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Universal Multiple-Octet Coded Character Set
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Doc Type: Working Group Document**Title: Proposal to Encode Nepal Himalayish Scripts in ISO/IEC 10646****Author: Pat Hall, Language Technology Kendra and Kathmandu University, Nepal****Status: Individual Contribution****Action: For consideration by JTC1/SC2/WG2 and UTC****Date: 2012-10-08**

1. Purpose

This proposal brings together a number of previous proposals for scripts used to write the Himalayish Tibeto-Burman languages of Nepal, to unify them within a single proposed code block. The proposals and other documents being unified are:

N3649 L2/09-192 2009-05-04 *Preliminary proposal for encoding the Rañjana script in the SMP of the UCS*

N3692 L2/09-325 2009-09-28 *Roadmapping the scripts of Nepal*

N3962 2011-01-25 *Preliminary Proposal to Encode the Jenticha Script in ISO/IEC 10646.*

N3963 2011-01-25 *Preliminary Proposal to Encode the Tikamuli Script in ISO/IEC 10646.*

N4018 2011-04-13 *Introducing the Khambu Rai Script.*

N4019 2011-04-13 *Introducing the Khema Script for Writing Gurung.*

N4028 2011-05-31 *Proposal to Encode the Jenticha Script in ISO/IEC 10646.*

N4036 2011-05-01 *Introducing the Magar Akkha Script.*

N4037 2011-05-01 *Introducing the Kirat Rai Script.*

N4038 2011-05-03 *Preliminary Proposal to Encode the Prachalit Nepal Script in ISO.IEC 10646.*

N4140 2011-09-29 *Introducing a Script for Writing Dhimal.*

N4184 2012-01-05 *Proposal to Encode the Newar Script in ISO.IEC 10646.*

N4322 2012-02-05 *Proposal for the Nepaalalipi script in the UCS*

This proposal also considers other languages currently written using extended forms of Devanagari; the writing of these languages has been analysed in detail by Michael Noonan in his 2003 paper *Recent Adaptations of the Devanagari Script for the Tibeto-Burman Languages of Nepal*. He covers the writing of Gurung as well as the writing of Chantyal, Tamang, Sherpa, Thangmi and Limbu. He has collected together the phonology of all these languages as well as showing how they can be written in Devanagari. The use of Devanagari must be considered a passing phase, just as it has been for Limbu written in Devanagari until the encoding of their Sirijanga script in Unicode and the production of appropriate fonts.

This proposal is intended to gain agreement that a unification of the writing of all these languages and other languages in the Himalayish group within Nepal would be

beneficial to the 4 million members of the linguistic communities concerned. It would also be able to embrace antiquarian writing of other languages, notably Sanskrit, with the addition of extra characters not required for the living languages, in much the same way as the Devanagari code block has been extended for this purpose.

Following agreement in principle a full proposal will be developed in concert with all the language communities in Nepal and other interested parties, as well as experts in Nepal currently involved in documenting the languages of the country and in that context devising methods of transcribing them.

2. Name for the code block

We propose that the code block is named Himalayish.

There has been considerable debate about the naming of a proposed code block for the Prachalit script used by the Newar community – the original proposal from Pandey (N4038) named the block “Prachalit”, but the revised proposal (N4184) renamed it “Newar” while the alternative proposal by Manandhar and colleagues (N4322) proposed the name “Nepaalalipi”. This led to considerable debate, with “Nepaalalipi” being deprecated because it contains the word “lipi” which means “script”. Much of the debate focused on the need for an English term appropriate for the scripts, languages and community being served by the code block.

In this case the scripts and languages belong to the Tibeto-Burman speaking communities of Nepal living predominantly in the hills and mountains in the north of country. In Nepal the communities are often divided into three sections:

- the Madeshi who live on the southern plains, the Terai, mostly speaking Indo-Aryan languages such as Maithili, Awadhi, Bhojpurji, and Tharu, with a few small Dravidian and Austroasiatic speaking communities.
- the Pahadi, also called Pahari, who live in the hills, the foothills of the Himalayas. “Pahad” or “Pahar” means mountain in Nepali, Hindi and other languages of the area. Ethnologue lists a Pahari subfamily of the Indo-Aryan family of languages, with many languages across the region from Kashmir to Assam. The Pahari group includes Nepali, claimed by around half the population of Nepal as their mother tongue.
- the Himali who live in the mountains, and speak Tibeto-Burman languages. Ethnologue shows a language subfamily Himalayish within the Tibeto-Burman family of languages, which covers all of the Tibeto-Burman languages of Nepal, but also languages in Tibet and a few languages in India

It thus does seem that “Himalayish”, or simply “Himal” or “Himali”, would be a suitable name to the code block. To avoid confusion with the current proprietary uses of “Himal” and “Himali”, I suggest “Himalayish”.

3. The Scripts and Languages

In order to unify the various proposals we need to align the proposed character sets, and will use the English names given to these for this purpose. The English names give simple phonetic transliterations of the characters, and we will also consider the Devanagari equivalents and the full phonology expressed in ipa where appropriate.

Appendix 1 gives a table of the proposed character sets for each of the script-language pairs for all the proposals listed above, plus the languages covered by Noonan indicating what needs to be represented in the writing by reference to the phonology given by him. The phonological requirements of the Newar language have been added by drawing upon Hale and Shrestha (2005).

What this gives us is a superset that covers all scripts and languages in the set being considered.

Of the Himalayish linguistic communities who would be supported with this proposal, only the Newars have a mature written tradition with a variety of styles of writing that have evolved so that they fit comfortably with the modern orthography of the language as it is spoken and written today. Limbu has a script dating back several hundred years is used in limited domains but is now encoded in Unicode while Lepcha is in a similar position but is predominantly an Indian language of Sikkim.

The rest of the proposals listed above have newly created writing, with some of them now being used for printing newspapers while others have yet to be used. For a language that is currently unwritten, the procedure recommended by UNESCO (Robinson and Gadelli 2003) is to base this on a thorough phonemic analysis of the spoken language and then extend a locally dominant writing system to fit the new language; this is precisely what the analysis by Noonan reports, leading to the adaptation of Devanagari for writing the languages Gurung, Tamang, Sherpa, Thangmi and Chantyal. By contrast the writing described in the ISO/SC2/WG2 proposals for Magar, Gurung, Bantawa, Sunuwar and Dhimal does not appear to have been based on phonological analysis though the authors will have been very familiar with the spoken language and thus influenced by this while also being influenced by writing systems used in communities around them. The status the writing of these languages is discussed in the sections below.

For more details of the scripts and languages we refer you to the many ISO/SC2/WG2 documents cited, with their scholarly discussion and many examples of the writing. Not all the scripts have been documented with signs, punctuation, and numerals, though clearly all scripts need these. Appendix 2 contains extracts from the existing proposals of the characters proposed. As will be seen, these are sometimes visually very distinct, even though the underlying functions are the same. This point was put very succinctly by Michael Everson in document N3692(page 2) in discussing the various scripts or styles of writing used for the Newar's language, Nepal Bhasa.

Encoding considerations. It should first be said that some members of the user community have criticized the idea of unifying these “scripts”. It may be that this is a misunderstanding of the UCS; the analogy of the Latin script with its $\xi\alpha\epsilon\iota\omicron$ and **Fraktur** variants, however, is probably applicable, which is why the recommendations here have been made.

3.1 The Prachalit and Nepaalalipi and Ranjana scripts for Nepal Bhasa

The 1991 census listed 825,458 Newars with mother tongue Nepal Bhasa (also known as Newari), making it the 6th largest linguistic community of the country. The writing of the Newars has been considered in five recent ISO WG2 documents:

Michael Everson 2009-05-04 *Preliminary proposal for encoding the Rañjana script in the SMP of the UCS* N3649 L2/09-192

Michael Everson 2009-09-28 *Roadmapping the scripts of Nepal* N3692 L2/09-325

Anshuman Pandey 2011-05-03 *Preliminary Proposal to Encode the Prachalit Nepal Script in ISO.IEC 10646*. N4038

Anshuman Pandey 2012-01-05 *Proposal to Encode the Newar Script in ISO.IEC 10646*. N4184 L2/12-003

Devdass Manandhar, 2012-02-05 *Proposal for the Nepaalalipi script in the UCS* N4322 L2/12-120

See Appendix A2.1 for character examples.

The significant point to note is the inclusion in N4322 of breathy consonants that need to be distinguished from the sequence of the consonant followed by a <ha> since there exist words with substantially different meanings which only differ in their written form in the use of the these breathy consonants. N4184 dismisses these breathy consonants as conjuncts that have written incorrectly, but this is clearly a misunderstanding. The independent analysis of the writing of Chantyal using Devanagari given by Noonan provides further evidence here.

N4322 proposed that where vowels could be written in two distinct forms the pre-composed forms should be excluded, but in encodings of Brahmi derived scripts the practice has been established that both representations are included, as is done in N4184, and this established practice will be followed with the ambiguity resolved in normalisation and collation algorithms.

3.2 The Akkha script for the Magar Language

The Magar are the 7th largest linguistic community in Nepal, with 770,116 mother tongue speakers recorded in the 2001 census. But unlike the Newars, the Magar have no written tradition, though today they do recognise the importance of writing and have looked back in history to claim Brahmi as their original writing, to replace the use of Devanagari which has been used by default. This is described in

Anshuman Pandey 2011-05-01 *Introducing the Magar Akkha Script*. N4036

which contains extracts from a larger document setting out the Magar case for the script they call “Akkha” (which means “script”). See Appendix A2.2 for an extract from this document.

Pandey correctly points out that Akkha is Brahmi, but I suggest that it would not be appropriate for the Magar community to use this script in its ancient form – over the past two thousand years both scripts and languages have evolved significantly and the Magar people deserve to benefit from this evolution. The Akkha scripts of the Magar people needs to be further developed as a font for the Himalayish code block, this code block will cover everything that they need.

3.3 The Khambu Rai and Kirat Rai scripts for the Bantawa language

This is a relatively large linguistic community of mother tongue speakers of the Bantawa language, 371,056 in the 2001 census. Two scripts are described in:

Anshuman Pandey 2011-04-13 *Introducing the Khambu Rai Script*. N4018

Anshuman Pandey 2011-05-01 *Introducing the Kirat Rai Script*. N4037

See Appendix A2.3 for examples of the scripts.

Pandey points out that Khambu Rai, the first of these, is in one-to-one correspondence with Devanagari, though it does also include three conjuncts <tra>, <ksha> and <gya> frequently treated as distinct letters of the Devanagari alphabet within the Nepalese educational system. Khambu Rai must be viewed as an alternative font for Devanagari, though it would be useful to know how long it has been in use and for what purposes.

Kirat Rai is quite different, and though Pandey says it probably evolved from Khambu Rai, it is hard to see this. As can be seen from the Appendix it is very close to the Tikamuli script for Sunuwar in what has been chosen to create characters for, the only significant differences being that Tikamuli includes a glottal stop and a trill.

3.4 The Jenticha and Tikamuli scripts for the Sunuwar language

The Sunuwar (Sunwar) is a relatively small linguistic community of 26,611 mother tongue speakers, definitely large enough to warrant a distinct style of writing. The writing of Sunuwar is reported in three documents covering two scripts.

Anshuman Pandey N3962 2011-01-25 *Preliminary Proposal to Encode the Jenticha Script in ISO/IEC 10646.*

Anshuman Pandey N3963 2011-01-25 *Preliminary Proposal to Encode the Tikamuli Script in ISO/IEC 10646.*

Anshuman Pandey N4028 2011-05-31 *Proposal to Encode the Jenticha Script in ISO/IEC 10646.*

See Appendix A2.4 for examples of the scripts.

Pandey reports Sunuwar as an official language of Sikkim in India, though Ethnologue records no Sunuwar community in India. Pandey gives two alternative names, Mukhiya and Koits, but neither of these names appear in Ethnologue, though Ethnologue does record a small language Koi spoken in eastern Nepal. This discrepancy needs further investigation, the community in Sikkim must use some other name or some other closely related language.

Jenticha is the older of the two scripts, though created relatively recently in 1942. It is reported as the official script in Sikkim – see note above for the open question here. Tikamuli has clearly been created recently, though no dates or sources are given.

The two scripts do have significant differences. Tikamuli is much closer to Devanagari in its choice of consonants, and we must wonder about the influence here. Both include a trill and glottal stop. They both only have a single set of vowels, not distinguishing between the independent and dependent forms, with Jenticha preferring the independent forms while Tikamula prefers the dependent forms.

This choice of only one form of the vowels makes us wonder whether the distinction is necessary in any Brahmi script – modern fonts could distinguish what needs to be rendered from context and select the independent or dependent form as appropriate.

3.5 The Khema script for the Gurung language

The Gurung is a large linguistic community with 338,925 mother tongue speakers recorded in the 2001 census. Ethnologue documents two distinct dialects not recognised in the 2001 census. A single document:

Anshuman Pandey N4019 2011-04-13 *Introducing the Khema Script for Writing Gurung.*

introduces the recently created Khema script, see Appendix A2.5 for examples of the Khema script. A second script is noted, but no details are given.

Here we have an independent phonology documented by Noonan and have compared the two within the table in the Appendix. The Khema script has the usual diphthongs not required by the phonology, and more consonants than required, indicating perhaps an undue influence of Devanagari in the Khema script.

Taking the phonology as setting the requirements for writing, we see that there is a need for four tone markers, but otherwise the needs of Gurung are well catered for by the requirement laid down by other scripts and languages.

3.6 The Dham script for Dhimal.

The Dhimal linguistic community is relatively small at 17,308 in the 2001 census. A recently created script is recorded in:

Anshuman Pandey 2011-09-29 *Introducing a Script for Writing Dhimal*. N4140

See Appendix A2.6 for examples of the script.

The total alignment with Devanagari makes this appear to be a proposal for an alternative font for Devanagari, though clearly if such a font existed it could equally well be mapped to the Himalayish code block.

4. Unwritten languages

4.1 Writing Tamang

At 1,179,145 mother tongue speakers, Tamang is the largest of the Himalayish language communities in Nepal. With their strong Buddhist traditions, there has been a movement to write Tamang in the Tibetan script, but equally well for administrative purposes writing in Devanagari has been acceptable. The writing of Tamang in Devanagari is described by Noonan, who notes the need for 4 tones.

4.2 Writing Thangmi (Thami)

The Thami or Thangmi linguistic community has 18,991 speakers recorded in the 2001 census, and has been written in an extension of Devanagari for the purposes of documenting the language. From Noonan's phonology we see that it needs fewer vowels, most of the standard consonants, and a glottal stop.

4.3 Writing Chantyal

The Chantyal language community is small at 5,912 speakers. Its writing needs are similar to those of Nepal Bhasa including the breathy nasals and other breathy consonants not present in Devanagari. As noted by Noonan, there are distinct words with the breathy consonants and with the consonant followed by the <ha>, making it not possible to represent the breathy consonant by a conjunct of the consonant and <ha>.

4.4 Writing Sherpa

Sherpa with 31,500 mother tongue speakers would fit well within the Himalayish code block, requiring 2 tone markers in addition to most of the standard characters. A scholar from East Asia has been developing a script for the Sherpa community, but we do not have access to details of this.

5. Other languages

5.1 Issues regarding the writing of Limbu

Limbu with 333,633 mother tongue speakers has a traditional writing system Sirijanga which has been coded in Unicode but there must be some questions about this encoding. It is Brahmi writing system, encoded using a limited form of the subjoined model of Tibetan, without a virama but with a similar character sa-i which could take on the full virama role (Boyd Michailovsky, private communication). The potential need for this has been raised by the recent proposal

Anshuman Pandey 2011-01-14 *Proposal to Encode the Letters GYAN and TRA for Limbu in the UCS ISO/IEC JTC1/SC2/WG2 N3975*

where the characters <gya> and <tra> would normally be rendered as a conjunct, not currently possible for Limbu as it currently stands.

5.2 Writing of non-Nepalese languages

As has been noted in the documents on Nepal Bhasa, the Nepal Lipi scripts have been used for Sanskrit, Maithili, and even Tibetan. A number of the characters shown in the Appendix for Nepal Lipi are clearly there only for this purpose, notably diphthongs and syllabic liquids (vocalics). A group of the consonants (TTA to NNA) are not used in Nepal Lipi, but are needed for other Himalayish languages and should be included in the main part of the code block.

6. The proposed Code Block

A code block of just under 100 characters is needed.

Independent Vowels: A, AA, I, II, U, UU, E, O. Dependent forms subject to review.

Diphthongs: AI, AU and dependent forms, subject to review.

Syllabic liquids: VOCALIC R, VOCALIC RR, VOCALIC L, VOCALIC LL and dependent forms included for old documents in Sanskrit etc.

Consonants: KA, KHA. GA, GHA, NGA, NGHA, CA, CHA, JA, JHA, NYA/NJA, NYHA/NJHA. TTA, TTHA, DDA, DDHA, NNA, NNHA, TA, THA, DA, DHA, NA, NHA, PA, PHA, BA, BHA, MA, MHA, YA, YHA, RA, RHA, RRA, LA, LHA, VAWA, VHA, SHA, SSA, SA, HA, glottal stop

Various signs: CANDRABINDU, VISARGA, VIRAMA, TRILL, 4 TONES; and for Sanskrit etc: ANUSVARA, AVAGRAHA

Invocations: OM and other invocations and graphics as required.

Punctuation: DANDA, DOUBLE DANDA, WORD BREAK; and if really required: COMMA, FULL STOP.

Digits: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

7. References

- Anderson, Deborah (2012) *Liaison Report, Script Encoding Initiative, UC Berkeley*. Document ISO/IEC JTC1/SC2/WG2 N4220 2012-02-12
- BIS (1991) *Indian Standard Indian Script Code for Information Interchange – ISCII*. IS 12194: 1991. Bureau of Indian Standards, New Delhi.
- Cahill, Michael and Elke Karan (2008) *Factors in Designing Effective Orthographies for Unwritten Languages*, SIL Electronic Working Papers 2008-001, February 2008
- Everson, Michael ; Rick McGowan, Ken Whistler, and V.S. UMAmaheswaran (2012) *Snapshot of Pictorial view of Roadmaps to BMP, SMP, SIP, TIP and SSP* Document ISO/IEC JTC 1/SC 2/WG 2 N4186 2012-02-16 Downloadable from <http://std.dkuug.dk/jtc1/sc2/wg2/docs/n4186.pdf>
- Everson, Michael (2000) *Newari code table and names list* <http://www.evertype.com/standards/tai/newari.pdf> (accessed 2012/02/15)
- Everson, Michael (2009b) *Roadmapping the scripts of Nepal*. International Organisation for Standardisation document ISO/IEC JTC1/SC2/WG2 N3692 downloadable from <http://std.dkuug.dk/jtc1/sc2/wg2/docs/n3692.pdf> (accessed 2012/02/15) also from <http://www.evertype.com/formal.html>
- Hale, Austin and Kedar P. Shrestha (2005) *Newar*. Volume 256 in *Languages of the World/Materials*. Munich and Newcastle: Lincom Europa
- International Phonetic Association (1999) *Handbook of the International Phonetic Association: A Guide to the Use of the International Phonetic Alphabet*. Cambridge University Press
- Kasah, Sharad Junior (2009) Paper distributed at meeting of the Nepal Lipi Guthi in Kathmandu, March 2010.
- Lewis, M. Paul (ed.), 2009. *Ethnologue: Languages of the World, Sixteenth edition*. Dallas, Texas: SIL International. Online version: <http://www.ethnologue.com/>
- Michailovsky, Boyd and Michael Everson (2002) *Revised proposal to encode the Limbu script in the UCS*. Document ISO/IEC JTC1/SC2/WG2 N2410, International Organization for Standardization. Downloadable from <http://std.dkuug.dk/jtc1/sc2/wg2/docs/n2410.pdf>
- Noonan, Michael (2003) *Recent Adaptations of the Devanagari Script for the Tibeto-Burman Languages of Nepal*. <https://pantherfile.uwm.edu/noonan/www/Papers.html> (last accessed 29th May 2010)
- Robinson, Clinton and Karl Gadelii, (2003) *Writing Unwritten Languages*. UNESCO downloadable from http://portal.unesco.org/education/en/ev.php-URL_ID=28300&URL_DO=DO_TOPIC&URL_SECTION=201.html
- Shakya, Rabison (2002) *Alphabet of the Nepalese Script*. Patan, Nepal: Motiraj Shakya and Sanunani Shakya
- UNESCO (2003) *Language Vitality and Endangerment*, UNESCO, Paris
- Unicode Consortium (2001) *Roadmaps* ISO/IEC JTC1/SC2/WG2 N2383 downloadable from <http://std.dkuug.dk/jtc1/sc2/wg2/docs/n2383.pdf> accessed 2012/02/14
- Unicode Consortium (2012) *Roadmap to the SMP* <http://www.unicode.org/roadmaps/smp/>

- Vajracharya, Suwarn (2009) *Towards Encoding Nepal Scripts: A Report and Preliminary Proposal*. Distributed at meeting of the Nepal Lipi Guthi in Kathmandu, March 2010.
- Vajracharya, Suwarn (2012) *Feedback on the Proposal by Anshuman Pandey to Encode the Newar Script in ISO/IEC 10646 dated January 6 2012*. Communication on email discussion group.. February 8th, 2012.
- Wikipedia (20123) articles on Pahari languages, http://en.wikipedia.org/wiki/Pahari_languages
- Yadava, Yogendra P. (2003) Language Chapter 4. *Population Monograph, volume 1*, Kathmandu: Central Bureau of Statistics.2003 and UNFPA
- Yadava, Yogendra P. (2007) Linguistic Diversity in Nepal Perspectives on Language Policy International Seminar on *Constitutionalism and Diversity in Nepal*, CNAS, 22-24 August,

Appendix 1.

Aligning and comparing the proposed encodings for the writing of languages in the Himalayish group in Nepal.

| | | | L | N | | | | M | B | B | S | S | D | G | G | S | T | T | C |
|---|--------------|------------|----------|-----------|-------------|---------|----------|-------|------------|------------|----------|----------|--------|----------|--------|----------|----------|----------|----------|
| Language | | | L | B | Nepal Bhasa | | | M | B | B | S | S | D | G | G | S | T | T | C |
| Script: name or phonemic inventory | | | L | | | | | M | B | B | S | S | D | G | G | S | T | T | C |
| | | | Limbu | | | | | Magar | Bantawa | Bantawa | Sunwar | Sunwar | Dhimai | Gurung | Gurung | Sherpas | Tamang | Thangmi | Chantyal |
| | | | phonemic | Prachalit | Prachalit | Ranjana | phonemic | Akkha | Khambu Rai | Kirant Rai | Jenticha | Tikamuli | Dham | phonemic | Khema | phonemic | phonemic | phonemic | phonemic |
| Source: ISO/SC2/WG2 Nxxxx document or Noonan (2003) or Hale and Shrestha (2005) | | | Noonan | 4184 | 4322 | 3649 | Haleetal | 4036 | 4018 | 4037 | 4028 | 3963 | 4140 | Noonan | 4019 | Noonan | Noonan | Noonan | Noonan |
| Semantics | | | | | | | | | | | | | | | | | | | |
| English | Na ga | ipa | | | | | | | | | | | | | | | | | |
| Independent Vowels | | | | | | | | | | | | | | | | | | | |
| A | अ | ʌ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ |
| AA | आ | a | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| I | इ | i | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| II | ई | i: | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | ✓ | | ✓ |
| U | उ | u | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| UU | ऊ | u: | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | | | ✓ | | |
| E | ए | e | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| O | ओ | o | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Dependent forms | | | | | | | | | | | | | | | | | | | |
| AA | ा | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | |
| I | ि | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | |
| II | ी | | | ✓ | | ✓ | | | ✓ | | | | ✓ | | | | | | |
| U | ु | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | |
| UU | ू | | | ✓ | | ✓ | | | ✓ | | | | ✓ | | | | | | |
| E | े | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | |
| O | ो | | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | | | | | |
| Diphthongs | | | | | | | | | | | | | | | | | | | |
| AI | ऐ | ʌy | | ✓ | | ✓ | ✓ | ✓ | ✓ | | | | ✓ | | ✓ | | | | |
| AU | औ | ʌw | | ✓ | | ✓ | ✓ | | ✓ | | | | ✓ | | ✓ | | | | |
| Dependent forms | | | | | | | | | | | | | | | | | | | |
| AI | ै | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | | | | | | |

| | | | L i | N B | | | | M a | B a | B a | S u | S u | D h | G u | G u | S h | T a | T h | C h |
|-------------------------|---|----------------|--------|--------|---|---|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| AU | ौ | | | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | | ✓ | | | | | | |
| Syllabic liquids | | | | | | | | | | | | | | | | | | | |
| VOCALIC R | ऋ | r | | ✓ | ✓ | ✓ | | | ✓ | | | | | | | | | | |
| VOCALIC RR | ॠ | r: | | ✓ | ✓ | ✓ | | | ✓ | | | | | | | | | | |
| VOCALIC L | ऌ | l | | ✓ | ✓ | ✓ | | | | | | | | | | | | | |
| VOCALIC LL | ॡ | l: | | ✓ | ✓ | ✓ | | | | | | | | | | | | | |
| Dependent forms | | | | | | | | | | | | | | | | | | | |
| VOCALIC R | ॠ | r | | ✓ | ✓ | ✓ | | | ✓ | | | | | | | | | | |
| VOCALIC RR | ॡ | r: | | ✓ | | ✓ | | | ✓ | | | | | | | | | | |
| VOCALIC L | ॢ | l | | ✓ | | ✓ | | | | | | | | | | | | | |
| VOCALIC LL | ॣ | l: | | ✓ | | ✓ | | | | | | | | | | | | | |
| Consonants | | | | | | | | | | | | | | | | | | | |
| KA | क | k | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| KHA | ख | k ^h | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| GA | ग | g | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| GHA | घ | gh | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | ✓ |
| NGA | ङ | ŋ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| NGHA | | | | | ✓ | | | | | | | | | | | | | | |
| CA | च | c | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| CHA | छ | c ^h | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| JA | ज | j | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| JHA | झ | jh | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | ✓ |
| NYA/NJA | ञ | ɲ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | | | ✓ |
| NYHA/NJHA | | ɲh | | | ✓ | | | | | | | | | | | | | | ✓ |
| TTA | ट | ʈ | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| TTHA | ठ | ʈ ^h | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| DDA | ड | ɖ | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| DDHA | ढ | ɖh | | ✓ | ✓ | ✓ | | | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | ✓ |
| NNA | ण | ɳ | | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | | | ✓ | | ✓ |
| NNHA | | | | | | | | | | | | | | | | | | | |
| TA | त | t | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| THA | थ | t ^h | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| DA | द | d | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| DHA | ध | dh | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | ✓ | ✓ |
| NA | न | n | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| NHA | | nh | | | ✓ | ✓ | | | | | | | | | | | | | ✓ |
| PA | प | p | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| PHA | फ | p ^h | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| BA | ब | b | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| BHA | भ | bh | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | | ✓ | | | ✓ | ✓ |
| MA | म | m | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MHA | | mh | | | ✓ | ✓ | | | | | | | | | | | | | ✓ |
| YA | य | y | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| YHA | | | | | | | | | | | | | | | | | | | |
| RA | र | r | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ |
| RHA | | rh | | | ✓ | ✓ | | ✓ | | | | | | | | | | | ✓ |
| RRA | | | | | | | | ✓ | | | | | | | | | | | |
| LA | ल | l | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| LHA | | lh | | | | | | | | | | | | | | | | | ✓ |
| VA/WA | व | w/v | ✓ | ✓ | | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| VHA | | | | | | | | | | | | | | | | | | | |
| SHA | श | ʃ | | ✓ | ✓ | ✓ | | | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | | |

| | | | L | N | | | | M | B | B | S | S | D | G | G | S | T | T | C | |
|----------------------|-------|---|---|---|---|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | i | B | | | | a | a | a | u | u | h | u | u | h | a | h | h | |
| SSA | ष | ṣ | | ✓ | ✓ | ✓ | | | ✓ | | | ✓ | ✓ | | | | | | | |
| SA | स | s | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| HA | ह | h | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| HHA | | | | | | | | | | | ✓ | | | | | | | | | |
| glottal stop | ʔ | ʔ | ✓ | | | | | | | | ✓ | ✓ | | | | | | | ✓ | |
| KSSA | | | | | | | | | ✓ | | | | | | | | | | | |
| JNYA | | | | | | | | | ✓ | | | | | | | | | | | |
| TRA | | | | | | | | | ✓ | | | | | | | | | | | |
| Various signs | | | | | | | | | | | | | | | | | | | | |
| CANDRABINDU | ◌̣ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | | | | | | | | | |
| ANUSVARA | ◌̣̣ | | | ✓ | | ✓ | | | ✓ | | | | ✓ | | | | | | | |
| VISARGA | ◌̣̣̣ | | | ✓ | ✓ | ✓ | | | ✓ | | ✓ | ✓ | ✓ | | | | | | | |
| - extra long | | | | | | | | | | | | ✓ | | | | | | | | |
| VIRAMA | ◌̣̣̣̣ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| AVAGRAHA | | | | ✓ | | | | | | | | | | | | | | | | |
| TRILL | | | | | | | | | | | ✓ | ✓ | | | | | | | | |
| Invocations | | | | | | | | | | | | | | | | | | | | |
| OM | ॐ | | | ✓ | ✓ | ✓ | | | | | | | | | | | | | | |
| ANJI/SIDDHI | | | | ✓ | ✓ | | | | | | | | | | | | | | | |
| SVASTI | | | | ✓ | | | | | | | | | | | | | | | | |
| FLOWER | | | | | | ॥ॐ॥ | | | | | | | | | | | | | | |
| YIG MGO | | | | | | ✓ | | | | | | | | | | | | | | |
| Punctuation | | | | | | | | | | | | | | | | | | | | |
| DANDA | | | | ✓ | ✓ | ✓ | | | | | | | | | | | | | | |
| DOUBLE DANDA | | | | ✓ | ✓ | ✓ | | | | | | | | | | | | | | |
| COMMA | | | | ✓ | | | | | | | | | | | | | | | | |
| FULL STOP | | | | ✓ | | | | | | | | | | | | | | | | |
| WORD BREAK | | | | ✓ | ✓ | | | | | | | | | | | | | | | |
| Digits | | | | | | | | | | | | | | | | | | | | |
| 0 | ० | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 1 | १ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 2 | २ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 3 | ३ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 4 | ४ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 5 | ५ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 6 | ६ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 7 | ७ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 8 | ८ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |
| 9 | ९ | | | ✓ | ✓ | ✓ | | | | ✓ | ✓ | ✓ | | | | | | | | |

Appendix 2. Extracts from the WG2 proposals

A2.1 Ranjana N3649, Newar N4184, and Nepaalalipi N4322

A2.1.1 Ranjana

| | 1180 | 1181 | 1182 | 1183 | 1184 | 1185 |
|---|------|------|------|------|------|------|
| 0 | 𑒀 | 𑒁 | 𑒂 | 𑒃 | 𑒄 | |
| 1 | 𑒅 | 𑒆 | 𑒇 | 𑒈 | 𑒉 | |
| 2 | 𑒊 | 𑒋 | 𑒌 | 𑒍 | 𑒎 | |
| 3 | 𑒏 | 𑒐 | 𑒑 | 𑒒 | 𑒓 | |
| 4 | 𑒔 | 𑒕 | 𑒖 | 𑒗 | 𑒘 | |
| 5 | 𑒙 | 𑒚 | 𑒛 | 𑒜 | 𑒝 | |
| 6 | 𑒞 | 𑒟 | 𑒠 | 𑒡 | 𑒢 | |
| 7 | 𑒣 | 𑒤 | 𑒥 | 𑒦 | 𑒧 | |
| 8 | 𑒨 | 𑒩 | 𑒪 | 𑒫 | 𑒬 | |
| 9 | 𑒭 | 𑒮 | 𑒯 | 𑒰 | 𑒱 | |
| A | 𑒲 | 𑒳 | 𑒴 | 𑒵 | | |
| B | 𑒶 | 𑒷 | 𑒸 | 𑒹 | 𑒺 | |
| C | 𑒻 | 𑒼 | 𑒽 | 𑒾 | 𑒿 | |
| D | 𑓀 | 𑓁 | 𑓂 | 𑓃 | 𑓄 | |
| E | 𑓅 | 𑓆 | 𑓇 | 𑓈 | 𑓉 | |
| F | 𑓊 | 𑓋 | 𑓌 | 𑓍 | 𑓎 | |

Independent vowels

| | | |
|-------|----|---------------------------|
| 11800 | अ | RANJANA LETTER A |
| 11801 | आ | RANJANA LETTER AA |
| 11802 | इ | RANJANA LETTER I |
| 11803 | ई | RANJANA LETTER II |
| 11804 | उ | RANJANA LETTER U |
| 11805 | ऊ | RANJANA LETTER UU |
| 11806 | अ॑ | RANJANA LETTER VOCALIC R |
| 11807 | आ॑ | RANJANA LETTER VOCALIC RR |
| 11808 | इ॑ | RANJANA LETTER VOCALIC L |
| 11809 | ई॑ | RANJANA LETTER VOCALIC LL |
| 1180A | ए | RANJANA LETTER E |
| 1180B | ऐ | RANJANA LETTER AI |
| 1180C | ओ | RANJANA LETTER O |
| 1180D | औ | RANJANA LETTER AU |

Consonants

| | | |
|-------|---|---------------------|
| 1180E | क | RANJANA LETTER KA |
| 1180F | ख | RANJANA LETTER KHA |
| 11810 | ग | RANJANA LETTER GA |
| 11811 | घ | RANJANA LETTER GHA |
| 11812 | ङ | RANJANA LETTER NGA |
| 11813 | च | RANJANA LETTER CA |
| 11814 | छ | RANJANA LETTER CHA |
| 11815 | ज | RANJANA LETTER JA |
| 11816 | झ | RANJANA LETTER JHA |
| 11817 | ञ | RANJANA LETTER NYA |
| 11818 | ट | RANJANA LETTER TTA |
| 11819 | ठ | RANJANA LETTER TTHA |
| 1181A | ड | RANJANA LETTER DDA |
| 1181B | ढ | RANJANA LETTER DDHA |
| 1181C | ण | RANJANA LETTER NNA |
| 1181D | त | RANJANA LETTER TA |
| 1181E | थ | RANJANA LETTER THA |
| 1181F | द | RANJANA LETTER DA |
| 11820 | ध | RANJANA LETTER DHA |
| 11821 | न | RANJANA LETTER NA |
| 11822 | प | RANJANA LETTER PA |
| 11823 | फ | RANJANA LETTER PHA |
| 11824 | ब | RANJANA LETTER BA |
| 11825 | भ | RANJANA LETTER BHA |
| 11826 | म | RANJANA LETTER MA |
| 11827 | य | RANJANA LETTER YA |
| 11828 | र | RANJANA LETTER RA |
| 11829 | ल | RANJANA LETTER LA |
| 1182A | व | RANJANA LETTER WA |
| 1182B | श | RANJANA LETTER SHA |
| 1182C | ष | RANJANA LETTER SSA |
| 1182D | स | RANJANA LETTER SA |
| 1182E | ह | RANJANA LETTER HA |

Various signs

| | | |
|-------|----|--------------------------|
| 1182F | ँ | RANJANA SIGN CANDRABINDU |
| 11830 | ं | RANJANA SIGN ANUSVARA |
| 11831 | ं॑ | RANJANA SIGN VISARGA |

Dependent vowel signs

| | | |
|-------|---|-----------------------|
| 11832 | ँ | RANJANA VOWEL SIGN AA |
| 11833 | ि | RANJANA VOWEL SIGN I |
| 11834 | ी | RANJANA VOWEL SIGN II |

| | | |
|-------|-----|-------------------------------|
| 11835 | ु | RANJANA VOWEL SIGN U |
| 11836 | ू | RANJANA VOWEL SIGN UU |
| 11837 | ्र | RANJANA VOWEL SIGN VOCALIC R |
| 11838 | ्र॑ | RANJANA VOWEL SIGN VOCALIC RR |
| 11839 | लृ | RANJANA VOWEL SIGN VOCALIC L |
| 1183A | लृ॑ | RANJANA VOWEL SIGN VOCALIC LL |
| 1183B | े | RANJANA VOWEL SIGN E |
| 1183C | ै | RANJANA VOWEL SIGN AI |
| 1183D | ो | RANJANA VOWEL SIGN O |
| 1183E | ौ | RANJANA VOWEL SIGN AU |

Various signs

| | | |
|-------|---|----------------|
| 1183F | ॐ | RANJANA VIRAMA |
|-------|---|----------------|

Digits

| | | |
|-------|---|---------------------|
| 11840 | ० | RANJANA DIGIT ZERO |
| 11841 | १ | RANJANA DIGIT ONE |
| 11842 | २ | RANJANA DIGIT TWO |
| 11843 | ३ | RANJANA DIGIT THREE |
| 11844 | ४ | RANJANA DIGIT FOUR |
| 11845 | ५ | RANJANA DIGIT FIVE |
| 11846 | ६ | RANJANA DIGIT SIX |
| 11847 | ७ | RANJANA DIGIT SEVEN |
| 11848 | ८ | RANJANA DIGIT EIGHT |
| 11849 | ९ | RANJANA DIGIT NINE |

Punctuation

| | | |
|-------|---|----------------------|
| 1184B | ॐ | RANJANA OM |
| 1184C | ॐ | RANJANA YIG MGO |
| 1184D | । | RANJANA DANDA |
| 1184E | ॥ | RANJANA DOUBLE DANDA |
| 1184F | ॥ | RANJANA VIRAM |

A2.1.2 Newar N4184

| | 1140 | 1141 | 1142 | 1143 | 1144 | 1145 | 1146 | 1147 |
|---|-------------|-------------|-------------|-------------|------------|------------|------|------|
| 0 | ञ 11400 | ग 11410 | ध 11420 | ि 11430 | ८ 11440 | ० 11450 | | |
| 1 | ञ् 11401 | घ 11411 | न 11421 | ी 11431 | ँ 11441 | १ 11451 | | |
| 2 | ञ् 11402 | ढ 11412 | प 11422 | ्र 11432 | १ 11442 | २ 11452 | | |
| 3 | ञ् 11403 | च 11413 | रु 11423 | ्र 11433 | ७ 11443 | ३ 11453 | | |
| 4 | उ 11404 | ळ 11414 | व 11424 | ्र 11434 | । 11444 | ४ 11454 | | |
| 5 | ऊ 11405 | ज 11415 | र 11425 | ्र 11435 | ॥ 11445 | ५ 11455 | | |
| 6 | सृ 11406 | म 11416 | म 11426 | ्र 11436 | ॥ 11446 | ६ 11456 | | |
| 7 | सृ 11407 | ञ् 11417 | य 11427 | ्र 11437 | ॥ 11447 | ७ 11457 | | |
| 8 | ० 11408 | ट 11418 | न 11428 | ्र 11438 | ॥ 11448 | ८ 11458 | | |
| 9 | २ 11409 | ० 11419 | ल 11429 | ्र 11439 | | २ 11459 | | |
| A | १ 1140A | उ 1141A | व 1142A | ्र 1143A | | | | |
| B | ३ 1140B | ट 1141B | ष 1142B | ्र 1143B | | | | |
| C | उ 1140C | घ 1141C | ष 1142C | ्र 1143C | | | | |
| D | उ 1140D | ग 1141D | स 1142D | ्र 1143D | | | | |
| E | क 1140E | थ 1141E | ह 1142E | ्र 1143E | | | | |
| F | ख 1140F | य 1141F | ा 1142F | ्र 1143F | | | | |

The script is also known as 'Nepal Lipi', 'Prachalit Lipi', 'Newah Akhah', and 'Newari'.

Independent vowels

| | | |
|-------|---|-------------------------|
| 11400 | अ | NEWAR LETTER A |
| 11401 | आ | NEWAR LETTER AA |
| 11402 | इ | NEWAR LETTER I |
| 11403 | ई | NEWAR LETTER II |
| 11404 | उ | NEWAR LETTER U |
| 11405 | ऊ | NEWAR LETTER UU |
| 11406 | ऋ | NEWAR LETTER VOCALIC R |
| 11407 | ॠ | NEWAR LETTER VOCALIC RR |
| 11408 | ऌ | NEWAR LETTER VOCALIC L |
| 11409 | ॡ | NEWAR LETTER VOCALIC LL |
| 1140A | ए | NEWAR LETTER E |
| 1140B | ऐ | NEWAR LETTER AI |
| 1140C | ऒ | NEWAR LETTER O |
| 1140D | ॢ | NEWAR LETTER AU |

Consonants

| | | |
|-------|---|-------------------|
| 1140E | क | NEWAR LETTER KA |
| 1140F | ख | NEWAR LETTER KHA |
| 11410 | ग | NEWAR LETTER GA |
| 11411 | घ | NEWAR LETTER GHA |
| 11412 | ङ | NEWAR LETTER NGA |
| 11413 | च | NEWAR LETTER CA |
| 11414 | छ | NEWAR LETTER CHA |
| 11415 | ज | NEWAR LETTER JA |
| 11416 | झ | NEWAR LETTER JHA |
| 11417 | ञ | NEWAR LETTER NYA |
| 11418 | ट | NEWAR LETTER TTA |
| 11419 | ठ | NEWAR LETTER TTHA |
| 1141A | ड | NEWAR LETTER DDA |
| 1141B | ढ | NEWAR LETTER DDHA |
| 1141C | ण | NEWAR LETTER NNA |
| 1141D | त | NEWAR LETTER TA |
| 1141E | थ | NEWAR LETTER THA |
| 1141F | द | NEWAR LETTER DA |
| 11420 | ध | NEWAR LETTER DHA |
| 11421 | न | NEWAR LETTER NA |
| 11422 | प | NEWAR LETTER PA |
| 11423 | फ | NEWAR LETTER PHA |
| 11424 | ब | NEWAR LETTER BA |
| 11425 | भ | NEWAR LETTER BHA |
| 11426 | म | NEWAR LETTER MA |
| 11427 | य | NEWAR LETTER YA |
| 11428 | र | NEWAR LETTER RA |
| 11429 | ल | NEWAR LETTER LA |
| 1142A | व | NEWAR LETTER VA |
| 1142B | श | NEWAR LETTER SHA |
| 1142C | ष | NEWAR LETTER SSA |
| 1142D | स | NEWAR LETTER SA |
| 1142E | ह | NEWAR LETTER HA |

Dependent vowel signs

| | | |
|-------|----|-----------------------------|
| 1142F | ◌ा | NEWAR VOWEL SIGN AA |
| 11430 | ◌ि | NEWAR VOWEL SIGN I |
| 11431 | ◌ी | NEWAR VOWEL SIGN II |
| 11432 | ◌ु | NEWAR VOWEL SIGN U |
| 11433 | ◌ू | NEWAR VOWEL SIGN UU |
| 11434 | ◌ॠ | NEWAR VOWEL SIGN VOCALIC R |
| 11435 | ◌ॡ | NEWAR VOWEL SIGN VOCALIC RR |
| 11436 | ◌ॢ | NEWAR VOWEL SIGN VOCALIC L |
| 11437 | ◌ॣ | NEWAR VOWEL SIGN VOCALIC LL |
| 11438 | ◌े | NEWAR VOWEL SIGN E |
| 11439 | ◌ै | NEWAR VOWEL SIGN AI |
| 1143A | ◌ो | NEWAR VOWEL SIGN O |
| 1143B | ◌ौ | NEWAR VOWEL SIGN AU |

Various signs

| | | |
|-------|----|--|
| 1143C | ◌ं | NEWAR SIGN CANDRABINDU = milaphuti |
| 1143D | ◌ं | NEWAR SIGN ANUSVARA = sinhaphuti |
| 1143E | ◌ं | NEWAR SIGN VISARGA • Also used for marking vowel length = lyaphuti |
| 1143F | ◌ं | NEWAR SIGN VIRAMA = tutipala, halant |

Additions for Sanskrit

| | | |
|-------|----|---------------------|
| 11440 | ◌ं | NEWAR SIGN AVAGRAHA |
|-------|----|---------------------|

Invocation signs

| | | |
|-------|---|---|
| 11441 | ॐ | NEWAR OM |
| 11442 | ॐ | NEWAR ANJI • Written at the beginning of a text • Represents Sanskrit “siddhirastu” = bhin arambha, siddhi |
| 11443 | ॐ | NEWAR SVASTI |

Punctuation

| | | |
|-------|---|---|
| 11444 | । | NEWAR DANDA = dipu cinha |
| 11445 | ॥ | NEWAR DOUBLE DANDA = nidho dipu cinha |
| 11446 | 、 | NEWAR COMMA • Phrase separator |
| 11447 | ⋮ | NEWAR FULL STOP • Indicates end of text section |
| 11448 | ॥ | NEWAR PADA SANDHI MARK • Indicates word break at end of line |

Digits

| | | |
|-------|---|-------------------|
| 11450 | ० | NEWAR DIGIT ZERO |
| 11451 | १ | NEWAR DIGIT ONE |
| 11452 | २ | NEWAR DIGIT TWO |
| 11453 | ३ | NEWAR DIGIT THREE |
| 11454 | ४ | NEWAR DIGIT FOUR |
| 11455 | ५ | NEWAR DIGIT FIVE |
| 11456 | ६ | NEWAR DIGIT SIX |
| 11457 | ७ | NEWAR DIGIT SEVEN |
| 11458 | ८ | NEWAR DIGIT EIGHT |
| 11459 | ९ | NEWAR DIGIT NINE |

A2.1.3 Nepaalalipi N4322

| | XX0 | XX1 | XX2 | XX3 | XX4 | XX5 |
|---|-----------|-------------|---------------------------|----------------------------|-------------|-----------|
| 0 | अ XX00 | ऊ XX10 | रु XX20 | ं XX30 | । XX40 | ० XX50 |
| 1 | आ XX01 | म XX11 | व XX21 | ा XX31 | ॥ XX41 | १ XX51 |
| 2 | ँ XX02 | ॐ XX12 | ए XX22 | ि XX32 | ॥ॐ॥ XX42 | २ XX52 |
| 3 | ै XX03 | ऊ XX13 | म XX23 | ् XX33 | | ३ XX53 |
| 4 | उ XX04 | ग XX14 | क XX24 | ँ XX34 | | ४ XX54 |
| 5 | ौ XX05 | ट XX15 | य XX25 | ी XX35 | | ५ XX55 |
| 6 | ॣ XX06 | थ XX16 | न XX26 | ्र XX36 | | ६ XX56 |
| 7 | अ XX07 | ० XX17 | क XX27 | ृ XX37 | | ७ XX57 |
| 8 | क XX08 | द XX18 | ल XX28 | मृ XX38 | | ८ XX58 |
| 9 | ख XX09 | उ XX19 | ल XX29 | मृ ^{XX39} XX39 | | ९ XX59 |
| A | ग XX0A | ध XX1A | व XX2A | ॠ ^{XX3A} XX3A | | |
| B | घ XX0B | ढ XX1B | स XX2B | ॡ ^{XX3B} XX3B | | |
| C | ढ XX0C | न XX1C | ष XX2C | ँ XX3C | | |
| D | ऊ XX0D | ध XX1D | ष XX2D | ॑ XX3D | | |
| E | व XX0E | ज्ञ XX1E | ह ^{XX2E} XX2E | ॐ ^{XX3E} XX3E | | |
| F | ऊ XX0F | य XX1F | ०४ XX2F | ॐ XX3F | | |

| Code Point | Character | Character Name |
|------------|-----------|-----------------------|
| XX00 | अ | NEPAALALIPI LETTER A |
| XX01 | आ | NEPAALALIPI LETTER AA |
| XX02 | इ | NEPAALALIPI LETTER I |

Vowel Diacritic

| | | |
|------|---|---------------------|
| XX03 | ँ | NEPAALALIPI MARK AI |
|------|---|---------------------|

Vowel Letter

| | | |
|------|---|----------------------|
| XX04 | उ | NEPAALALIPI LETTER U |
|------|---|----------------------|

Vowel Diacritic

| | | |
|------|---|---------------------------|
| XX05 | ँ | NEPAALALIPI VOWEL MARK AU |
|------|---|---------------------------|

Vowel Letters

| | | |
|------|---|----------------------|
| XX06 | ए | NEPAALALIPI LETTER E |
| XX07 | ओ | NEPAALALIPI LETTER O |

Bā-ākha Letters

| | | |
|------|---|-------------------------|
| XX08 | क | NEPAALALIPI LETTER KA |
| XX09 | ख | NEPAALALIPI LETTER KHA |
| XX0A | ग | NEPAALALIPI LETTER GA |
| XX0B | घ | NEPAALALIPI LETTER GHA |
| XX0C | ङ | NEPAALALIPI LETTER NGA |
| XX0D | च | NEPAALALIPI LETTER CHA |
| XX0E | छ | NEPAALALIPI LETTER CA |
| XX0F | ज | NEPAALALIPI LETTER JA |
| XX10 | झ | NEPAALALIPI LETTER JHA |
| XX11 | ञ | NEPAALALIPI LETTER NJHA |
| XX12 | ट | NEPAALALIPI LETTER TTA |
| XX13 | ठ | NEPAALALIPI LETTER THA |
| XX14 | ड | NEPAALALIPI LETTER DDA |
| XX15 | ढ | NEPAALALIPI LETTER DDHA |
| XX16 | ण | NEPAALALIPI LETTER NNA |
| XX17 | त | NEPAALALIPI LETTER TA |

| | | |
|------|---|------------------------|
| XX18 | द | NEPAALALIPI LETTER DA |
| XX19 | ध | NEPAALALIPI LETTER DHA |
| XX1A | न | NEPAALALIPI LETTER NA |
| XX1B | प | NEPAALALIPI LETTER PA |
| XX1C | फ | NEPAALALIPI LETTER PHA |
| XX1D | ब | NEPAALALIPI LETTER BA |
| XX1E | भ | NEPAALALIPI LETTER BHA |
| XX1F | म | NEPAALALIPI LETTER MA |
| XX20 | य | NEPAALALIPI LETTER YA |
| XX21 | र | NEPAALALIPI LETTER RA |
| XX22 | ल | NEPAALALIPI LETTER LA |
| XX23 | व | NEPAALALIPI LETTER VA |
| XX24 | श | NEPAALALIPI LETTER SHA |
| XX25 | ष | NEPAALALIPI LETTER SSA |
| XX26 | ह | NEPAALALIPI LETTER HA |
| XX27 | ळ | NEPAALALIPI LETTER LHA |
| XX28 | ळ | NEPAALALIPI LETTER LHA |

Functional Vowel Modifier

| | | |
|------|---|-----------------------------|
| XX2F | ं | NEPAALALIPI LONG SOUND MARK |
|------|---|-----------------------------|

Vowel Modifier

| | | |
|------|---|------------------------------|
| XX30 | ं | NEPAALALIPI NASAL SOUND MARK |
|------|---|------------------------------|

Vowel Diacritical Marks

| | | |
|------|---|---------------------------|
| XX31 | ा | NEPAALALIPI VOWEL MARK AA |
| XX32 | ि | NEPAALALIPI VOWEL MARK I |
| XX33 | ु | NEPAALALIPI VOWEL MARK U |
| XX34 | े | NEPAALALIPI VOWEL MARK E |
| XX35 | ो | NEPAALALIPI VOWEL MARK O |

Consonantal Mark

| | | |
|------|----|------------------------------|
| XX36 | ◌̣ | NEPAALALIPI CONSONANTAL MARK |
|------|----|------------------------------|

Syllabic Mark

| | | |
|------|----|-------------------------------|
| XX37 | ◌̣ | NEPAALALIPI SYLLABIC MARK RRI |
|------|----|-------------------------------|

Syllable Letters

| | | |
|------|----|-----------------------------------|
| XX38 | म् | NEPAALALIPI SYLLABIC LETTER RRI |
| XX39 | मृ | NEPAALALIPI SYLLABIC LETTER RRII |
| XX3A | म् | NEPAALALIPI SYLLABIC LETTER LRRI |
| XX3B | मृ | NEPAALALIPI SYLLABIC LETTER LRRII |

Starting Symbol

| | | |
|------|---|-------------------------|
| XX3C | ॐ | NEPAALALIPI SIGN OM |
| XX3D | ॐ | NEPAALALIPI SIGN SIDDHA |

Word Break Symbol

| | | |
|------|---|-------------------------------|
| XX3E | ॐ | NEPAALALIPI SIGN KHAGWA SWAPU |
|------|---|-------------------------------|

Different Signs

| | | |
|------|---|------------------|
| XX3F | ॐ | NEPAALALIPI SIGN |
|------|---|------------------|

Full Stop Marks

| | | |
|------|-----|-----------------------------|
| XX40 | । | NEPAALALIPI SIGN DIPU |
| XX41 | ॥ | NEPAALALIPI SIGN DOUBLE DII |
| XX42 | ॥ॐ॥ | NEPAALALIPI SIGN FLOWER |

NOTE: XX42 NEPAALALIPI SI

Numerals

| Code Point | Character | Character Name |
|------------|-----------|---------------------|
| XX50 | ० | NEPAALALIPI DIGIT 0 |
| XX51 | १ | NEPAALALIPI DIGIT 1 |
| XX52 | २ | NEPAALALIPI DIGIT 2 |
| XX53 | ३ | NEPAALALIPI DIGIT 3 |
| XX54 | ४ | NEPAALALIPI DIGIT 4 |
| XX55 | ५ | NEPAALALIPI DIGIT 5 |
| XX56 | ६ | NEPAALALIPI DIGIT 6 |
| XX57 | ७ | NEPAALALIPI DIGIT 7 |
| XX58 | ८ | NEPAALALIPI DIGIT 8 |
| XX59 | ९ | NEPAALALIPI DIGIT 9 |

Code from XX43 to XX4F and XX5A to XX5F are vacant space

A2.2 Magar N4036

| Vowels | | | | | |
|--|------|----|-----|-----|-----|
| | | | | | |
| A | a | I | ee | | |
| | | | | | |
| U | oo | Ey | ai | | |
| Consonants | | | | | |
| www.gorkhatimes.wordpress.com www.gorkhatimes.wordpress.com | | | | | |
| | | | | | |
| Ka | Kha | Ga | Gha | Nga | |
| | | | | | |
| Cha | Chha | Ja | Jha | | |
| | | | | | |
| Ta | Tha | Da | Dha | Na | |
| | | | | | |
| Pa | Pha | Ba | Bha | Wa | ma |
| | | | | | |
| Sa | Ha | Ra | La | Ya | Nya |

A2.3.2 Kirat Rai N4037

| | 11A0 | 11A1 | 11A2 | 11A3 |
|---|------------|------------|------------|------------|
| 0 | 𑒀 11A00 | 𑒁 11A10 | 𑒂 11A20 | 𑒃 11A30 |
| 1 | 𑒄 11A01 | 𑒅 11A11 | 𑒆 11A21 | 𑒇 11A31 |
| 2 | 𑒈 11A02 | 𑒉 11A12 | 𑒊 11A22 | 𑒋 11A32 |
| 3 | 𑒌 11A03 | 𑒍 11A13 | 𑒎 11A23 | 𑒏 11A33 |
| 4 | 𑒐 11A04 | 𑒑 11A14 | 𑒒 11A24 | 𑒓 11A34 |
| 5 | 𑒔 11A05 | 𑒕 11A15 | 𑒖 11A25 | 𑒗 11A35 |
| 6 | 𑒘 11A06 | 𑒙 11A16 | 𑒚 11A26 | 𑒛 11A36 |
| 7 | 𑒜 11A07 | 𑒝 11A17 | 𑒞 11A27 | 𑒟 11A37 |
| 8 | 𑒠 11A08 | 𑒡 11A18 | 𑒢 11A28 | 𑒣 11A38 |
| 9 | 𑒤 11A09 | 𑒥 11A19 | | 𑒦 11A39 |
| A | 𑒧 11A0A | 𑒨 11A1A | | |
| B | 𑒩 11A0B | 𑒪 11A1B | | |
| C | 𑒫 11A0C | 𑒬 11A1C | | |
| D | 𑒭 11A0D | 𑒮 11A1D | | |
| E | 𑒯 11A0E | 𑒰 11A1E | | |
| F | 𑒱 11A0F | 𑒲 11A1F | | |

Vowel

11A00 𑒀 KIRAT RAI LETTER A

Consonants

- 11A01 𑒁 KIRAT RAI LETTER KA
- 11A02 𑒂 KIRAT RAI LETTER KHA
- 11A03 𑒃 KIRAT RAI LETTER GA
- 11A04 𑒄 KIRAT RAI LETTER GHA
- 11A05 𑒅 KIRAT RAI LETTER NGA
- 11A06 𑒆 KIRAT RAI LETTER CA
- 11A07 𑒇 KIRAT RAI LETTER CHA
- 11A08 𑒈 KIRAT RAI LETTER JA
- 11A09 𑒉 KIRAT RAI LETTER JHA
- 11A0A 𑒊 KIRAT RAI LETTER NYA
- 11A0B 𑒋 KIRAT RAI LETTER TTA
- 11A0C 𑒌 KIRAT RAI LETTER TTHA
- 11A0D 𑒍 KIRAT RAI LETTER DDA
- 11A0E 𑒎 KIRAT RAI LETTER DDHA
- 11A0F 𑒏 KIRAT RAI LETTER TA
- 11A10 𑒐 KIRAT RAI LETTER THA
- 11A11 𑒑 KIRAT RAI LETTER DA
- 11A12 𑒒 KIRAT RAI LETTER DHA
- 11A13 𑒓 KIRAT RAI LETTER NA
- 11A14 𑒔 KIRAT RAI LETTER PA
- 11A15 𑒕 KIRAT RAI LETTER PHA
- 11A16 𑒖 KIRAT RAI LETTER BA
- 11A17 𑒗 KIRAT RAI LETTER BHA
- 11A18 𑒘 KIRAT RAI LETTER MA
- 11A19 𑒙 KIRAT RAI LETTER YA
- 11A1A 𑒚 KIRAT RAI LETTER RA
- 11A1B 𑒛 KIRAT RAI LETTER LA
- 11A1C 𑒜 KIRAT RAI LETTER VA
- 11A1D 𑒝 KIRAT RAI LETTER SHA
- 11A1E 𑒞 KIRAT RAI LETTER SA
- 11A1F 𑒟 KIRAT RAI LETTER HA

Vowel signs

- 11A20 𑒂 KIRAT RAI VOWEL SIGN AA
- 11A21 𑒆 KIRAT RAI VOWEL SIGN I
- 11A22 𑒊 KIRAT RAI VOWEL SIGN U
- 11A23 𑒎 KIRAT RAI VOWEL SIGN E
- 11A24 𑒒 KIRAT RAI VOWEL SIGN AI
- 11A25 𑒖 KIRAT RAI VOWEL SIGN O
- 11A26 𑒚 KIRAT RAI VOWEL SIGN AU

Various signs

- 11A27 𑒞 KIRAT RAI SIGN VIRAMA
- 11A28 𑒟 KIRAT RAI SIGN CANDRABINDU

Digits

- 11A30 0 KIRAT RAI DIGIT ZERO
- 11A31 𑒇 KIRAT RAI DIGIT ONE
- 11A32 𑒋 KIRAT RAI DIGIT TWO
- 11A33 𑒏 KIRAT RAI DIGIT THREE
- 11A34 𑒓 KIRAT RAI DIGIT FOUR
- 11A35 𑒗 KIRAT RAI DIGIT FIVE
- 11A36 𑒛 KIRAT RAI DIGIT SIX
- 11A37 𑒟 KIRAT RAI DIGIT SEVEN
- 11A38 𑒣 KIRAT RAI DIGIT EIGHT
- 11A39 𑒦 KIRAT RAI DIGIT NINE

Figure 1: Proposed code chart and names list for the Kirat Rai script.

A2.4 Jenticha N4028 and Tikamuli N3963

A2.4.1 Jenticha N4028

| | 116D | 116E | 116F |
|---|------------|------------|------------|
| 0 | 𑌀 116D0 | 𑌁 116E0 | 𑌂 116F0 |
| 1 | 𑌃 116D1 | 𑌄 116E1 | 𑌅 116F1 |
| 2 | 𑌆 116D2 | 𑌇 116E2 | 𑌈 116F2 |
| 3 | 𑌉 116D3 | 𑌊 116E3 | |
| 4 | 𑌋 116D4 | 𑌌 116E4 | |
| 5 | 𑌍 116D5 | 𑌎 116E5 | |
| 6 | 𑌏 116D6 | 𑌐 116E6 | 𑌑 116F6 |
| 7 | 𑌒 116D7 | 𑌓 116E7 | 𑌔 116F7 |
| 8 | 𑌕 116D8 | 𑌖 116E8 | 𑌗 116F8 |
| 9 | 𑌘 116D9 | 𑌙 116E9 | 𑌚 116F9 |
| A | 𑌛 116DA | 𑌜 116EA | 𑌝 116FA |
| B | 𑌟 116DB | 𑌠 116EB | 𑌡 116FB |
| C | 𑌣 116DC | 𑌤 116EC | 𑌥 116FC |
| D | 𑌨 116DD | 𑌩 116ED | 𑌪 116FD |
| E | 𑌮 116DE | 𑌯 116EE | 𑌰 116FE |
| F | 𑌴 116DF | 𑌵 116EF | 𑌶 116FF |

Vowels

- 116D0 𑌀 JENTICHA LETTER A
- 116D1 𑌃 JENTICHA LETTER AA
- 116D2 𑌆 JENTICHA LETTER I
- 116D3 𑌉 JENTICHA LETTER U
- 116D4 𑌋 JENTICHA LETTER E
- 116D5 𑌍 JENTICHA LETTER O

Consonants

- 116D6 𑌏 JENTICHA LETTER KA
- 116D7 𑌒 JENTICHA LETTER KHA
- 116D8 𑌕 JENTICHA LETTER GA
- 116D9 𑌘 JENTICHA LETTER NGA
- 116DA 𑌛 JENTICHA LETTER CA
- 116DB 𑌟 JENTICHA LETTER JA
- 116DC 𑌣 JENTICHA LETTER TTA
- 116DD 𑌨 JENTICHA LETTER TTHA
- 116DE 𑌮 JENTICHA LETTER TA
- 116DF 𑌴 JENTICHA LETTER THA
- 116E0 𑌁 JENTICHA LETTER DA
- 116E1 𑌄 JENTICHA LETTER NA
- 116E2 𑌇 JENTICHA LETTER PA
- 116E3 𑌊 JENTICHA LETTER PHA
- 116E4 𑌌 JENTICHA LETTER BA
- 116E5 𑌎 JENTICHA LETTER MA
- 116E6 𑌐 JENTICHA LETTER YA
- 116E7 𑌓 JENTICHA LETTER RA
- 116E8 𑌖 JENTICHA LETTER LA
- 116E9 𑌙 JENTICHA LETTER VA
- 116EA 𑌜 JENTICHA LETTER SHA
- 116EB 𑌠 JENTICHA LETTER SA
- 116EC 𑌤 JENTICHA LETTER HA
- 116ED 𑌩 JENTICHA LETTER HHA
- 116EE 𑌯 JENTICHA LETTER GLOTTAL STOP

Various signs

- 116EF 𑌵 JENTICHA SIGN VIRAMA
= sangmilu, halant
- 116F0 𑌂 JENTICHA SIGN CANDRABINDU
= taslathenk
- 116F1 𑌅 JENTICHA VOWEL LENGTH MARK
= gyosh, dirghata
- 116F2 𑌈 JENTICHA TRILL MARK
= sangrums

Digits

- 116F6 𑌑 JENTICHA DIGIT ZERO
- 116F7 𑌔 JENTICHA DIGIT ONE
- 116F8 𑌗 JENTICHA DIGIT TWO
- 116F9 𑌚 JENTICHA DIGIT THREE
- 116FA 𑌝 JENTICHA DIGIT FOUR
- 116FB 𑌡 JENTICHA DIGIT FIVE
- 116FC 𑌥 JENTICHA DIGIT SIX
- 116FD 𑌪 JENTICHA DIGIT SEVEN
- 116FE 𑌰 JENTICHA DIGIT EIGHT
- 116FF 𑌶 JENTICHA DIGIT NINE

A2.4.2 Tikamuli N3963

| | 11C0 | 11C1 | 11C2 | 11C3 |
|---|------------|------------|------------|------------|
| 0 | ॐ 11C00 | ॐ 11C10 | ॐ 11C20 | ॐ 11C30 |
| 1 | ॐ 11C01 | ॐ 11C11 | ॐ 11C21 | ॐ 11C31 |
| 2 | ॐ 11C02 | ॐ 11C12 | ॐ 11C22 | ॐ 11C32 |
| 3 | ॐ 11C03 | ॐ 11C13 | ॐ 11C23 | ॐ 11C33 |
| 4 | ॐ 11C04 | ॐ 11C14 | ॐ 11C24 | ॐ 11C34 |
| 5 | ॐ 11C05 | ॐ 11C15 | ॐ 11C25 | ॐ 11C35 |
| 6 | ॐ 11C06 | ॐ 11C16 | ॐ 11C26 | ॐ 11C36 |
| 7 | ॐ 11C07 | ॐ 11C17 | ॐ 11C27 | ॐ 11C37 |
| 8 | ॐ 11C08 | ॐ 11C18 | ॐ 11C28 | ॐ 11C38 |
| 9 | ॐ 11C09 | ॐ 11C19 | ॐ 11C29 | ॐ 11C39 |
| A | ॐ 11C0A | ॐ 11C1A | | |
| B | ॐ 11C0B | ॐ 11C1B | | |
| C | ॐ 11C0C | ॐ 11C1C | | |
| D | ॐ 11C0D | ॐ 11C1D | | |
| E | ॐ 11C0E | ॐ 11C1E | | |
| F | ॐ 11C0F | ॐ 11C1F | | |

Vowel

11C00 ॐ TIKAMULI LETTER A

Consonants

- 11C01 ॐ TIKAMULI LETTER KA
- 11C02 ॐ TIKAMULI LETTER KHA
- 11C03 ॐ TIKAMULI LETTER GA
- 11C04 ॐ TIKAMULI LETTER GHA
- 11C05 ॐ TIKAMULI LETTER NGA
- 11C06 ॐ TIKAMULI LETTER CA
- 11C07 ॐ TIKAMULI LETTER CHA
- 11C08 ॐ TIKAMULI LETTER JA
- 11C09 ॐ TIKAMULI LETTER JHA
- 11C0A ॐ TIKAMULI LETTER TTA
- 11C0B ॐ TIKAMULI LETTER TTHA
- 11C0C ॐ TIKAMULI LETTER DDA
- 11C0D ॐ TIKAMULI LETTER DDHA
- 11C0E ॐ TIKAMULI LETTER NNA
- 11C0F ॐ TIKAMULI LETTER TA
- 11C10 ॐ TIKAMULI LETTER THA
- 11C11 ॐ TIKAMULI LETTER DA
- 11C12 ॐ TIKAMULI LETTER DHA
- 11C13 ॐ TIKAMULI LETTER NA
- 11C14 ॐ TIKAMULI LETTER PA
- 11C15 ॐ TIKAMULI LETTER PHA
- 11C16 ॐ TIKAMULI LETTER BA
- 11C17 ॐ TIKAMULI LETTER BHA
- 11C18 ॐ TIKAMULI LETTER MA
- 11C19 ॐ TIKAMULI LETTER YA
- 11C1A ॐ TIKAMULI LETTER RA
- 11C1B ॐ TIKAMULI LETTER LA
- 11C1C ॐ TIKAMULI LETTER VA
- 11C1D ॐ TIKAMULI LETTER SSA
- 11C1E ॐ TIKAMULI LETTER SA
- 11C1F ॐ TIKAMULI LETTER HA
- 11C20 ॐ TIKAMULI LETTER GLOTTAL STOP

Dependent vowel signs

- 11C21 ॐ TIKAMULI VOWEL SIGN AA
- 11C22 ॐ TIKAMULI VOWEL SIGN I
- 11C23 ॐ TIKAMULI VOWEL SIGN U
- 11C24 ॐ TIKAMULI VOWEL SIGN E
- 11C25 ॐ TIKAMULI VOWEL SIGN O

Various signs

- 11C26 ॐ TIKAMULI SIGN VIRAMA
- 11C27 ॐ TIKAMULI SIGN DIRGHA
- 11C28 ॐ TIKAMULI SIGN ATI DIRGHA
- 11C29 ॐ TIKAMULI SIGN TRILL

Digits

- 11C30 ॐ TIKAMULI DIGIT ZERO
- 11C31 ॐ TIKAMULI DIGIT ONE
- 11C32 ॐ TIKAMULI DIGIT TWO
- 11C33 ॐ TIKAMULI DIGIT THREE
- 11C34 ॐ TIKAMULI DIGIT FOUR
- 11C35 ॐ TIKAMULI DIGIT FIVE
- 11C36 ॐ TIKAMULI DIGIT SIX
- 11C37 ॐ TIKAMULI DIGIT SEVEN
- 11C38 ॐ TIKAMULI DIGIT EIGHT
- 11C39 ॐ TIKAMULI DIGIT NINE

A2.5 Khema N4019

| खेमा फ़ी लुब (सिक्ने तरिका) | | | | |
|--------------------------------|-----|-----|-----|-----|
| क | का | ख | खा | ङ |
| कखे | खखे | गखे | घखे | ङखे |
| च | चा | झ | झा | ण |
| चखे | छखे | जखे | भखे | हखे |
| ट | टा | ड | डा | ण |
| टखे | ठखे | डखे | ढखे | वखे |
| र | रा | ड | डा | ऽ |
| रखे | थखे | दखे | धखे | नखे |
| ठ | ठा | थ | था | य |
| पखे | फखे | बखे | भखे | मखे |
| प | र | ल | इ | |
| यखे | रखे | लखे | सखे | |

A2.6 Dhimal N4140

| ꠄ꠆ꠇꠈ ꠇ꠆ꠇꠈ – Vowel Sounds | | | | | |
|--------------------------|------|------|------|------|------|
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ |
| A | Aa | I | Ee | U | Oo |
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ |
| E | Ai | O | Au | An | Ah |

ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ
 ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ
 ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ ꠄ꠆ꠇꠈ

| ꠄ꠆ꠇꠈ ꠇ꠆ꠇꠈ – Consonant Sounds | | | | | |
|------------------------------|------|------|------|------|------|
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ |
| Ka | Kha | Ga | Gha | Nga | Cha |
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ |
| Chha | Ja | Jha | Na | Ta | Tha |
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ |
| Da | Dha | Na | Ta | Tha | Da |
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ |
| Dha | Na | Pa | Pha | Ba | Bha |
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ |
| Ma | Ya | Ra | La | Wa | Sha |
| ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | ꠄ꠆ꠇꠈ | | | |
| Sha | Sa | Ha | | | |

Figure 2: Vowel and consonant letters of Dhimal (from Dhimal 2008).

**ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646¹**

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

Please read Principles and Procedures Document (P & P) from <http://www.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://www.dkuug.dk/JTC1/SC2/WG2/docs/summaryform.html>.

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

A. Administrative

1. **Title:** *Proposal to Encode Nepal Himalayish Scripts in ISO/IEC 10646*

2. Requester's name: *Patrick A V Hall*

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

4. Submission date: *05 October 2012*

5. Requester's reference (if applicable):

6. Choose one of the following:
This is a complete proposal:
(or) More information will be provided later:

B. Technical – General

1. Choose one of the following:
a. This proposal is for a new script (set of characters):
Proposed name of script: *Himalayish*
b. The proposal is for addition of character(s) to an existing block:
Name of the existing block:

2. Number of characters in proposal: *98*

3. Proposed category (select one from below - see section 2.2 of P&P document):
A-Contemporary B.1-Specialized (small collection) B.2-Specialized (large collection) *A*
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? *NO*
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?
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?
either Sanir Karmacharya or Rabindra Pachhai both of whom have developed fonts
b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):
to be provided in the full proposal in due course

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? *NO*

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)? *NO*

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.

¹ Form number: N4102-F (Original 1994-10-14; Revised 1995-01, 1995-04, 1996-04, 1996-08, 1999-03, 2001-05, 2001-09, 2003-11, 2005-01, 2005-09, 2005-10, 2007-03, 2008-05, 2009-11, 2011-03, 2012-01)

C. Technical - Justification

| | |
|--|--|
| 1. Has this proposal for addition of character(s) been submitted before? If YES explain | YES <i>Unifying proposals in N N3649, N3692, N3962, N3963, N4018, N4019, N4036, N4037, N4038, N4028, N4140, N4184, N4322</i> |
| 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.)? If YES, with whom? | YES <i>in person with: Nepal Lipi Guthi (centre for writing the language of the Newar) - Sharad Kasahchhen (Chair) Suwarn Vajracharya, Rabindra Pacchai Authors of N4322: Devdass Manandhar, Bishnu Chitrakar, Sanir Karmacharya, Professor Tej Raj Kansakar By email with authority on Newar writing: Professor Kamal P Malla By email with encoding experts: Anshuman Pandey, Deborah Anderson, Michael Everson, Andrew West</i> |
| 3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? Reference: | YES <i>Yadava, Yogendra P. (2003) Language Chapter 4. Population Monograph, volume 1, Kathmandu: Central Bureau of Statistics.2003 and UNFPA previous WG2 documents cited in C1 above</i> |
| 4. The context of use for the proposed characters (type of use; common or rare) Reference: | Common <i>previous WG2 documents cited in C1 above</i> |
| 5. Are the proposed characters in current use by the user community? If YES, where? Reference: | YES |
| 6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP? If YES, is a rationale provided? If YES, reference: | ideally |
| 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? If YES, is a rationale for its inclusion provided? If YES, reference: | NO |
| 9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? If YES, is a rationale for its inclusion provided? If YES, reference: | some indirectly <i>N4038 and N4184</i> |
| 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? If YES, is a rationale for its inclusion provided? If YES, reference: | NO |
| 11. Does the proposal include use of combining characters and/or use of composite sequences? 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: | YES indirectly <i>all documents cited in C1 above</i> YES <i>all documents cited in C1 above</i> |
| 12. Does the proposal contain characters with any special properties such as control function or similar semantics? If YES, describe in detail (include attachment if necessary) | NO |
| 13. Does the proposal contain any Ideographic compatibility characters? If YES, are the equivalent corresponding unified ideographic characters identified? If YES, reference: | NO |