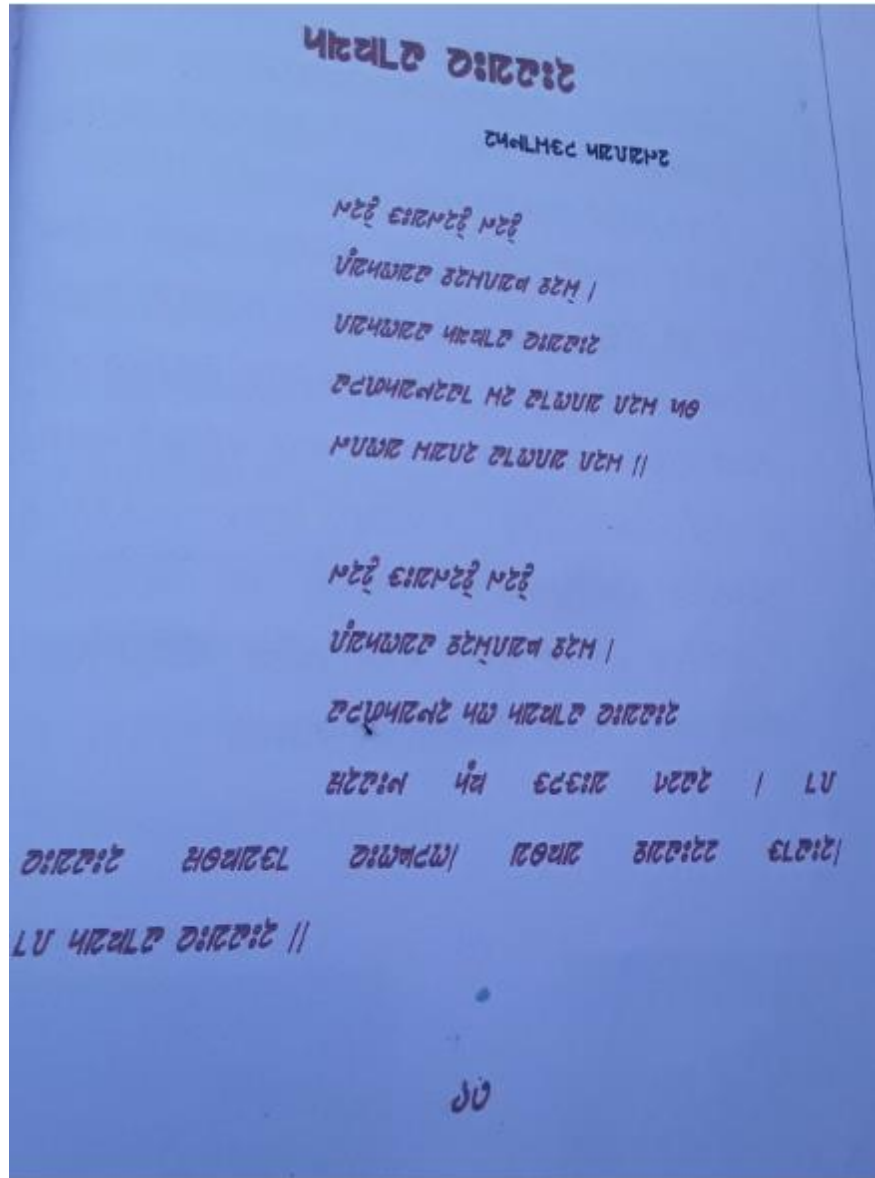


Figure 33: Extracted from textbook 'Kuṛmāli Sārā Bāhār' ᄆᄆᄆᄆᄆ ᄆᄆᄆᄆ ᄆᄆᄆᄆᄆ (for class-III) (13:2022).

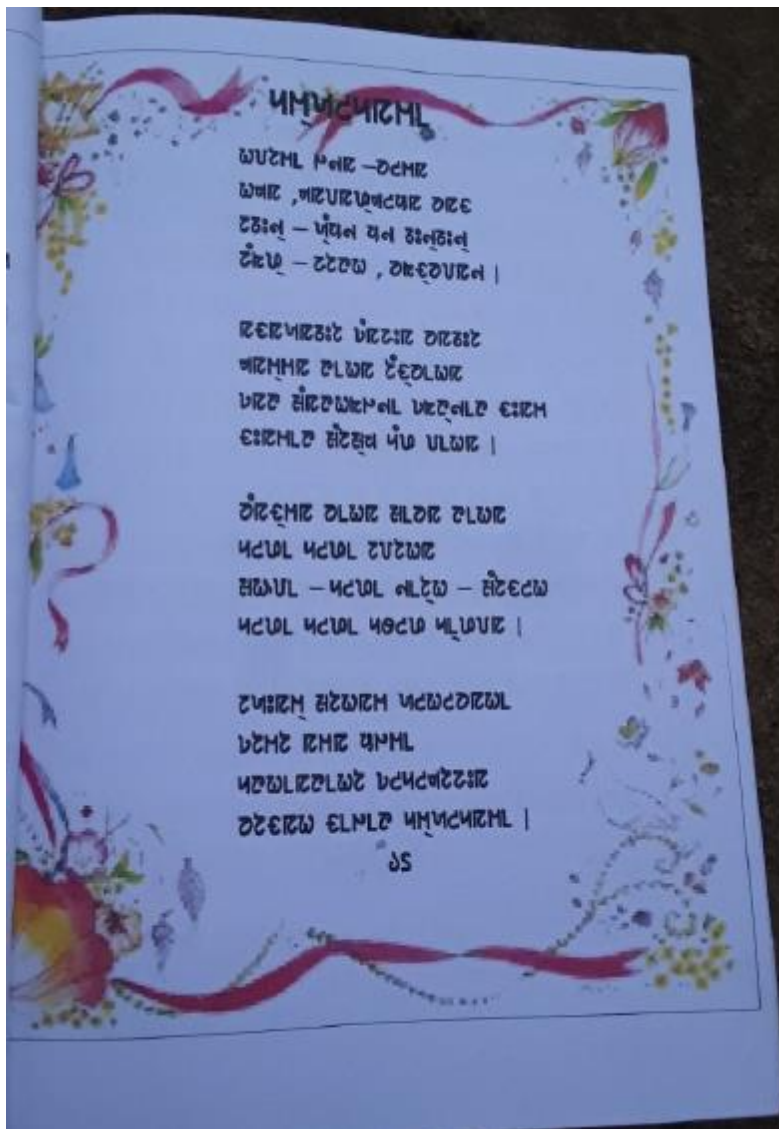


Figure 34: Extracted from textbook 'Kurmalı Sārā Bāhār' ଚର୍ଚ୍ଚାମାଳାରେ କାହାଣୀର ଚର୍ଚ୍ଚାମାଳା (for class-IV) (16:2022)

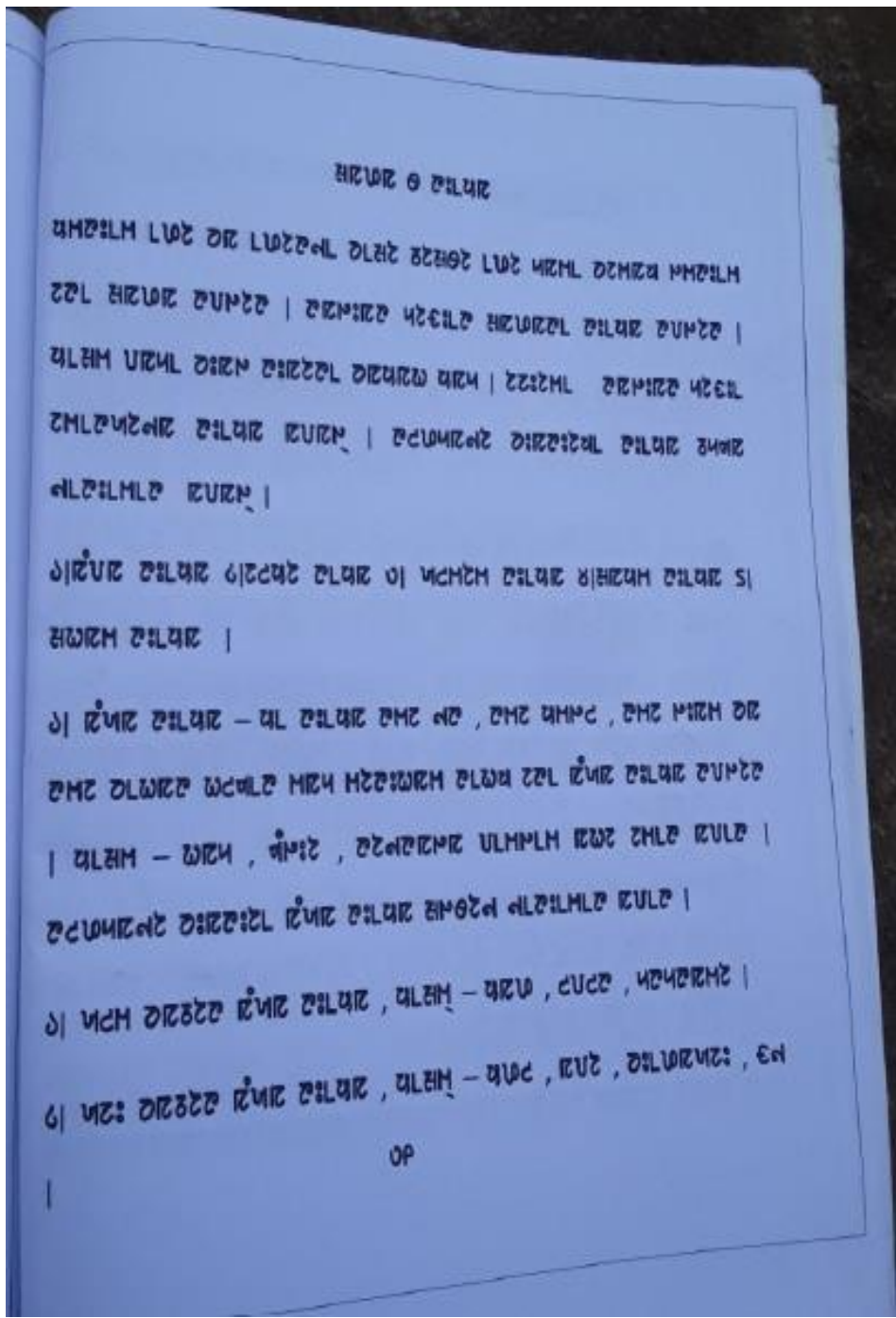


Figure 34: Extracted from textbook 'Kurmāli Sārā Bāhār' ଘଣ୍ଟାଂଶୁଂଂ ଅର୍ଥରେ ଅର୍ଥରେ (for class-IV) (37:2022)

Letter of support from Kurmali Chisoi-A Teachers' Association:

কুর্মালি চিসই-এ টিচারস্‌ অসোসিয়েশন

KURMALI CHISOI-A TEACHERS' ASSOCIATION

Regd.No.- S0005660 of 2019-2020

Head Office

BAMUNDIHA :: P.O.- TULIBARH :: P.S.- JAMBONI:: DIST.- JHARGRAM:: PIN -721503
Phone No. :- 8945041514/9734435098 :: Email Ld:- kurmalichisoiateachers@gmail.com

Ref: 07/2021

Date :-27/07/2021

To
Dr. Deborah Anderson
Unicode Technical Director
Unicode Technical Committee, USA



Subject: Support application for "Proposal to Encode Chisoi in Universal Character set.

Dear Madam,

In reference to the above subject it is to inform that Kurmali Chisoi-a Teachers' Association is the Leading organization of Kurmali- Chisoi-a Linguistic Community of India now . It is a non-profitable organization . The main objective of this organization is to preserve and propagate Kurmali Language and Kurmali culture scientifically among Kurmi people and many other people like Rajwar, Dhopa, Napit, Kamar, Kumore etc. Many of them use Kurmali Language in their day to day lives and they all belong to Kurmali Linguistic community. More than 50 Lakh of people of India Use Kurmali Language. There are also Kurmali speaking people in Bangladesh and Nepal. Now thousands and thousands of people use the Chisoi Script to write Kurmali language . There are many Kurmali Chisoi- Medium primary schools in West Bengal of India which had been registered by the SSM 'Samagra Siksha Mission' Education Mission of Govt. of India. Now Kurmali is a recognized language in the state of West Bengal and Jharkhand.

The History of Chisoi script

The Chisoi is one kind of Alphabetic Script. It was created by Jayanta Kumar Mahata in 1986, a linguist of West Bengal. It is nothing but the sumtotal of some religious and cultural symbols of Kurmali Cultural Community. The symbols have been logically and scientifically arranged in the Chisoi. It is used to write Kurmali Language. Several books and a weekly newspaper have been published in the Chisoi Alphabet . There are forty characters (8 vowels,20 Consonants , 2 signs and 10 digits) in the Chisoi Alphabet. Pankaj Kumar Mahata of Jhargram, an engineer designed a digitized true type font in the year 2000 first. It has been widely used by the Kurmali Chisoi-a Community. Another true type font was designed by Biswajit Mandal and Nurul Alam Ador for chisoi in 2021. It is easier to use . So it has been also accepted by the Kurmali Chisoi-a Community. Now it is used to write Kurmali Language . After thirty four years journey (Debate, discussion, work-shop, seminar etc,) Chisoi is a popular script among Kurmali Linguistic Community.

So, our humble request to Unicode Committee to Encode our Chisoi Script as soon as possible for smooth development of the Kurmali Language.

Yours sincerely

সুসান্তা মহাতা

(SUSANTA MAHATA)
President / Secretary
KURMALI CHISOI - A TEACHER'S
ASSOCIATION

ISO/IEC JTC 1/SC 2/WG 2

PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS

FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹_{TP PT}

Please fill all the sections A, B and C below.

Please read Principles and Procedures Document (P & P) from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

Please ensure you are using the latest Form from <http://std.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

See also <http://std.dkuug.dk/JTC1/SC2/WG2/docs/roadmaps.html> for latest Roadmaps.

A. Administrative

1. Title:	<i>Proposal to Encode the Chisoi in Universal Character Set</i>
2. Requester's name:	<i>Biswajit Mandal (biswajitmandal.bm90@gmail.com)</i>
3. Requester type (Member body/Liaison/Individual contribution):	<i>Individual Contribution</i>
4. Submission date:	<i>03/07/2022</i>
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	<i>Yes</i>
(or) More information will be provided later:	<i>No</i>

B. Technical – General

1. Choose one of the following:					
a. This proposal is for a new script (set of characters):	<i>Yes</i>				
Proposed name of script:	<i>Chisoi</i>				
b. The proposal is for addition of character(s) to an existing block:					
Name of the existing block:					
2. Number of characters in proposal:	<i>41</i>				
3. Proposed category (select one from below - see section 2.2 of P&P document):					
A-Contemporary	<input checked="" type="checkbox"/>	B.1-Specialized (small collection)	<input type="checkbox"/>	B.2-Specialized (large collection)	<input type="checkbox"/>
C-Major extinct	<input type="checkbox"/>	D-Attested extinct	<input type="checkbox"/>	E-Minor extinct	<input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic	<input type="checkbox"/>	G-Obscure or questionable usage symbols	<input type="checkbox"/>		<input type="checkbox"/>

4. Is a repertoire including character names provided? Yes

a. If YES, are the names in accordance with the “character naming guidelines”
in Annex L of P&P document? Yes

b. Are the character shapes attached in a legible form suitable for review? Yes

5. Fonts related:

a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?
Biswajit Mandal (biswajitmandal.bm90@gmail.com)

b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
Biswajit Mandal (biswajitmandal.bm90@gmail.com)

6. References:

a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided? Yes

b. Are published examples of use (such as samples from newspapers, magazines, or other sources)
of proposed characters attached? Yes

7. Special encoding issues:

Does the proposal address other aspects of character data processing (if applicable) such as input,
presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? Yes
See proposal for additional details

8. Additional Information:

Submitters are invited to provide any additional information about Properties of the proposed Character(s) or Script that will assist in correct understanding of and correct linguistic processing of the proposed character(s) or script. Examples of such properties are: Casing information, Numeric information, Currency information, Display behaviour information such as line breaks, widths etc., Combining behaviour, Spacing behaviour, Directional behaviour, Default Collation behaviour, relevance in Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database (<http://www.unicode.org/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	No
If YES explain	
2. Has contact been made to members of the user community (for example: National Body, user groups of the script or characters, other experts, etc.)?	Yes
If YES, with whom?	<i>Jayanta Kumar Mahata, Narayan Mahata, Bikash Mahata, Amalendu Mahata, Susanta Mahata, etc</i>
If YES, available relevant documents:	<i>See citations in text proposal</i>
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?	Yes
Reference:	<i>See text of proposal</i>
4. The context of use for the proposed characters (type of use; common or rare)	Common
Reference:	<i>See text of proposal</i>
5. Are the proposed characters in current use by the user community?	Yes
If YES, where? Reference:	<i>See text of proposal</i>
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	No
If YES, is a rationale provided?	
If YES, reference:	
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	Yes
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function)	

to, or could be confused with, an existing character?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
11. Does the proposal include use of combining characters and/or use of composite sequences?	No
If YES, is a rationale for such use provided?	
If YES, reference:	
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?	
If YES, reference:	
12. Does the proposal contain characters with any special properties such as	
control function or similar semantics?	No
If YES, describe in detail (include attachment if necessary)	
13. Does the proposal contain any Ideographic compatibility characters?	No
If YES, are the equivalent corresponding unified ideographic characters identified?	
If YES, reference:	