Proposal to Encode Chisoi in the Universal Character Set

Biswajit Mandal

(biswajitmandal.bm90@gmail.com)

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1. Introduction
This is a proposal to encode Chisoi in the Universal Character Set. Chisoi is used to write 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 (Chisoi) is a script used for writing Kurmali (Devanagari: कुर्मालि, Bengali: কুর্মালি, Odia:କୁର୍ମାଲି, Chisoi: cisOi/cisoi, IPA: [kʊrmaːli]) (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 Jalda 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[4] (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.[5]

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 ध also known as ‘Svastika’ in Bengali Hindu community.

![Figure 1: Showing various Kurmali traditional symbols as well as Rangoli and Alpanas.](image)

1 Proposal to Encode Chisoi in the Universal Character Set
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 Čisōi Čisio, Čisā Čisi Šikha’ dhā parāsā, parāsā parāsā

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 Chinhāp’ in 1994.


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 and various schemes, like Gadra, Sonakhuli, Joypur, Barsole, Dwarkanath, etc. Some other private organizations are teaching Chisoi script in Odisha and Jharkhand.


Two digitized fonts are available for Chisoi, “KurmiChisoy” (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 ‘Kurmāli Sārā Bāhār’ for class III & ‘Kurmāli Sārā Bāhār’ 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, Jhargram District (W.B.). Examples of primers are ‘Kurmāli Cisoī Cinhāp’ for class-I and ‘Kurmāli Cisoī Cinhāp Dōrī Khōdrā’ for class-II, etc in 2009. [see fig.7]

- **Newspaper**
  A weekly newspaper of Kurmali ‘Āddās’ 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 ‘Pōrōm’ (2017) published in Bengali, sometime it carries Kurmali articles. [see fig.26]
- **Ephemera**
  ‘Kurmi Chisoi-A Teachers’ Association’ produces and distributed various posters, banners and pamphlets. [see fig.22]

- **Linguistic works**

- **Literary Works**
  Kurmali poetry book ‘Kurmi Cāri Disā’ by Mangal Mahata in both Chisoi and Bengali scripts in 2016 [see fig.29].
  Kurmali poetry book ‘Cārice thā’ by Narayan Mahata in 2014 [see fig.30].
  The Kurmali prose ‘Bulān’ by Maniklal Mahata in 2018 [see fig.28].

- **Workshops**
  ‘All India Kurmali Chisoi-A Society’ 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]

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 Kurmālī Cisoi or Cisoi lipi) 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 [v] or [a], normally never occurs in final position but some cases it can occur during to pronounce ‘Tadbhāv’ words. It means ‘a word used in one language which is a distorted from of a word in another language’. For examples: बाबुर ‘māhātō’ Surname, संत ‘sāntō’ Peaceful, सो ‘mōstō’ Big in size, अभन्न ‘ōbgānōtō’ 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 āJARAH[ⁿ] is used after consonants to indicate aspirations: ध खो [kʰa], छ गो [gʰa], झ जो [jʰa], छ झो [dʰa], 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]
3.2 Chisoi sign anusvara<◌>

- The sign (◌) is written on the top of the vowels and consonants in question except JARAHAI. It is a nasalization mark of Chisoi. It corresponds to the Candrabindu in Devanagari, Bengali and Odia. Its IPA is [ʰ]. For examples: ㄑ[3],ㄕ[a], ㄝ[l],ㄕ[ɔ],(sq)[g5], etc. To represent the nasalized aspirated consonants, the position of sign (◌) will be, For examples: ㄒ[kʰ5], ㄏ[ɡʰ5], ㄋ[tʰ5], ㄭ[dʰ5], etc. [see fig.18]
- In the attached specimens sign anusvara shown as (ォ), it is due to font’s standard. The actual sign of anusvara is (◌). It has similarity in glyph with ‘COMBINING RING ABOVE’ U+030A (◌), so it can be unified.
3.2.1 Position of Chisoi Sign anusvara

The position of sign (◌) will on the top of both vowels and consonants. But in the old font “KurmiChisoy” 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 anusvaras but the new font showing accurate top middle position of anusvara.](image)

3.3 Chisoi letter JARAHA

- The letter (꜇) JARAHA ‘Jôrḍ’/’hô’ छछ means ‘to add’. It is used after consonants to indicate aspirations [ʱ]. JARAHA never place in the initial position of any Kurmali words, always used after consonants. For examples: 귗[ko]+ 귗[hi]= 귗[hi], 귗[go]+ 귗[hi]= 귗[hi], 귗[ga]+ 귗[hi]= 귗[hi], 귗[ga]+ 귗[hi]= 귗[hi], 귗[gy]+ 귗[hi]= 귗[hi], 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 (꜇), but this proposal for separate encoding of CHISOI LETTER JARAHA.

3.3.1 Position of Chisoi letter JARAHA

- To represent the nasalized aspirated consonants, the position of (꜇) JARAHA will be after the sign anusvara, For examples: 귗+ 귗[hi]= 귗[hi], 귗+ 귗[hi]= 귗[hi], 귗+ 귗[hi]= 귗[hi], 귗+ 귗[hi]= 귗[hi], 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: 귗+ 귗[hi]= 귗[hi], 귗+ 귗[hi]= 귗[hi], 귗+ 귗[hi]= 귗[hi], etc. [see fig.13][§ 3.4]

3.4 Chisoi Sign SISO

- The sign (◌) ‘Sis’/’ô’ छछ 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 [a] or [a] of the consonants. For examples: 귗[ko]+ 귗[ka], 귗[ga]+ 귗[ga], 귗[ga]+ 귗[ga], 귗[ga]+ 귗[ga], etc.
- To represent the inherent vowel less aspirated consonants, the position of sign (◌) will be, For examples: 귗[ka]+ 귗[ka], 귗[ka]+ 귗[ka], 귗[ka]+ 귗[ka], 귗[ka]+ 귗[ka], etc.[see fig.12]And there is no single letter in Chisoi orthography which is containing both SISO and anusvara together like 귗, 귗, 귗 etc.

3.4.1 Other uses of Chisoi Sign SISO

Proposal to Encode Chisoi in the Universal Character Set
• **Glottalizational mark**: If the last consonant letter of any word carries SISO `<◌>', it reflects glottal stop phoneme. For examples: अङ्गर [āngra] ‘inexpert’, हुम [hūm] ‘not moving’, ब्हज्ज [ḇḥajj] ‘dirful’, etc.

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

< consonant + ◌ + ◌>

• If LETTER I `<◌>' carries SISO `<◌>' in a word, then left sided letter of `<◌>' will pronounce with inherent phoneme [ɔ] or [ɐ]. For examples: सात्स [saatɔ] ‘Eight’, बिच [biča] ‘warrior’ and सिसी [sisी] ‘Chisoi’ [see fig.12].

< consonant /owel + ◌ + ◌ + consonant /owel >

### 3.5 Chisoi letter AA<◌>

It is a diphthong vowel letter with combination of LETTER AA and LETTER I. Its glyph is a combination of two letters 正能量. Its IPA is [ai]. To represent this sound we use आ (in Devanagari), আ (in Bengali) and ଆ (in Odia). For examples: सिसू [siːsɔ] ‘Mirror’ and आईँसा [aiaːnsa] ‘name of a month’, etc.

### 3.6 Chisoi letter RRA<◌>

It is the voiced retroflex flap र of Chisoi. To represent this sound we use र (in Devanagari), র (in Bengali) and ର (in Odia). For examples: हर्ष [harʃ] ‘eight’, नर्ष [nṛʃ] ‘Stupid’, गर्ष-गर्ष [ḡṛʃ-ḡṛʃ] ‘meaningless’, ओर्ष [ɔrʃ] ‘written’, etc.

### 3.7 Digits

There is full set of decimal digits: 0 ZERO, 1 ONE, 2 TWO, 3 THREE, 4 FOUR, 5 FIVE, 6 SIX, 7 SEVEN, 8 EIGHT, 9 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 ‘Cisoi’ कमल ‘Written’ or ‘Drawn’. The name Chisoi first time found in the literature of Kurmali ‘Kurmāli Cisoi Cinhāp’ in 1994. Proposed character names for this proposal are given below [see table no.1].
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 is lack of standard qualities in glyphs, problems in positioning of signs, noncollinearity 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.

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.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>ォ</td>
<td>う</td>
<td>[u]</td>
<td>ウ</td>
<td>う</td>
<td>[u]</td>
<td>ウ</td>
<td>う</td>
</tr>
<tr>
<td>ㇰ</td>
<td>ㇰ</td>
<td>[kコレク]</td>
<td>ㇱ</td>
<td>ㇱ</td>
<td>[kコレショテ]</td>
<td>㇐</td>
<td>㇐</td>
</tr>
<tr>
<td>ʲ</td>
<td>ʲ</td>
<td>[ンコレショテ]</td>
<td>InputElement</td>
<td>InputElement</td>
<td>InputElement</td>
<td>InputElement</td>
<td>InputElement</td>
</tr>
</tbody>
</table>

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.
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]

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 TA;Lo;0;L;;;;;N;;;;;
xxxx0E;CHISOI LETTER RR;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 G;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 JARAH;Lo;0;L;;;;;N;;;;;
xxxx1C;CHISOI SIGN SISO;M;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;;;;;
```
7. Collations
The collation order is as follows:

A < B < C < D < E < F < G < H < I < J < K < L < M < N < O < P < Q < R < S < T < U < V < W < X < Y < Z

8. ‘Confusible’ characters
Below is a list of Chisoi characters that are ‘confusible’ with those encoded in other scripts blocks:

<table>
<thead>
<tr>
<th>Chisoi Character</th>
<th>Equivalent</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHISOI LETTER E</td>
<td>004C</td>
<td>LATIN CAPITAL LETTER L</td>
</tr>
<tr>
<td>CHISOI LETTER NA</td>
<td>004D</td>
<td>LATIN CAPITAL LETTER M</td>
</tr>
<tr>
<td>CHISOI LETTER MA</td>
<td>0427</td>
<td>CYRILLIC CAPITAL LETTER CHE</td>
</tr>
<tr>
<td>CHISOI LETTER O</td>
<td>0472</td>
<td>CYRILLIC CAPITAL LETTER FITA</td>
</tr>
<tr>
<td>CHISOI LETTER DDA</td>
<td>09A2</td>
<td>BENGALI LETTER DDHA</td>
</tr>
<tr>
<td>CHISOI JARAHA</td>
<td>0983</td>
<td>BENGALI SIGN VISARGA</td>
</tr>
<tr>
<td>CHISOI SIGN SISO</td>
<td>09CD</td>
<td>BENGALI SIGN VIRAMA</td>
</tr>
<tr>
<td>CHISOI DANDA</td>
<td>0964</td>
<td>DEVANAGARI DANDA</td>
</tr>
<tr>
<td>CHISOI DOUBLE DANDA</td>
<td>0965</td>
<td>DEVANAGARI DOUBLE DANDA</td>
</tr>
<tr>
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<td>0030</td>
<td>DIGIT ZERO</td>
</tr>
<tr>
<td>CHISOI DIGIT ONE</td>
<td>00E7</td>
<td>BENGALI DIGIT ONE</td>
</tr>
<tr>
<td>CHISOI DIGIT THREE</td>
<td>00E9</td>
<td>BENGALI DIGIT THREE</td>
</tr>
<tr>
<td>CHISOI DIGIT SIX</td>
<td>0065</td>
<td>LATIN SMALL LETTER E</td>
</tr>
<tr>
<td>CHISOI DIGIT SEVEN</td>
<td>03C1</td>
<td>GREEK SMALL LETTER RHO</td>
</tr>
<tr>
<td>CHISOI DIGIT EIGHT</td>
<td>0055</td>
<td>LATIN CAPITAL LETTER U</td>
</tr>
<tr>
<td>CHISOI DIGIT NINE</td>
<td>03C9</td>
<td>GREEK SMALL LETTER OMEGA</td>
</tr>
</tbody>
</table>

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.
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<th>xxx1</th>
<th>xxx2</th>
</tr>
</thead>
<tbody>
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<td>020</td>
</tr>
<tr>
<td>1 01</td>
<td>011</td>
<td>021</td>
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<tr>
<td>2 02</td>
<td>012</td>
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<td>028</td>
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</tr>
<tr>
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Letters and signs

xxxx00  CHISOI LETTER A
xxxx01  CHISOI LETTER BA
xxxx02  CHISOI LETTER AAI
xxxx03  CHISOI LETTER AA
xxxx04  CHISOI LETTER GA
xxxx05  CHISOI LETTER TA
xxxx06  CHISOI LETTER E
xxxx07  CHISOI LETTER SA
xxxx08  CHISOI LETTER NA
xxxx09  CHISOI LETTER I
xxxx0A  CHISOI LETTER KA
xxxx0B  CHISOI LETTER RA
xxxx0C  CHISOI LETTER MA
xxxx0D  CHISOI LETTER HA
xxxx0E  CHISOI LETTER RRA
xxxx0F  CHISOI LETTER U
xxxx10  CHISOI LETTER DA
xxxx11  CHISOI LETTER LA
xxxx12  CHISOI LETTER O
xxxx13  CHISOI LETTER NYA
xxxx14  CHISOI LETTER NGA
xxxx15  CHISOI LETTER CA
xxxx16  CHISOI LETTER JA
xxxx17  CHISOI LETTER PA
xxxx18  CHISOI LETTER YA
xxxx19  CHISOI LETTER DDA
xxxx1A  CHISOI LETTER TTA
xxxx1B  CHISOI LETTER JARAHA
xxxx1C  CHISOI SIGN SISO

Punctuation

xxxx1D  CHISOI DANDA
xxxx1E  CHISOI DOUBLE DANDA

Digits

xxxx20  CHISOI DIGIT ZERO
xxxx21  CHISOI DIGIT ONE
xxxx22  CHISOI DIGIT TWO
xxxx23  CHISOI DIGIT THREE
xxxx24  CHISOI DIGIT FOUR
xxxx25  CHISOI DIGIT FIVE
xxxx26  CHISOI DIGIT SIX
xxxx27  CHISOI DIGIT SEVEN
xxxx28  CHISOI DIGIT EIGHT
xxxx29  CHISOI DIGIT NINE
References


https://chisoikurralmi.com/chisoiRegistrationform.php
<table>
<thead>
<tr>
<th>ORG</th>
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<th>ORG</th>
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Table 2: Comparison of Chisoi font ‘KurmiChisoy’ drawn by Pankaj Mahato (column ‘ORG’) and Nurul Alam Ador and Biswajit Mandal’s font ‘Chisoi’ (column ‘NEW’)
<table>
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<th>ODIA</th>
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<td>्थ, ्थ, ्थ</td>
<td>्प</td>
<td>०</td>
<td>्प</td>
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<td>्ल</td>
<td>्ल</td>
<td>०</td>
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</table>

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 Chisoī with Bengali pronunciation from first ever draft of ‘Kuṟmāli Cisoī Cinḥāp’ (1986).
Figure 7: A chart showing letters of Chisoi with Bengali pronunciation from book ‘Kurmālí Cisoi Cinhāp’ (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.
Figure 10: showing chart of Chisoi and numerals. (courtesy: Facebook)
Figure 11(a): Showing the first edition of Kurmali newspaper 'Āddās' (Jun 16th, 2013).
Figure 11(b): Showing the front page of Kurmali newspaper ‘Āddās’ (Dec 1st, 2016).
Figure 11(c): Showing the 4th page of Kurmali newspaper ‘Āddās’ (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 ‘Āddās’ with Chisoi chart (Jan 5th, 2017).
Figure 12: Heading showing the spelling of Chisoï (handwritten form) having LETTER I with SISO from the cover of Kurmali primer ‘Kuṛmāli Cisoi Cinhāp ’ (for class-1)(2009)
Figure 13: Showing the banner of Kurmali Chisoi-A Teachers’ Association having kerning issues between two letters.

Figure 14: Showing the keyboard layout of new ‘Biswa_Chisoi’ font (2021).
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 ‘Ānganwāḍi’ 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)
Figure 16(e): Participants list of ‘Kurmali Chisoi Chari education and its future aspect’ one day workshop at V Pally, Purulia.(2022)
Figure 17: Showing the positioning of Jaraha and siso from book ‘Kurmāli Ciso Cinhāp’ (for class-I) (14:2009).
Figure 18: Showing the positing of Chiso sign Anusvara from book 'Kurmi Li Ciso Cinhap' (for class-I) (13:2009).
Figure 19(a): Showing the front page of Kurmali-English Dictionary ‘Kurmali Sarabhārār’ (1:2014)
Proposal to Encode Chisoi in the Universal Character Set

Figure 19(b): Showing the front page of Chisoi-English-Bengali (Kurmali Dictionary) ‘Kūrmāli Saṅghā bhūdārā’ 4:2022
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 ‘Gāḍrā Kurmāli Parāimāri Iskul’ (2009)
Figure 23(a): Showing the diary maintaining in Chisoi, provided by Narayan Mahata. (2020, Jan)
Proposal to Encode Chisoi in the Universal Character Set

Figure 23(b): Kurmali poem written in Chisoi, provided by Jayanta Kumar Mahata. (2021)
Figure 24(a): Showing the Chisoī DANDA, DOUBLE DANDA and other punctuation marks from primer 'Kūrmāli Ŭ-Bā-Āī Suluk Pūthi' Ṣecond edition, 11:2017.
Figure 24(b): Showing the usage of Chisoi DANDA and DOUBLE DANDA from textbook ‘Kurmāḷi Sāṛā Bāhār’ (for class-III). (5:2022)
Figure 25(a): Showing the Chisoi digits from book ‘Kūrmāli Cisoi Cinhāp’ रेवुलेट बेरू सिमिंथ class-I, last page (2009).
Figure 25(b): Showing the Chisoi digits 1-10 from pre-primary book ‘Hômôr Kurmâli CisôI’ urma school böke, back cover (2022).
Figure 26: Showing the monthly magazine ‘Pôrôm’ written in both Kurmali and Bengali (2016).
Proposed to Encode Chisoi in the Universal Character Set

Figure 27: Cover picture of first ever Kurmali primer of Bangladesh ‘Gidörüenke Kurmali Cisoi’ using the latest font. (2021)
Figure 28: Showing the first poem of Kurmali book বুলান ‘Bulān’ written in both Chisoi and Bengali script (2:2018).
Figure 29: Showing Kurmali poem ‘Mudu Musu’ from book ‘Kurmāli Cāri Disā’ (15:2014).
Proposal to Encode Chisoi in the Universal Character Set

Figure 30: Showing the 5th poem ‘Sārul Pujā’ written in both Chisoi and Bengali scripts from book ‘Cāriceṭhā’ (5:2014).
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 Šikṣā Abhiyān’ in Chisoi (2021). (courtesy: Facebook)
Figure 33: Extracted from textbook ‘Kurṃāli Sārā Bāhār’ (for class-III) (13:2022).
Figure 34: Extracted from textbook ‘Kurmāli Sārā Bāhār’ (for class-IV) (16.2022)
Figure 34: Extracted from textbook ‘Kurmāli Sărā Bāhār’ (KuRmali SaRa Bahar) (for class-IV) (37:2022)
Letter of support from Kurmali Chisoí-A Teachers’ Association:

KURMALI CHISOI-A TEACHERS’ ASSOCIATION
Regd.No.- S0005660 of 2019-2020
Head Office
Phone No. - 8945041514/9734435099 : Email Id:- kurnmalichisoiateachers@gmail.com

Ref: 07/2021

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

Date: 27/07/2021

Subject: Support application for “Proposal to Encode Chisoí in Universal Character set.”

Dear Madam,

In reference to the above subject it is to inform that Kurmali Chisoí-a Teachers’ Association is the Leading organization of Kurmali- Chisoí-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 Lakhs 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 Chisoí Script to write Kurmali language. There are many Kurmali Chisoí- 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 Chisoí script
The Chisoí 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 objectives have been logically and scientifically arranged in the Chisoí. It is used to write Kurmali Language. Several books and a weekly newspaper have been published in the Chisoí Alphabet. There are forty characters (8 vowels,20 Consonants , 2 signs and 10 digits) in the Chisoí 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 Chisoí-a Community. Another true type font was designed by Biswajit Mandal and Nurul Alam Ador for chisoí in 2021. It is easier to use. So it has been also accepted by the Kurmali Chisoí-a Community. Now it is used to write Kurmali Language. After thirty years journey (Debate, discussion, work-shop, seminar etc.,) Chisoí is a popular script among Kurmali Linguistic Community.

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

Yours sincerely

(SUSANTA MAHATA)
President / Secretary
KURMALI CHISOI-A TEACHERS’ ASSOCIATION
## Proposal to Encode the Chisoi in Universal Character Set

### A. Administrative

1. **Title:**
   
   Proposal to Encode the Chisoi in Universal Character Set

2. **Requester’s name:**
   
   Biswajit Mandal (biswajitmandal.bm90@gmail.com)

3. **Requester type (Member body/Liaison/Individual contribution):**
   
   Individual Contribution

4. **Submission date:**
   
   03/07/2022

5. **Requester’s reference (if applicable):**

6. **Choose one of the following:**

   - This is a complete proposal: **Yes**
   - (or) More information will be provided later: **No**

### B. Technical – General

1. **Choose one of the following:**

   - a. **This proposal is for a new script (set of characters):** **Yes**
     
     **Proposed name of script:** Chisoi

   - b. **The proposal is for addition of character(s) to an existing block:**
     
     **Name of the existing block:**

2. **Number of characters in proposal:**
   
   41

3. **Proposed category (select one from below - see section 2.2 of P&P document):**

   - A-Contemporary **X**
   - B.1-Specialized (small collection) **X**
   - B.2-Specialized (large collection)
   - C-Major extinct
   - D-Attested extinct
   - E-Minor extinct
   - F-Archaic Hieroglyphic or Ideographic
   - G-Obscure or questionable usage symbols
4. Is a repertoire including character names provided?
   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

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](http://www.unicode.org) for such information on other scripts. Also see Unicode Character Database ([http://www.unicode.org/reports/tr44/](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.
## Proposal to Encode Chisoi in the Universal Character Set

### C. Technical - Justification

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes/No</th>
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<tr>
<td>1. Has this proposal for addition of character(s) been submitted before?</td>
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<tr>
<td>If YES explain</td>
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<tr>
<td>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.)?</td>
<td>Yes</td>
</tr>
<tr>
<td>If YES, with whom?</td>
<td>Jayanta Kumar Mahata, Narayan Mahata, Bikash Mahata, Ansalendu Mahata, Susanta Mahata, etc.</td>
</tr>
<tr>
<td>If YES, available relevant documents:</td>
<td>See citations in text proposal</td>
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<tr>
<td>3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?</td>
<td>Yes</td>
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<tr>
<td>Reference:</td>
<td>See text of proposal</td>
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<tr>
<td>4. The context of use for the proposed characters (type of use; common or rare)</td>
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<td>See text of proposal</td>
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<td>5. Are the proposed characters in current use by the user community?</td>
<td>Yes</td>
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<td>If YES, where? Reference:</td>
<td>See text of proposal</td>
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<td>6. After giving due considerations to the principles in the P&amp;P document must the proposed characters be entirely in the BMP?</td>
<td>No</td>
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<td>7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?</td>
<td>Yes</td>
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<td>8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?</td>
<td>No</td>
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<tr>
<td>If YES, reference:</td>
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<tr>
<td>9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?</td>
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<td>10. Can any of the proposed character(s) be considered to be similar (in appearance or function)</td>
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<td>Question</td>
<td>Answer</td>
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<td>to, or could be confused with, an existing character?</td>
<td><em>No</em></td>
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<td>If YES, is a rationale for its inclusion provided?</td>
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<tr>
<td>If YES, reference:</td>
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<tr>
<td>11. Does the proposal include use of combining characters and/or use of composite sequences?</td>
<td><em>No</em></td>
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<td>Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?</td>
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<td>12. Does the proposal contain characters with any special properties such as control function or similar semantics?</td>
<td><em>No</em></td>
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<td>If YES, describe in detail (include attachment if necessary)</td>
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<td>13. Does the proposal contain any Ideographic compatibility characters?</td>
<td><em>No</em></td>
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<td>If YES, are the equivalent corresponding unified ideographic characters identified?</td>
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