

Comparison of Sunuwar font in Unicode proposal to font developed for Sunuwar Welfare Society

Neil Patel, neil@jamra-patel.com

Date: January 1, 2023

I. Font Comparison

Below is a comparison of the Sunuwar (Kōits Brese) font prepared for the Unicode proposal [L2/21-157](#) and the font developed with the Sunuwar Development Society in Nepal to facilitate the discussion of which font should be used for the code chart. The yellow columns, labeled PF are the proposal font and the white columns labeled SWS are the equivalent renderings in the font developed for the Sunuwar Welfare Society.

	11BC		11BD		11BE		11BF	
	PF	SWS	PF	SWS	PF	SWS	PF	SWS
0	𑌀 11BC0	𑌁	𑌂 11BD0	𑌃	𑌄 11BE0	𑌅	𑌆 11BF0	𑌇
1	𑌈 11BC1	𑌉	𑌊 11BD1	𑌋	𑌌 11BE1	𑌍	𑌎 11BF1	𑌏
2	𑌐 11BC2	𑌑	𑌒 11BD2	𑌓			𑌔 11BF2	𑌕
3	𑌖 11BC3	𑌗	𑌘 11BD3	𑌙			𑌚 11BF3	𑌛
4	𑌜 11BC4	𑌝	𑌞 11BD4	𑌟			𑌠 11BF4	𑌡
5	𑌢 11BC5	𑌣	𑌤 11BD5	𑌥			𑌦 11BF5	𑌧
6	𑌨 11BC6	𑌩	𑌪 11BD6	𑌫			𑌬 11BF6	𑌭
7	𑌯 11BC7	𑌰	𑌱 11BD7	𑌲			𑌳 11BF7	𑌴
8	𑌶 11BC8	𑌷	𑌸 11BD8	𑌹			𑌺 11BF8	𑌻
9	𑌼 11BC9	𑌽	𑌾 11BD9	𑌿			𑍀 11BF9	𑍁
A	𑍃 11BCA	𑍄	𑍅 11BDA	𑍆				
B	𑍈 11BCB	𑍉	𑍊 11BDB	𑍋				
C	𑍍 11BCC	𑍎	𑍏 11BDC	𑍐				
D	𑍒 11BCD	𑍓	𑍔 11BDD	𑍕				
E	𑍗 11BCE	𑍘	𑍙 11BDE	𑍚				
F	𑍜 11BCF	𑍝	𑍞 11BDF	𑍟				

Sunuwar letterforms are derived from physical phenomena with the individual strokes depicting the key features of the related imagery. For example, the source imagery for the letter REU is rain falling over a mountain range. The letterform consists of a triangular feature which represents a mountain peak with a stroke passing through it to represent falling rain.

Figure 1: Excerpt of table in Hamso Magazine Vol. 2 (Aug-Sept 2021) showing the origins of the letterforms

፳፻፲፱
፳፻፲፱
፳፻፲፱
፳፻፲፱

When developing the font for the Sunuwar Welfare Society (SWS) the goals defined by the organization were to develop a font system that allows for variation in weight, performs well on mobile devices and has a consistency across a body of text so that it can sit alongside Devanagari and Latin text.

11 2 3 4 5 6 7 8 9 10 11 12 13 14
 15 16 17 18 19 20 21 22 23 24 25 26 27 28
 29 30 31 32 33 34 35 36 37 38 39 40 41 42

Figure 3. Character set in Mukdum font

Cohesion across the letterforms was improved by applying a consistent stress and pen angle model. Adjustments were also made to vertical metrics and proportions to achieve a uniform color.

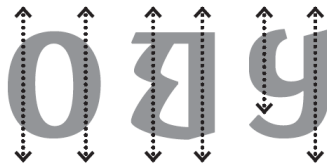


Figure 4. Stress and pen angle model used in SWS font

ꠠꠡꠢꠣꠤꠥꠦ
ꠠꠡꠢꠣꠤꠥꠦ
ꠠꠡꠢꠣꠤꠥꠦ
ꠠꠡꠢꠣꠤꠥꠦ
ꠠꠡꠢꠣꠤꠥꠦ

Figure 5. All weights of SWS font ranging from mono-weight light to high contrast extrabold

These modifications were all made specifically to meet the design goals of the SWS. The most notable differences between the SWS font and the proposal font are the basic structure of U+11BCC SUNUWAR LETTER CARMI and U+11BD2 SUNUWAR LETTER SHYELE. However, the origin of these differences is the Mukdum font (Figure 3).



Figure 6. Comparison of proposal font in yellow to SWS font:
U+11BCC SUNUWAR LETTER CARMI (left), U+11BD2 SUNUWAR LETTER SHYELE (right)

III. Regional Preferences

The differences in the design of the SWS font and the proposal font are part of the regional preferences between Sikkim and Nepal. In addition to the Sunuwar script being used as an abugida in Sikkim and as an alphabet in Nepal there appears to be differing interpretation of the source forms. Figure 7 shows how the source forms vary by region. Both tables use the same reference imagery, but the derived letterforms vary. The glyphs corresponding to codepoints U+11BCC SUNUWAR LETTER CARMI and U+11BD2 SUNUWAR LETTER SHYELE have been highlighted.



Figure 7. Comparison of letterform origin tables: Sikkim (left), Nepal (right).

The differences between U+11BCC SUNUWAR LETTER CARMİ and U+11BD2 SUNUWAR LETTER SHYELE, amongst others, are apparent in publications from both regions (Figures 8 and 9).



Figure 8. Digital edition of Sikkim Herald (India)

འོ:	[aan:]	= he	ཅ
ཅེ:	[saan]	= three	तीन
འོ:	[jaan]	= what?	नि
འོ:	[de]	= or	कि
འོ:	[den]	= snail	चिप्लेकिरा
འོ:	[na]	= before	अगाडि
འོ:	[na]	= sun	सूर्य
འོ:	[kha]	= decide	निधो
འོ:	[khan]	= guess	अनुमान
འོ:	[ge]	= nail	नङ
འོ:	[ge]	= work	काम
འོ:	[ge]	= side	तिर/पट्टी
འོ:	[ge]	= you	तैं
འོ:	[ne]	= name	नाम
འོ:	[ne]	= nose	नाक
འོ:	[ne]	= hirudiniformes	जुका
འོ:	[ne]	= fame	इज्जत
འོ:	[ne]	= what?	रे
འོ:	[temca]	= to serve	परिस्क्रु
འོ:	[temca]	= to add	थपेर
འོ:	[thicca]	= to meet	भेटनु
འོ:	[thic'ca]	= to fell down	लड्नु

10: ཀའོརྫུའོ འཛིན་པ་, संस्कृतिको आधिकारिकता
आदिवासी कोईच (राज्यले उसको सजिलोको
लागि दिएको जातीय नाम सुनुवार) को परम्परागत
प्रशासनिक संस्थालाई कोईच चुप्लु भनिन्छ । कोईच

चुप्लु भनेको कोईचबु अर्थात् सम्पूर्ण सुनुवारको
परम्परागत संस्था हो । तर कोईचको कसैले पनि
खोस्न नपाउने भूमि माथिको अधिकार किपट प्रथा
रैकरमा परिवर्तन गरेपछि परम्परागत संस्थापनि
प्रशासनिक रूप खारेज भए पनि साँस्कृतिकरूपमा
अझै जीवित छ । यसैले कोईच समुदायले सुनुवार
सेवा समाजलाई कोईच मातृभाषामा कोईच चुप्लु
वा कोईचबु भन्ने गर्दछन् । आदिवासी कोईचहरूको
मुलथाँतथलो नेपालको मध्यपूर्वी सगरमाथाको
आधार भूभाग सोलु, दोलखा, रामेछाप, ओखलढुंगा
र सिन्धुली जिल्ला हो । यहि भूमिबाट विश्वभरि
छरिएर रहेका सुनुवारहरूको साझा संस्था भनेकै
सुनुवार सेवा समाज हो । सुनुवार सेवा समाजको
विभिन्न आंगिक संस्थाहरू छन् । त्यसैगरी समाजको
प्रदेश, स्थानीय समिति अनि विदेशस्थित शाखाहरू
छन् । विश्वभरि जुनजुन देशमा कोईचहरू बसोबास
गरी सुनुवार सेवा समाजको शाखा गठन भएको
छ । उक्त शाखा आंगिक संस्था र प्रदेश तथा
स्थानीय समितिको प्रतिनिधिहरूको मतले सुनुवार
सेवा समाज नेपालको कार्यकारिणी समिति गठन
हुने गर्दछ । शाखा, प्रदेश तथा स्थानीय समिति
र आंगिक संस्थाको आफ्नै छुट्टै स्वतन्त्र कार्य
कारिणी समिति हुन्छ । आदिवासी कोईचको मुर्त
अमूर्त सम्पदा संरक्षण, प्रबर्द्धन, विकास तथा भाषिक
साँस्कृतिक नीति निर्माण गरी अन्तिम निर्णय गर्ने/दिने
काम भने सुनुवार सेवा समाजले गर्ने गर्दछ ।

००

Figure 9. Digital edition of Hamso Magazine (Nepal)

However, earlier versions of the Mukdum font featured forms for U+11BCC SUNUWAR LETTER CARMİ and U+11BD2 SUNUWAR LETTER SHYELE that match the shapes seen in Sikkim (Figure 10). This suggests that changes were made by the SWS to improve readability.

S.No.	Koĩts Alphabet	Name of Alphabet	pronounsation	Remark
A. Segmental Alphabet				
a. Primary				
1.	ᱢ	Dewi	/d/	
2.	ᱣ	Tasla	/t/	
3.	ᱤ	Eko	/e/	
4.	ᱥ	Imar	/i/	
5.	ᱦ	Reu	/r/	
6.	ᱧ	Utthi	/u/	
b. Secondary				
7.	ᱨ	Kiki	/k/	
8.	ᱩ	Mama	/m/	
9.	ᱪ	Appho	/a/	
10.	ᱫ	Pipi	/p/	
11.	ᱬ	Gil	/g/	
12.	ᱭ	Hamso	/h/	
13.	ᱮ	Charmi	/ʈ/	
14.	ᱯ	Na	/n/	
15.	ᱰ	Bur	/b/	
16.	ᱱ	jyu	/j/	
17.	ᱲ	loacha	/l/	
18.	ᱳ	Otthi	/o/	
19.	ᱴ	Shyele	/s/	
20.	ᱵ	Warchi	/w/	
21.	ᱶ	Yat	/y/	
22.	ᱷ	Awa	/b/	

Figure 10. Excerpt of document provided by SWS using an earlier version of the Mukdum font

IV. Conclusion

Upon review of the various Sunuwar fonts in existence there is a fair amount of variation in the proportions and shapes of the letterforms. The script appears to have undergone the typical evolution that takes place to improve character recognition. While there has been convergence on most of the letterforms between the two regions, the skeletons of U+11BCC SUNUWAR LETTER CARMi and U+11BD2 SUNUWAR LETTER SHYELE remain distinctively different. As a result, both the existing proposal font and the SWS font are adequate choices for the code chart. Regardless of the choice it is probably more important to mention the regional preferences in the long description where applicable.