

Proposal to Encode the Ndiko Jonam Script in the UCS

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To: Script Encoding Working Group (SEWG) / Unicode Technical Committee (UTC)

From: Oreen Yousuf

Subject: Proposal for encoding the Ndiko Jonam script in the UCS

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General Overview:

We propose the addition of the Ndiko Jonam script into the Unicode Standard. A short proposal for this script was submitted on June 11, 2019 by the user community. This and the SEWG's feedback can be seen below:

- [L2/19-268](#): "Addition of Luo Lakeside Script"
- [L2/19-286](#): "Recommendations to UTC #160 July 2019 on Script Proposals"

Our current proposal supersedes the above proposal (L2/19-268) due to the following reasons:

- Accurate script name and a more detailed history of the script
- Information on community created fonts
- Additional languages that use the script
- IPA
- Joining information for letters
- Current and old letters
- Chart
- Properties
- Collation
- Publication references
- Several more images of evidence of script use

I Background

The Ndiko Jonam script (ᐃᐃᐃᐃ ᐃᐃᐃᐃ) is an alphabetical script used to write the Luo languages, specifically the Dholuo language (ISO 639-3: luo) of Kenya (which is also spoken in Tanzania). The letters of the script were created by Kefa Ombewa between 2009-2012, and the numerals were separately created by Professor Paul Sidanidi in 2012. The two met on Twitter in 2013 and combined their work. The script is used by users in Kisumu and other parts of Kenya, but is also used by Luo speakers in Botswana. The Batswana users are primarily concentrated in Lobatse. The script has grown far beyond the script inventor's social circles, causing it to become infeasible to keep precise numbering of users.

Two fonts have been created by the script community. The first font was created on June 12, 2012. These fonts have been used to create a dictionary, documents, primers, digital media, physical clocks, etc. These materials were made by people other than the script creator(s). There are no other scripts in competition among the user community. The first font was named "KefaSidandi", named after the script creators. Some specifics on how to make a font for the script can be found in Section IX.

Some Batswana script users also use the script to write Setswana (ISO 639-3: tsn). Only in isolated incidents has the proposal author observed the script being used to write Swahili (ISO 639-3: swa) and Oromo (ISO 639-3: orm) in the script (see Section XI). Both of these languages are spoken in Kenya as well, yet are linguistically unrelated to Luo.

A keyboard can be found here: https://keyman.com/keyboards/luo_lakeside . As of December 2025, 650+ people have downloaded the keyboard.

II Script Name

The proposed Unicode name for the script is “**NDIKO JONAM**”. The user community refers to the script as “Ndiko Jonam” (ᑎᑦᑎᑦᑎᑦ ᑎᑎᑎᑎᑎᑎ) in Luo and as “Luo Lakeside script” in English (many Luo people speak English as a second or third language). The community desires that the Luo term be the official Unicode name for the script. The reasoning behind the Luo (and English) name of the script is because the Luo language is predominantly spoken around Nam Lolwe (Lake Victoria) and along the waterways back to the Nile River. “Ndiko Jonam” literally translates to English as “writing of the lakeside people”.

III Structure

The Ndiko Jonam script is an alphabet that is written from left-to-right (LTR) in horizontal lines from the top of a page to the bottom of a page. The script has 33 letters. The script is bicameral, meaning it has an uppercase and lowercase form for (mostly) every letter, however it was at one point unicameral (i.e., having only one form for each sound).

Letter Name	Letter		IPA	Latin Luo Orthography
	Uppercase	Lowercase		
AA	ᑎ	ᑎ	/a/	A a
BA	ᑎ	ᑎ	/b/	B b
CHA	ᑎ	ᑎ	/tʃ/	Ch ch
DA	ᑎ	ᑎ	/d/	D d
EE	ᑎ	ᑎ	/e/	E e
FA	ᑎ	ᑎ	/f/	F f
GA	ᑎ	ᑎ	/g/	G g
NG’A	ᑎ	ᑎ	/ŋ/	Ng’ ng’
HA	ᑎ	ᑎ	/h/	H h
II	ᑎ	ᑎ	/i/	I i
JA	ᑎ	ᑎ	/j/	J j
KA	ᑎ	ᑎ	/k/	K k
LA	ᑎ	ᑎ	/l/	L l
MA	ᑎ	ᑎ	/m/	M m
MBA		ᑎ	/ᵐb/	Mb mb
NA	ᑎ	ᑎ	/n/	N n
NDA		ᑎ	/ᵐd/	Nd nd
NJA		ᑎ	/ᵐj/	Nj nj
NGA		ᑎ	/ᵐg/	Ng ng
NYA		ᑎ	/ᵐj/	Ny ny
OO	ᑎ	ᑎ	/o/	O o

PA	ᐁ	ᐃ	/p/	P p
SHA	ᐅ	ᐇ	/ʃ/ and /!/	Sh sh*
RA	ᐉ	ᐊ	/r/	R r
SA	ᐋ	ᐍ	/s/	S s
TA	ᐏ	ᐑ	/t/	T t
THA		ᐓ	/t̥/	Th th
DHA		ᐕ	/d̥/	Dh dh
UU	ᐗ	ᐙ	/u/	U u
VA	ᐛ	ᐝ	/v/	V v
WA	ᐟ	ᐡ	/w/	W w
YA	ᐣ	ᐤ	/j/	Y y
ZA	ᐧ	ᐨ	/z/	Z z

Table 1. All letters in the Ndiko Jonam script.

Due to QWERTY keyboard limitations and English/Latin-script influence, between June-August 2017 seven letters that were once used – ᐃ /^mb/, ᐅ /ⁿd/, ᐉ /ⁿj/, ᐅ /ⁿg/, ᐋ /ⁿ/, ᐓ /^{t̥}/, ᐕ /^{d̥}/ – fell into disuse. The phonemes these letters represented are now spelled with digraphs (i.e., Ndiko Jonam letters for m+b, n+d, n+j, n+g, n+y, t+h, d+h, respectively). These letters should however still be encoded to preserve old documents as is agreed upon by the community. When the script became bicameral, the existing letters became the lowercase forms. The previously mentioned 7 letters were dropped before the transition to a bicameral script, therefore, uppercase forms were never created for them.

*In Table 1, the letter ᐅ/ᐇ is used for two different sounds. For Luo speakers in Kenya, this letter is used for the foreign sound /ʃ/ (written as <sh> in English); whereas Luo speakers in Botswana use this same letter for a palatal click /!/ (written as <q> in Setswana) due to Batswana script users' exposure to Setswana which uses a palatal click.

Numbers

The Luo language uses a base-10 (decimal) system to count. The Ndiko Jonam script has unique digits/numerals.

Luo Name	Ndiko Jonam Digit	Hindu-Arabic Equivalent
NONO	ፀ	0
ACHIEL	ፑ	1
ARIYO	ፒ	2
ADEK	ፓ	3
ANG'WEN	ፔ	4
ABICH	ፕ	5
AUCHIEL	ፖ	6
ABIRIYO	ፙ	7
ABORO	ፚ	8
OCHIKO	፛	9

Table 3. Ndiko Jonam script digits/numerals.

IV Character Repertoire

Character	Unicode Name
ፈ	U+1X000 NDIKO JONAM CAPITAL LETTER AA
ፉ	U+1X001 NDIKO JONAM CAPITAL LETTER BA
ፊ	U+1X002 NDIKO JONAM CAPITAL LETTER CHA
ፋ	U+1X003 NDIKO JONAM CAPITAL LETTER DA
ፅ	U+1X004 NDIKO JONAM CAPITAL LETTER EE
ፈ	U+1X005 NDIKO JONAM CAPITAL LETTER FA
ፐ	U+1X006 NDIKO JONAM CAPITAL LETTER GA
ፑ	U+1X007 NDIKO JONAM CAPITAL LETTER NGA
ፒ	U+1X008 NDIKO JONAM CAPITAL LETTER HA
ፓ	U+1X009 NDIKO JONAM CAPITAL LETTER II
ፔ	U+1X00A NDIKO JONAM CAPITAL LETTER JA
ፕ	U+1X00B NDIKO JONAM CAPITAL LETTER KA
ፖ	U+1X00C NDIKO JONAM CAPITAL LETTER LA
ፙ	U+1X00D NDIKO JONAM CAPITAL LETTER MA

Ɔ	U+1X00E NDIKO JONAM CAPITAL LETTER NA
Ɔ̣	U+1X00F NDIKO JONAM CAPITAL LETTER OO
Ɔ̤	U+1X010 NDIKO JONAM CAPITAL LETTER PA
Ɔ̥	U+1X011 NDIKO JONAM CAPITAL LETTER SHA
Ɔ̦	U+1X012 NDIKO JONAM CAPITAL LETTER RA
Ɔ̧	U+1X013 NDIKO JONAM CAPITAL LETTER SA
Ɔ̨	U+1X014 NDIKO JONAM CAPITAL LETTER TA
Ɔ̩	U+1X015 NDIKO JONAM CAPITAL LETTER UU
Ɔ̪	U+1X016 NDIKO JONAM CAPITAL LETTER VA
Ɔ̫	U+1X017 NDIKO JONAM CAPITAL LETTER WA
Ɔ̬	U+1X018 NDIKO JONAM CAPITAL LETTER YA
Ɔ̭	U+1X019 NDIKO JONAM CAPITAL LETTER ZA
	U+1X01A RESERVED
	U+1X01B RESERVED
	U+1X01C RESERVED
	U+1X01D RESERVED
	U+1X01E RESERVED
	U+1X01F RESERVED
	U+1X020 RESERVED
Ɔ̮	U+1X021 NDIKO JONAM SMALL LETTER AA
Ɔ̯	U+1X022 NDIKO JONAM SMALL LETTER BA
Ɔ̰	U+1X023 NDIKO JONAM SMALL LETTER CHA
Ɔ̱	U+1X024 NDIKO JONAM SMALL LETTER DA
Ɔ̲	U+1X025 NDIKO JONAM SMALL LETTER EE
Ɔ̳	U+1X026 NDIKO JONAM SMALL LETTER FA
Ɔ̴	U+1X027 NDIKO JONAM SMALL LETTER GA
Ɔ̵	U+1X028 NDIKO JONAM SMALL LETTER NGA
Ɔ̶	U+1X029 NDIKO JONAM SMALL LETTER HA
Ɔ̷	U+1X02A NDIKO JONAM SMALL LETTER II
Ɔ̸	U+1X02B NDIKO JONAM SMALL LETTER JA

𐤀	U+1X02C NDIKO JONAM SMALL LETTER KA
𐤁	U+1X02D NDIKO JONAM SMALL LETTER LA
𐤂	U+1X02E NDIKO JONAM SMALL LETTER MA
𐤃	U+1X02F NDIKO JONAM SMALL LETTER NA
𐤄	U+1X030 NDIKO JONAM SMALL LETTER OO
𐤅	U+1X031 NDIKO JONAM SMALL LETTER PA
𐤆	U+1X032 NDIKO JONAM SMALL LETTER SHA
𐤇	U+1X033 NDIKO JONAM SMALL LETTER RA
𐤈	U+1X034 NDIKO JONAM SMALL LETTER SA
𐤉	U+1X035 NDIKO JONAM SMALL LETTER TA
𐤊	U+1X036 NDIKO JONAM SMALL LETTER UU
𐤋	U+1X037 NDIKO JONAM SMALL LETTER VA
𐤌	U+1X038 NDIKO JONAM SMALL LETTER WA
𐤍	U+1X039 NDIKO JONAM SMALL LETTER YA
𐤎	U+1X03A NDIKO JONAM SMALL LETTER ZA
𐤏	U+1X03B NDIKO JONAM SMALL LETTER MBA
𐤐	U+1X03C NDIKO JONAM SMALL LETTER NDA
𐤑	U+1X03D NDIKO JONAM SMALL LETTER NJA
𐤒	U+1X03E NDIKO JONAM SMALL LETTER NGGA
𐤓	U+1X03F NDIKO JONAM SMALL LETTER NYA
𐤔	U+1X040 NDIKO JONAM SMALL LETTER THA
𐤕	U+1X041 NDIKO JONAM SMALL LETTER DHA
	U+1X042 RESERVED
	U+1X043 RESERVED
	U+1X044 RESERVED
	U+1X045 RESERVED
𐤖	U+1X046 NDIKO JONAM DIGIT ZERO
𐤗	U+1X047 NDIKO JONAM DIGIT ONE
𐤘	U+1X048 NDIKO JONAM DIGIT TWO
𐤙	U+1X049 NDIKO JONAM DIGIT THREE

𐌚	U+1X04A NDIKO JONAM DIGIT FOUR
𐌛	U+1X04B NDIKO JONAM DIGIT FIVE
𐌜	U+1X04C NDIKO JONAM DIGIT SIX
𐌝	U+1X04D NDIKO JONAM DIGIT SEVEN
𐌞	U+1X04E NDIKO JONAM DIGIT EIGHT
𐌟	U+1X04F NDIKO JONAM DIGIT NINE

Table 4. Ndiko Jonam script character repertoire.

Due to Unicode not allowing apostrophes in the Unicode name for scripts nor characters, the letters for /ŋ/ (𐌚, 𐌛), which are transcribed as <NG'A> in the Latin Luo orthography, was given the Unicode name NGA.

However, the letter for /^hg/ (𐌜) is normally transcribed as <NGA> in the Latin Luo orthography. Therefore, we suggest that the Unicode name for this letter be NGGA. Any future educational material created by persons reading this proposal should not be influenced by these Unicode names, which were chosen due to constraints, and should instead adhere to the official names of the letters listed in Table 1 in Section III.

Empty cells are reserved for potential future encoding of uppercase letters for the 7 lowercase letters discussed in Section III that were dropped due to QWERTY limitations.

Chart

	U+1X00	U+1X01	U+1X02	U+1X03	U+1X04
0	𐤀	𐤁		𐤃	𐤄
1	𐤅	𐤆	𐤇	𐤈	𐤉
2	𐤊	𐤋	𐤌	𐤍	
3	𐤎	𐤏	𐤐	𐤑	
4	𐤒	𐤓	𐤔	𐤕	
5	𐤖	𐤗	𐤘	𐤙	
6	𐤚	𐤛	𐤜	𐤝	𐤞
7	𐤟	𐤠	𐤡	𐤢	𐤣
8	𐤤	𐤥	𐤦	𐤧	𐤨
9	𐤩	𐤪	𐤫	𐤬	𐤭
A	𐤮		𐤯	𐤰	𐤱
B	𐤲		𐤳	𐤴	𐤵
C	𐤶		𐤷	𐤸	𐤹
D	𐤺		𐤻	𐤼	𐤽
E	𐤾		𐤿	𐥀	𐥁
F	𐥂		𐥃	𐥄	𐥅

Capital letters

1X000 𐌀 NDIKO JONAM CAPITAL LETTER AA
1X001 𐌁 NDIKO JONAM CAPITAL LETTER BA
1X002 𐌂 NDIKO JONAM CAPITAL LETTER CHA
1X003 𐌃 NDIKO JONAM CAPITAL LETTER DA
1X004 𐌄 NDIKO JONAM CAPITAL LETTER EE
1X005 𐌅 NDIKO JONAM CAPITAL LETTER FA
1X006 𐌆 NDIKO JONAM CAPITAL LETTER GA
1X007 𐌇 NDIKO JONAM CAPITAL LETTER NGA
1X008 𐌈 NDIKO JONAM CAPITAL LETTER HA
1X009 𐌉 JONAM CAPITAL LETTER II
1X00A 𐌊 NDIKO JONAM CAPITAL LETTER JA
1X00B 𐌋 NDIKO JONAM CAPITAL LETTER KA
1X00C 𐌌 NDIKO JONAM CAPITAL LETTER LA
1X00D 𐌍 NDIKO JONAM CAPITAL LETTER MA
1X00E 𐌎 NDIKO JONAM CAPITAL LETTER NA
1X00F 𐌏 NDIKO JONAM CAPITAL LETTER OO
1X010 𐌐 NDIKO JONAM CAPITAL LETTER PA
1X011 𐌑 NDIKO JONAM CAPITAL LETTER SHA
1X012 𐌒 NDIKO JONAM CAPITAL LETTER RA
1X013 𐌓 NDIKO JONAM CAPITAL LETTER SA
1X014 𐌔 NDIKO JONAM CAPITAL LETTER TA
1X015 𐌕 NDIKO JONAM CAPITAL LETTER UU
1X016 𐌖 NDIKO JONAM CAPITAL LETTER VA
1X017 𐌗 NDIKO JONAM CAPITAL LETTER WA
1X018 𐌘 NDIKO JONAM CAPITAL LETTER YA
1X019 𐌙 NDIKO JONAM CAPITAL LETTER ZA

Small letters

1X021 𐌚 NDIKO JONAM SMALL LETTER AA
1X022 𐌛 NDIKO JONAM SMALL LETTER BA
1X023 𐌜 NDIKO JONAM SMALL LETTER CHA
1X024 𐌝 NDIKO JONAM SMALL LETTER DA
1X025 𐌞 NDIKO JONAM SMALL LETTER EE
1X026 𐌟 NDIKO JONAM SMALL LETTER FA
1X027 𐌠 NDIKO JONAM SMALL LETTER GA
1X028 𐌡 NDIKO JONAM SMALL LETTER NGA
1X029 𐌢 NDIKO JONAM SMALL LETTER HA

1X02A 𐌣 NDIKO JONAM SMALL LETTER II
1X02B 𐌤 NDIKO JONAM SMALL LETTER JA
1X02C 𐌥 NDIKO JONAM SMALL LETTER KA
1X02D 𐌦 NDIKO JONAM SMALL LETTER LA
1X02E 𐌧 NDIKO JONAM SMALL LETTER MA
1X02F 𐌨 NDIKO JONAM SMALL LETTER NA
1X030 𐌩 NDIKO JONAM SMALL LETTER OO
1X031 𐌪 NDIKO JONAM SMALL LETTER PA
1X032 𐌫 NDIKO JONAM SMALL LETTER SHA
1X033 𐌬 NDIKO JONAM SMALL LETTER RA
1X034 𐌭 NDIKO JONAM SMALL LETTER SA
1X035 𐌮 NDIKO JONAM SMALL LETTER TA
1X036 𐌯 NDIKO JONAM SMALL LETTER UU
1X037 𐌰 NDIKO JONAM SMALL LETTER VA
1X038 𐌱 NDIKO JONAM SMALL LETTER WA
1X039 𐌲 NDIKO JONAM SMALL LETTER YA
1X03A 𐌳 NDIKO JONAM SMALL LETTER ZA

Historic letters

1X03B 𐌴 NDIKO JONAM SMALL LETTER MBA
1X03C 𐌵 NDIKO JONAM SMALL LETTER NDA
1X03D 𐌶 NDIKO JONAM SMALL LETTER NJA
1X03E 𐌷 NDIKO JONAM SMALL LETTER NGGA
1X03F 𐌸 NDIKO JONAM SMALL LETTER NYA
1X040 𐌹 NDIKO JONAM SMALL LETTER THA
1X041 𐌺 NDIKO JONAM SMALL LETTER DHA

Digits

1X046 𐌻 NDIKO JONAM DIGIT ZERO
1X047 𐌼 NDIKO JONAM DIGIT ONE
1X048 𐌽 NDIKO JONAM DIGIT TWO
1X049 𐌾 NDIKO JONAM DIGIT THREE
1X04A 𐌿 NDIKO JONAM DIGIT FOUR
1X04B 𐍀 NDIKO JONAM DIGIT FIVE
1X04C 𐍁 NDIKO JONAM DIGIT SIX
1X04D 𐍂 NDIKO JONAM DIGIT SEVEN
1X04E 𐍃 NDIKO JONAM DIGIT EIGHT
1X04F 𐍄 NDIKO JONAM DIGIT NINE

Additional information on characters

Phonetic value

See IPA for all letters in Table 1 in Section III above.

Joining information

Most lowercase letters join together. However, there are no positional variants in this script. See Table 2 and Section III above for all details.

Punctuation

There are no script-specific Ndiko Jonam punctuation marks.

Numbers

There are script-specific Ndiko Jonam digits/numerals. See Table 3 in Section III above.

V Properties

General Category and other properties

U+1X000;NDIKO	JONAM	CAPITAL	LETTER	AA;Lu;0;L; ; ; ;N; ; ; ;U+1X021;
U+1X001;NDIKO	JONAM	CAPITAL	LETTER	BA;Lu;0;L; ; ; ;N; ; ; ;U+1X022;
U+1X002;NDIKO	JONAM	CAPITAL	LETTER	CHA;Lu;0;L; ; ; ;N; ; ; ;U+1X023;
U+1X003;NDIKO	JONAM	CAPITAL	LETTER	DA;Lu;0;L; ; ; ;N; ; ; ;U+1X024;
U+1X004;NDIKO	JONAM	CAPITAL	LETTER	EE;Lu;0;L; ; ; ;N; ; ; ;U+1X025;
U+1X005;NDIKO	JONAM	CAPITAL	LETTER	FA;Lu;0;L; ; ; ;N; ; ; ;U+1X026;
U+1X006;NDIKO	JONAM	CAPITAL	LETTER	GA;Lu;0;L; ; ; ;N; ; ; ;U+1X027;
U+1X007;NDIKO	JONAM	CAPITAL	LETTER	NGA;Lu;0;L; ; ; ;N; ; ; ;U+1X028;
U+1X008;NDIKO	JONAM	CAPITAL	LETTER	HA;Lu;0;L; ; ; ;N; ; ; ;U+1X029;
U+1X009;NDIKO	JONAM	CAPITAL	LETTER	II;Lu;0;L; ; ; ;N; ; ; ;U+1X02A;
U+1X00A;NDIKO	JONAM	CAPITAL	LETTER	JA;Lu;0;L; ; ; ;N; ; ; ;U+1X02B;
U+1X00B;NDIKO	JONAM	CAPITAL	LETTER	KA;Lu;0;L; ; ; ;N; ; ; ;U+1X02C;
U+1X00C;NDIKO	JONAM	CAPITAL	LETTER	LA;Lu;0;L; ; ; ;N; ; ; ;U+1X02D;
U+1X00D;NDIKO	JONAM	CAPITAL	LETTER	MA;Lu;0;L; ; ; ;N; ; ; ;U+1X02E;
U+1X00E;NDIKO	JONAM	CAPITAL	LETTER	NA;Lu;0;L; ; ; ;N; ; ; ;U+1X02F;
U+1X00F;NDIKO	JONAM	CAPITAL	LETTER	OO;Lu;0;L; ; ; ;N; ; ; ;U+1X030;
U+1X010;NDIKO	JONAM	CAPITAL	LETTER	PA;Lu;0;L; ; ; ;N; ; ; ;U+1X031;
U+1X011;NDIKO	JONAM	CAPITAL	LETTER	SHA;Lu;0;L; ; ; ;N; ; ; ;U+1X032;
U+1X012;NDIKO	JONAM	CAPITAL	LETTER	RA;Lu;0;L; ; ; ;N; ; ; ;U+1X033;
U+1X013;NDIKO	JONAM	CAPITAL	LETTER	SA;Lu;0;L; ; ; ;N; ; ; ;U+1X034;
U+1X014;NDIKO	JONAM	CAPITAL	LETTER	TA;Lu;0;L; ; ; ;N; ; ; ;U+1X035;
U+1X015;NDIKO	JONAM	CAPITAL	LETTER	UU;Lu;0;L; ; ; ;N; ; ; ;U+1X036;
U+1X016;NDIKO	JONAM	CAPITAL	LETTER	VA;Lu;0;L; ; ; ;N; ; ; ;U+1X037;
U+1X017;NDIKO	JONAM	CAPITAL	LETTER	WA;Lu;0;L; ; ; ;N; ; ; ;U+1X038;
U+1X018;NDIKO	JONAM	CAPITAL	LETTER	YA;Lu;0;L; ; ; ;N; ; ; ;U+1X039;
U+1X019;NDIKO	JONAM	CAPITAL	LETTER	ZA;Lo;0;L; ; ; ;N; ; ; ;U+1X03A;
U+1X021;NDIKO	JONAM	SMALL	LETTER	AA;Ll;0;L; ; ; ;N; ; ; ;U+1X000; ;U+1X000
U+1X022;NDIKO	JONAM	SMALL	LETTER	BA;Ll;0;L; ; ; ;N; ; ; ;U+1X001; ;U+1X001
U+1X023;NDIKO	JONAM	SMALL	LETTER	CHA;Ll;0;L; ; ; ;N; ; ; ;U+1X002; ;U+1X002
U+1X024;NDIKO	JONAM	SMALL	LETTER	DA;Ll;0;L; ; ; ;N; ; ; ;U+1X003; ;U+1X003
U+1X025;NDIKO	JONAM	SMALL	LETTER	EE;Ll;0;L; ; ; ;N; ; ; ;U+1X004; ;U+1X004
U+1X026;NDIKO	JONAM	SMALL	LETTER	FA;Ll;0;L; ; ; ;N; ; ; ;U+1X005; ;U+1X005
U+1X027;NDIKO	JONAM	SMALL	LETTER	GA;Ll;0;L; ; ; ;N; ; ; ;U+1X006; ;U+1X006
U+1X028;NDIKO	JONAM	SMALL	LETTER	NGA;Ll;0;L; ; ; ;N; ; ; ;U+1X007; ;U+1X007
U+1X029;NDIKO	JONAM	SMALL	LETTER	HA;Ll;0;L; ; ; ;N; ; ; ;U+1X008; ;U+1X008
U+1X02A;NDIKO	JONAM	SMALL	LETTER	II;Ll;0;L; ; ; ;N; ; ; ;U+1X009; ;U+1X009
U+1X02B;NDIKO	JONAM	SMALL	LETTER	JA;Ll;0;L; ; ; ;N; ; ; ;U+1X00A; ;U+1X00A
U+1X02C;NDIKO	JONAM	SMALL	LETTER	KA;Ll;0;L; ; ; ;N; ; ; ;U+1X00B; ;U+1X00B
U+1X02D;NDIKO	JONAM	SMALL	LETTER	LA;Ll;0;L; ; ; ;N; ; ; ;U+1X00C; ;U+1X00C
U+1X02E;NDIKO	JONAM	SMALL	LETTER	MA;Ll;0;L; ; ; ;N; ; ; ;U+1X00D; ;U+1X00D
U+1X030;NDIKO	JONAM	SMALL	LETTER	NA;Ll;0;L; ; ; ;N; ; ; ;U+1X00E; ;U+1X00E
U+1X02E;NDIKO	JONAM	SMALL	LETTER	OO;Ll;0;L; ; ; ;N; ; ; ;U+1X00F; ;U+1X00F
U+1X02F;NDIKO	JONAM	SMALL	LETTER	PA;Ll;0;L; ; ; ;N; ; ; ;U+1X010; ;U+1X010
U+1X030;NDIKO	JONAM	SMALL	LETTER	SHA;Ll;0;L; ; ; ;N; ; ; ;U+1X011; ;U+1X011
U+1X031;NDIKO	JONAM	SMALL	LETTER	RA;Ll;0;L; ; ; ;N; ; ; ;U+1X012; ;U+1X012
U+1X032;NDIKO	JONAM	SMALL	LETTER	SA;Ll;0;L; ; ; ;N; ; ; ;U+1X013; ;U+1X013
U+1X033;NDIKO	JONAM	SMALL	LETTER	TA;Ll;0;L; ; ; ;N; ; ; ;U+1X014; ;U+1X014
U+1X036;NDIKO	JONAM	SMALL	LETTER	UU;Ll;0;L; ; ; ;N; ; ; ;U+1X015; ;U+1X015
U+1X037;NDIKO	JONAM	SMALL	LETTER	VA;Ll;0;L; ; ; ;N; ; ; ;U+1X016; ;U+1X016

U+1X038;NDIKO	JONAM	SMALL	LETTER	WA;	L1;0;L; ; ; ;	N; ;	U+1X017; ;	U+1X017
U+1X039;NDIKO	JONAM	SMALL	LETTER	YA;	L1;0;L; ; ; ;	N; ;	U+1X018; ;	U+1X018
U+1X03A;NDIKO	JONAM	SMALL	LETTER	ZA;	L1;0;L; ; ; ;	N; ;	U+1X019; ;	U+1X019
U+1X02F;NDIKO	JONAM	SMALL	LETTER	MBA;	L1;0;L; ; ; ;	N; ; ; ;		
U+1X031;NDIKO	JONAM	SMALL	LETTER	NDA;	L1;0;L; ; ; ;	N; ; ; ;		
U+1X02B;NDIKO	JONAM	SMALL	LETTER	NJA;	L1;0;L; ; ; ;	N; ; ; ;		
U+1X02C;NDIKO	JONAM	SMALL	LETTER	NGGA;	L1;0;L; ; ; ;	N; ; ; ;		
U+1X02D;NDIKO	JONAM	SMALL	LETTER	NYA;	L1;0;L; ; ; ;	N; ; ; ;		
U+1X034;NDIKO	JONAM	SMALL	LETTER	THA;	L1;0;L; ; ; ;	N; ; ; ;		
U+1X035;NDIKO	JONAM	SMALL	LETTER	DHA;	L1;0;L; ; ; ;	N; ; ; ;		
U+1X03B;NDIKO	JONAM	DIGIT	ZERO;	Nd;0;L; ;	0;0;0;N; ; ; ;			
U+1X03C;NDIKO	JONAM	DIGIT	ONE;	Nd;0;L; ;	1;1;1;N; ; ; ;			
U+1X03D;NDIKO	JONAM	DIGIT	TWO;	Nd;0;L; ;	2;2;2;N; ; ; ;			
U+1X03E;NDIKO	JONAM	DIGIT	THREE;	Nd;0;L; ;	3;3;3;N; ; ; ;			
U+1X03F;NDIKO	JONAM	DIGIT	FOUR;	Nd;0;L; ;	4;4;4;N; ; ; ;			
U+1X040;NDIKO	JONAM	DIGIT	FIVE;	Nd;0;L; ;	5;5;5;N; ; ; ;			
U+1X041;NDIKO	JONAM	DIGIT	SIX;	Nd;0;L; ;	6;6;6;N; ; ; ;			
U+1X042;NDIKO	JONAM	DIGIT	SEVEN;	Nd;0;L; ;	7;7;7;N; ; ; ;			
U+1X043;NDIKO	JONAM	DIGIT	EIGHT;	Nd;0;L; ;	8;8;8;N; ; ; ;			
U+1X044;NDIKO	JONAM	DIGIT	NINE;	Nd;0;L; ;	9;9;9;N; ; ; ;			

Line breaking information

Answering the following questions will help the Unicode experts determine the appropriate line break properties:

- Words are separated by using U+0020 SPACE.
- Line breaks only occur at word boundaries.
- Special modes like hyphenation are not used to allow line breaks within words.
- Line breaks cannot occur within numbers.
- Line breaks should not occur before full stops.

VI Collation

The collation (alphabetic order) of the Ndiko Jonam script letters is the same as presented in Table 1, with uppercase letters being ordered first and then lowercase letters.

Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
< Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
< Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
< Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ

Numbers are ordered before letters; therefore, the full collation of the script is as follows:

0 < 1 < 2 < 3 < 4 < 5 < 6 < 7 < 8 < 9 < Ɓ < Ɓ
< Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
< Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ
Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ < Ɓ

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22. "Lakeside Script Tutorial 3". YouTube. May 13, 2016. <https://www.youtube.com/watch?v=ukaFk0VN5Tw>
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24. <https://www.lakesidescript.com/>

VIII Acknowledgements

The proposal author wishes to thank various members of the Ndiko Jonam script community for their assistance in clarifying aspects of the script.

This project was made possible in part by a grant from the Mellon Foundation to the Script Encoding Initiative at the University of California, Berkeley.

IX Examples

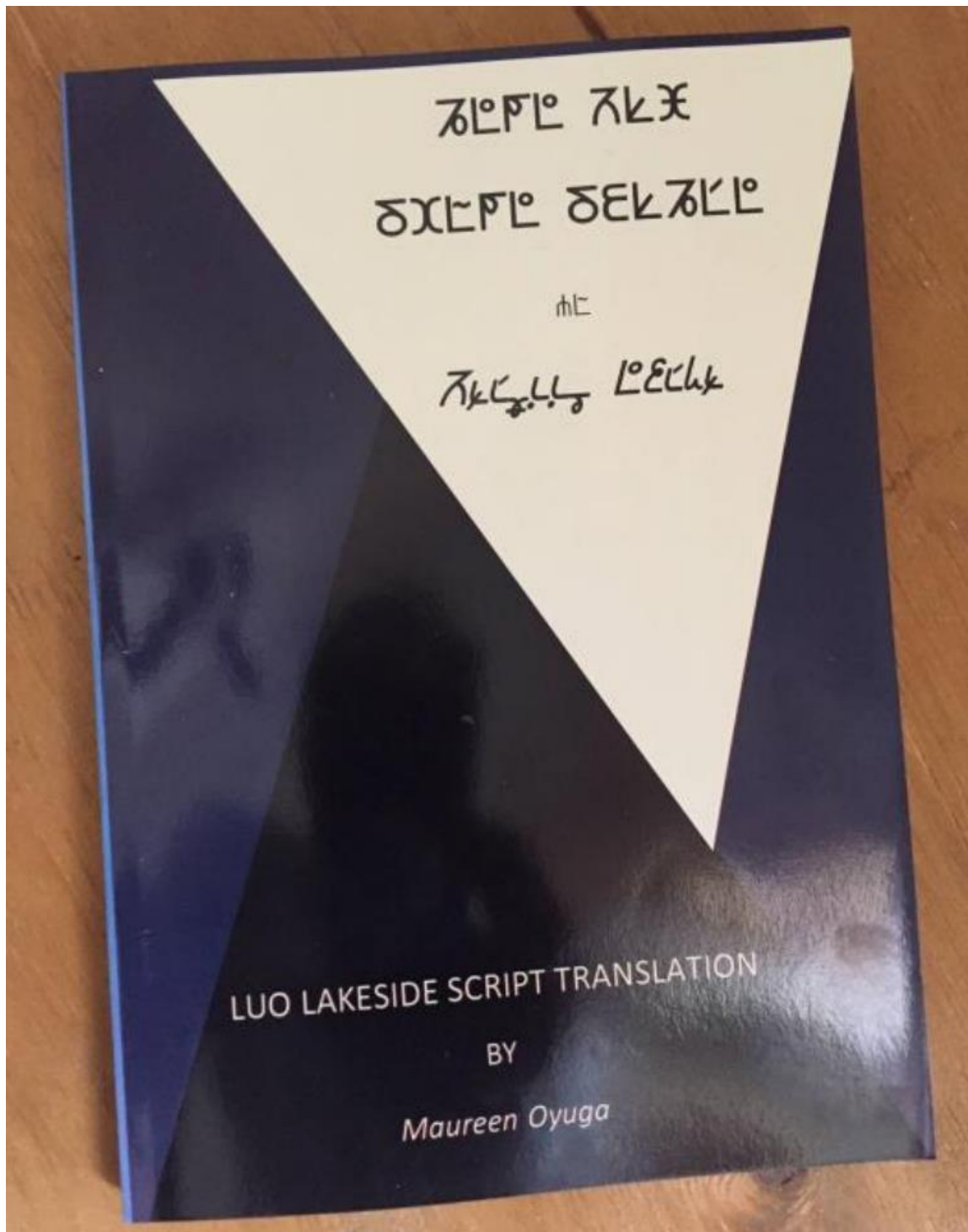


Figure 1.1. A published Luo-English book written in the Ndiko Jonam (Luo Lakeside) script. See Reference 1 in Section VII.

በር, ሲሆን ይህም የጥያቄው አይነት ነው!!

👍 0 👎 0 ⚠️ Flag 💬 Reply

Ge_d

👍 0 👎 0 ⚠️ Flag 💬 Reply

ငါ့အဖေကလည်း ခုနစ်နှစ်ခွဲ အသက်မှာ ကျန်းမာရေး ပြောင်းလဲခဲ့ရတယ်။

👍 0 👎 0 ⚠️ Flag 💬 Reply

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

👍 0 👎 0 ⚠️ Flag 💬 Reply

۶۹۶۸۶۱

👍 0 👎 0 ⚠️ Flag 💬 Reply

ፌዴራል ግዴታ ለሀገር ለሕዝብ ለሰላም ለብሔራዊ
 ልማት ለብሔራዊ ልማት ለብሔራዊ ልማት ለብሔራዊ ልማት

👍 0 👎 0 ⚠️ Flag 💬 Reply

👍 0 👎 0 ⚠️ Flag 💬 Reply

အဲဒါနဲ့ပဲ သူက ပုံမှန်အတိုင်း နေထိုင်နေရဖို့ အတွက် ငွေကြေးနဲ့ အခြား
အရာတွေကို ချွေးချွေးနီနီနဲ့ ရရှိနေရတာပဲ။ ပိုမိုအားနည်းနေတာပဲ !

👍 0 👎 0 ⚠️ Flag 💬 Reply

Figure 2. Online forum

428 Luo [Dholuo]

LUO

Southern Luo dialect with 4.2 million speakers in Kenya and Tanzania. Sinistrodextral (left-to-right-reading) Luo Lakeside script shown, developed by Kefa Ombewa. *Kik iyany nyang' ka pod in ei pi.* ("Do not insult the crocodile when you are still in the water.")

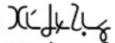
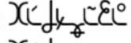
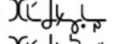
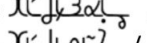
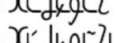
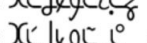
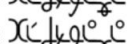
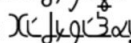
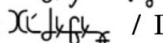
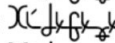
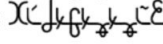
- 01:  / Dumacel
 02:  / Dumariyo
 03:  / Dumadek
 04:  / Dumangwen
 05:  / Dumabic
 06:  / Dumabichel
 07:  / Dumabiro
 08:  / Dumaboro
 09:  / Dumabungwen
 10:  / Dumaapar
 11:  / Dumaaparacel
 12:  / Dumaaparariyo
-

Figure 3. The Ndiko Jonam (Luo Lakeside) script used in a published book, "The Twelve Months of the Year in 850 Languages and Dialects". See Reference 2 in Section VII.

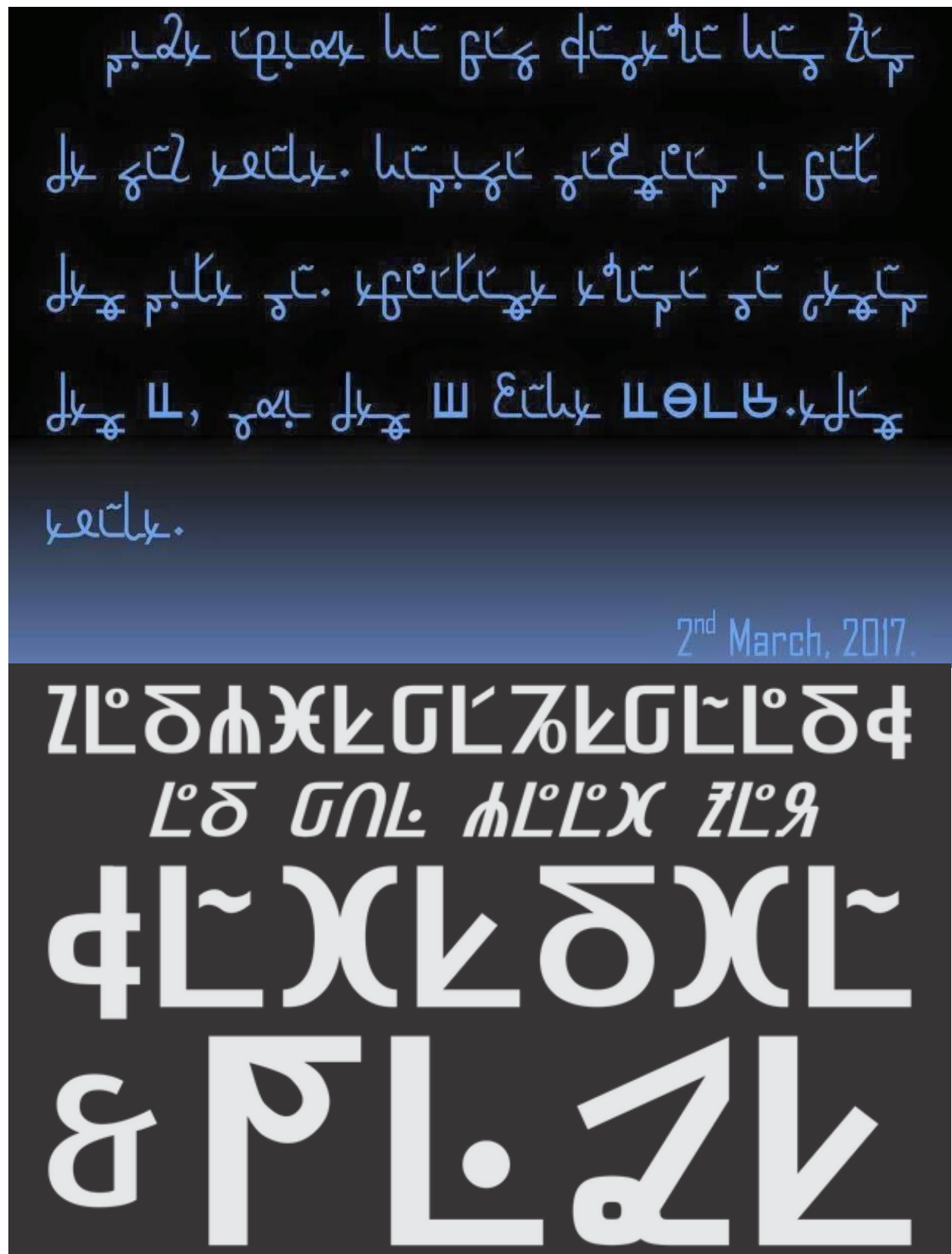


Figure 4. Digital images of text shared online.

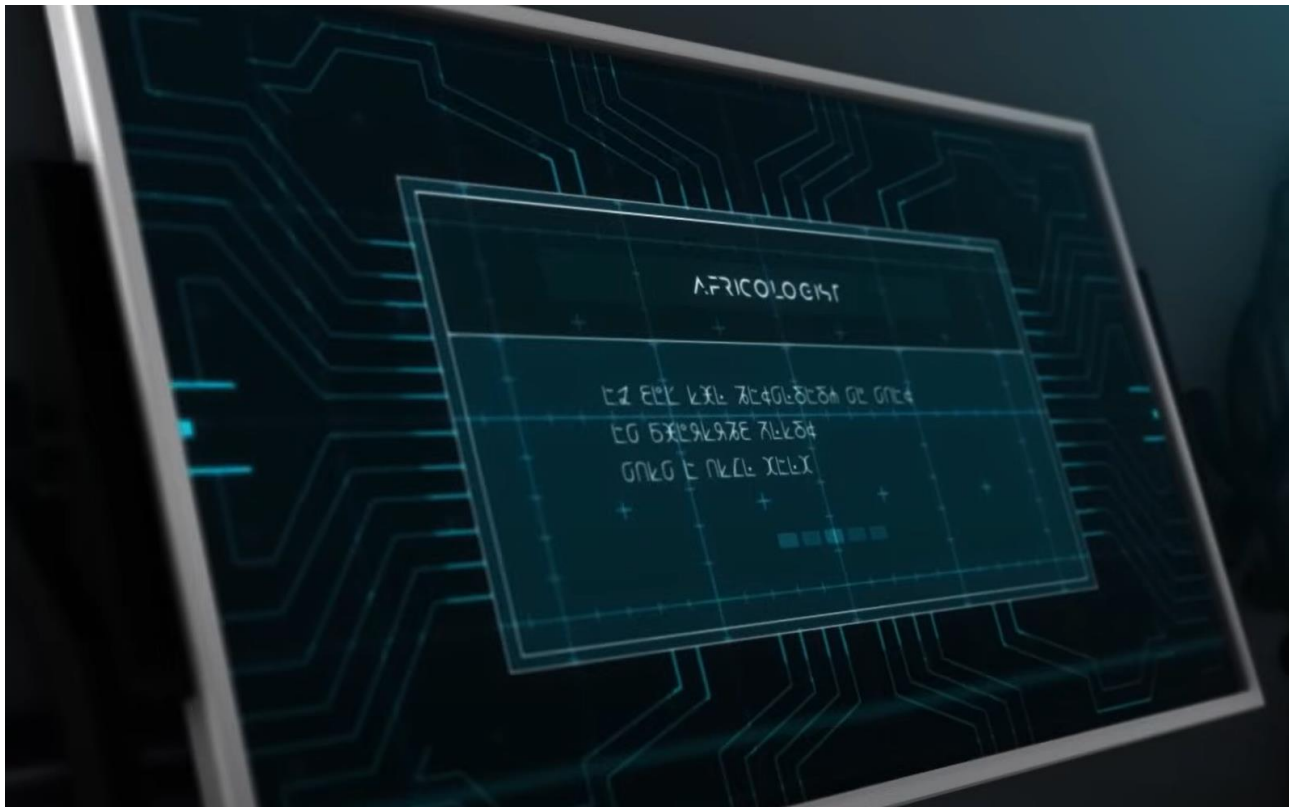


Figure 5. The Ndiko Jonam script used in *"The Africologist"*, a documentary on African history, science, and technology. See Reference 3 in Section VII.

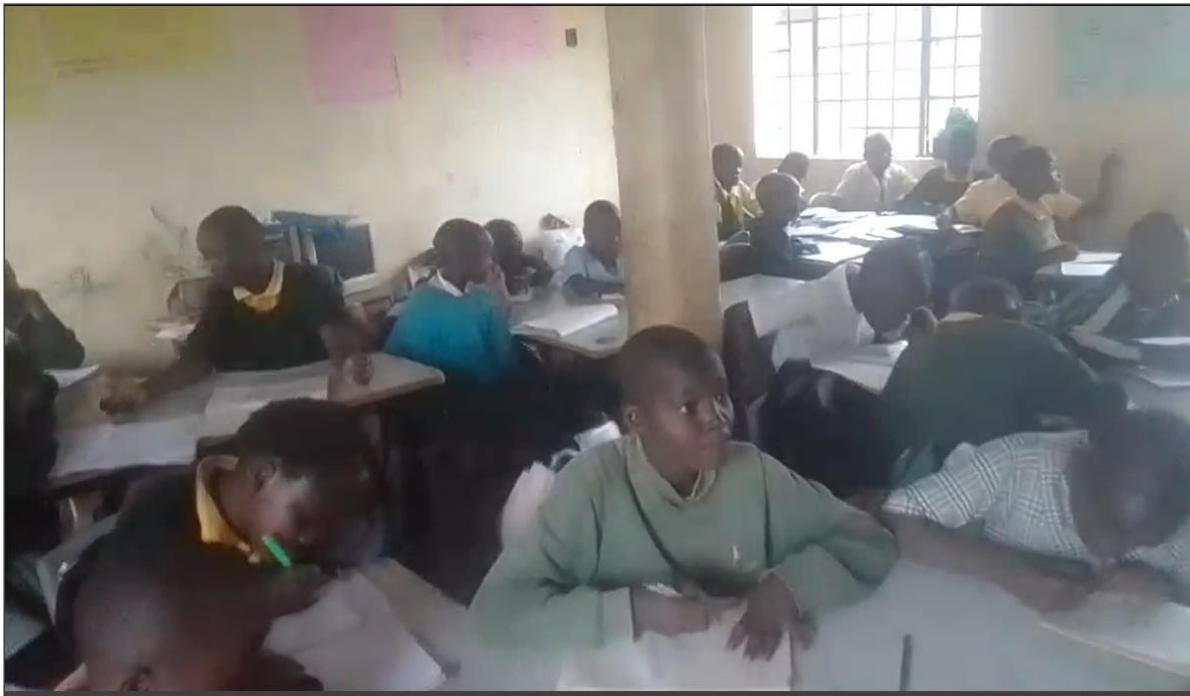


Figure 6.1. Classroom educated in the Ndiko Jonam script at Captain's Choice Academy in Kanyimach Village, Kogenya Shopping Centre, Migori County, Kenya.



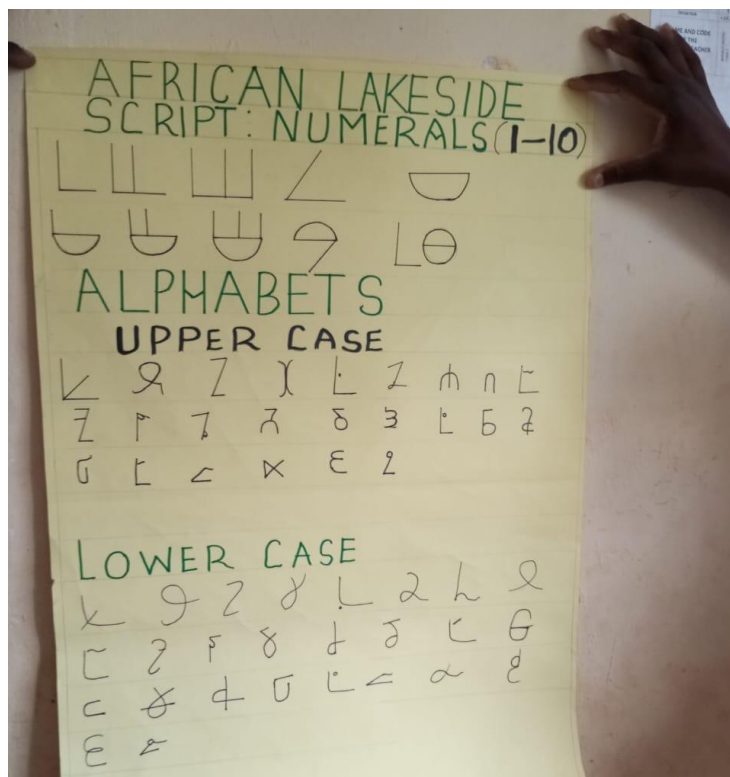
Figure 6.2. Captain's Choice Academy Kenya (CCAK).



Figure 7. (Left) Botswana Secondary School Principal Ndinaane displays a dual Hindu-Arabic numeral and Ndiko Jonam numeral clock. (Right) Mrs. Johnson of Nxakato Junior Secondary School Sowa Town Botswana with a t-shirt using the Ndiko Jonam script.



Figure 8. Stand of Ndiko Jonam (Luo Lakeside) script users promoting the script.



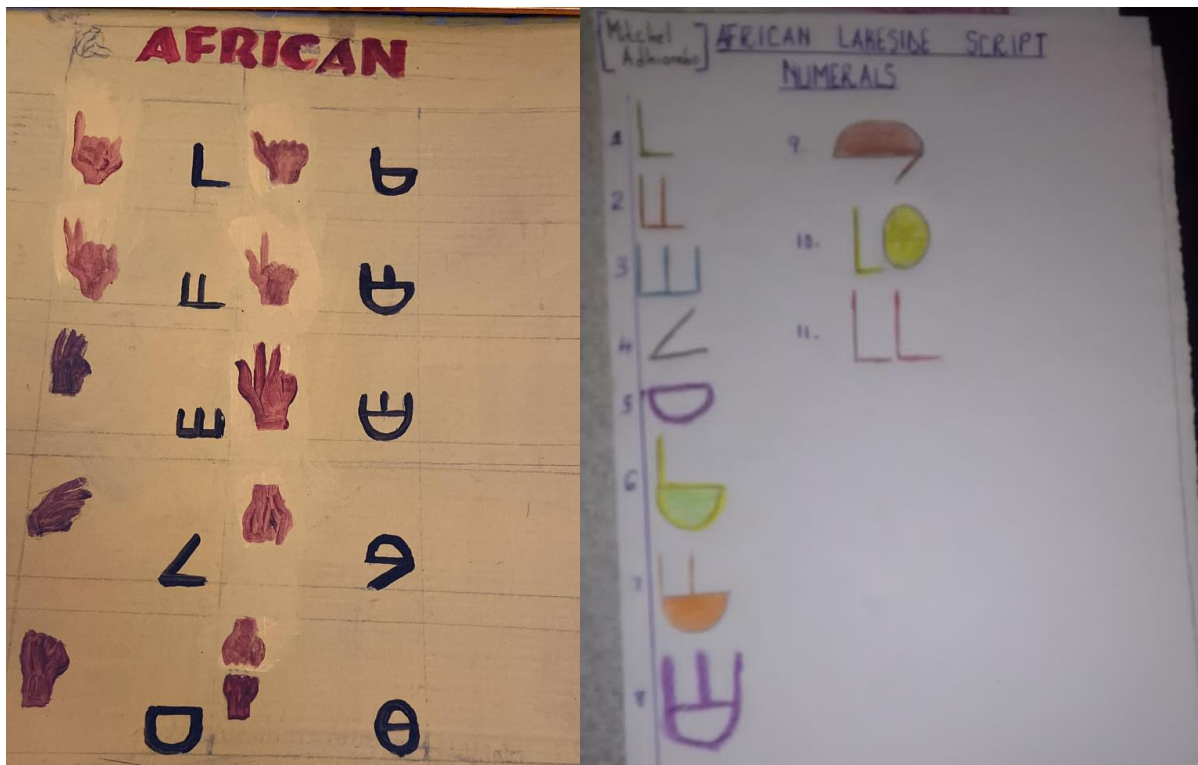


Figure 9. Various charts teachers use in classes.

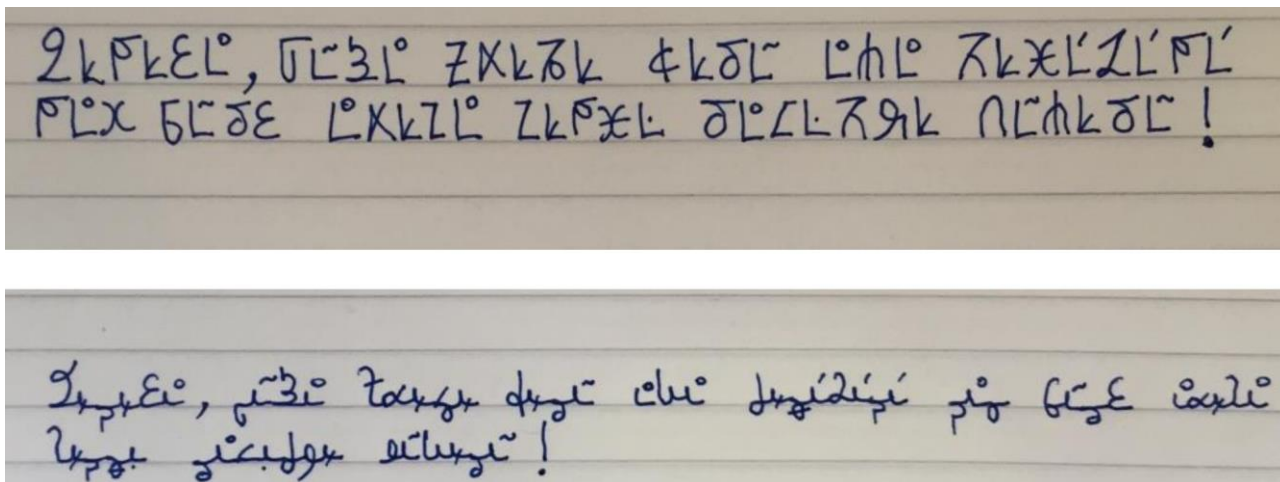


Figure 10. Excerpt: A handwritten sentence in the Ndiko Jonam script in uppercase (top) and lowercase (bottom).

Latin transliteration: zakayo, ting'o jwala sani ogo marufuku kod piny owacho chakre novemba higani!

English translation: "Zakayo, polythene carrier bags are banned by the government from November this year!"

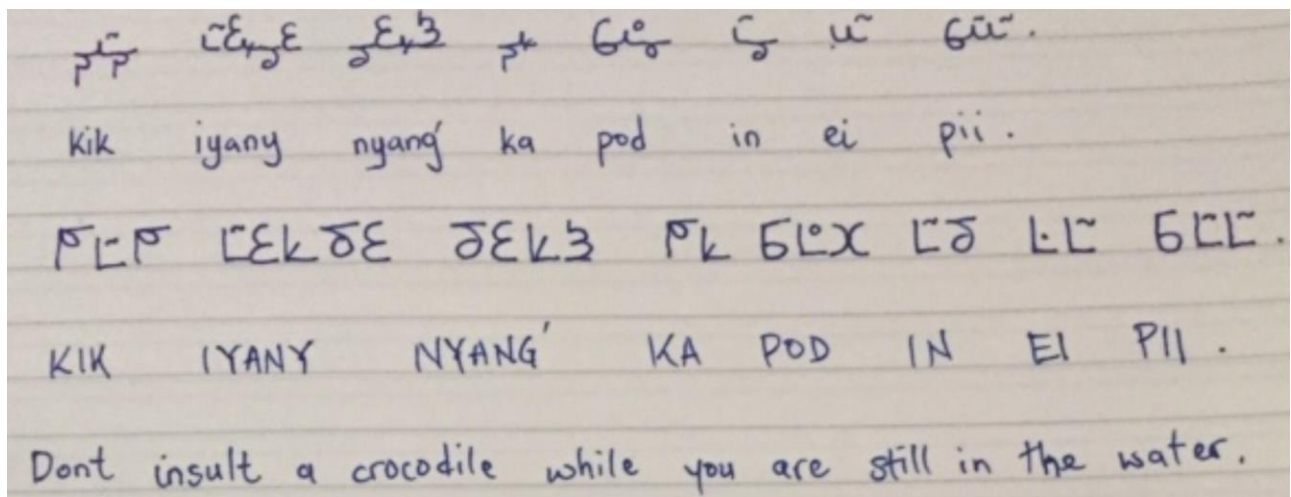


Figure 11. Excerpt: A Luo proverb written in the Ndiko Jonam script in uppercase (top) and lowercase (bottom).



Figure 12. Digital media of 2023 New Year's celebration in the Ndiko Jonam script.

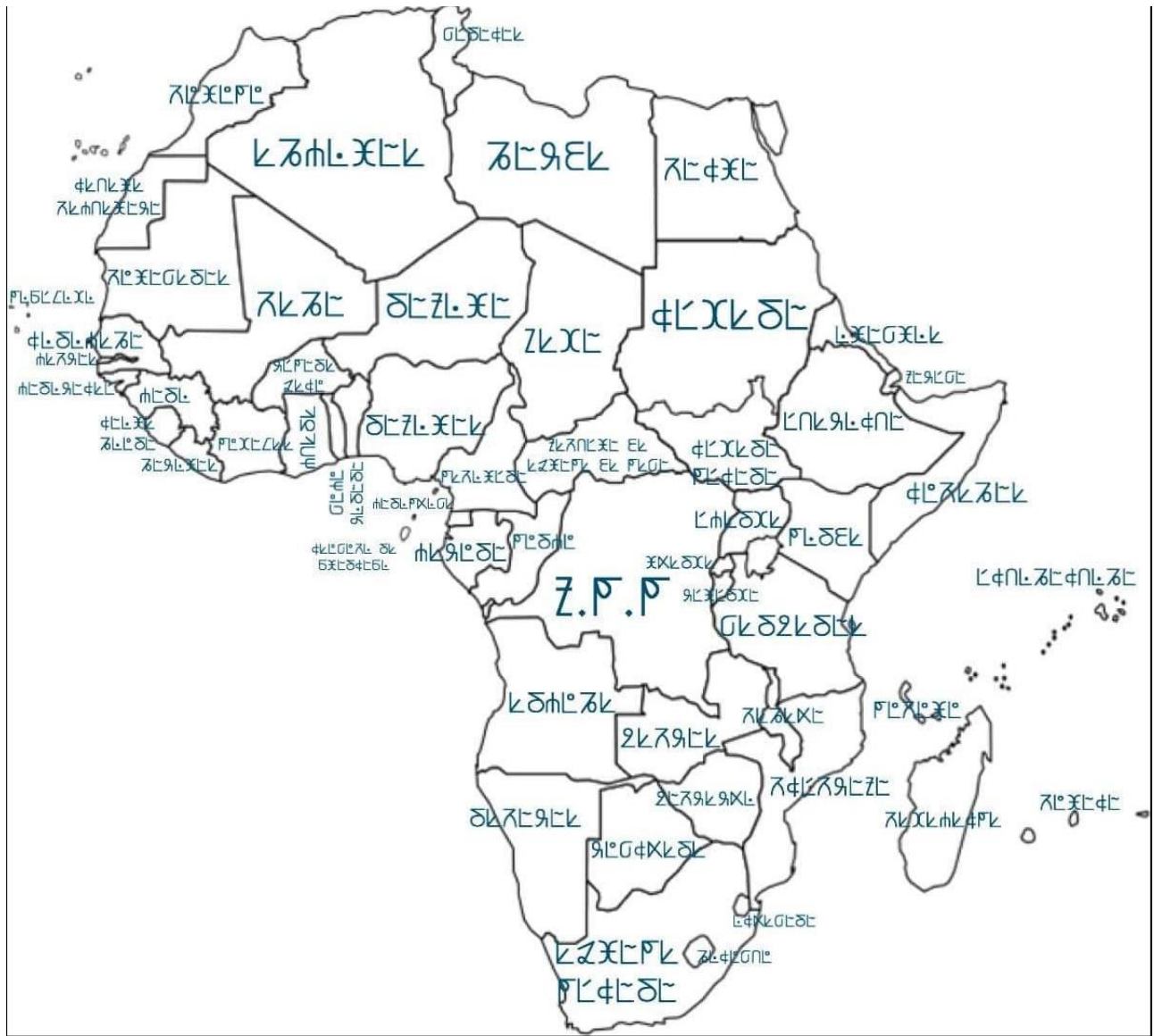


Figure 13. Map of Africa in the Ndiko Jonam script.

- [illegible]

Figure 14. Video teaching the Ndiko Jonam script. See Reference 23 in Section VII.

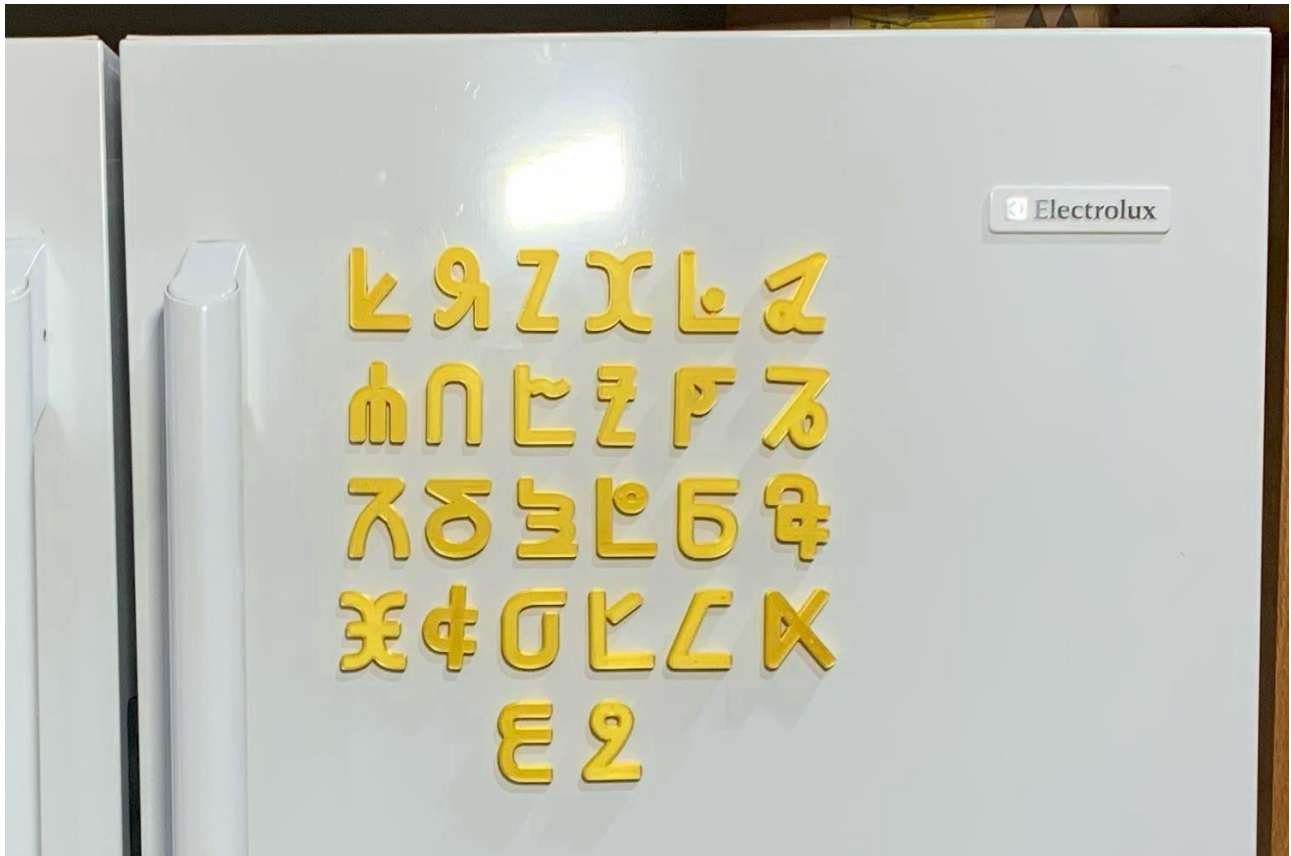


Figure 15. Magnets of Ndiko Jonam letters.



Figure 16. Works from artists using Ndiko Jonam calligraphy (top-left of both images).

Wuodwa, kik ibed gi samuoyo. Itimo tich maber kabisa. Kaponi abedo jatelo mar
Luo, abiro hakikisha ni ndiko miloso ni ema ibiro tiyogo e puiny Luo.

Figure 18. Text shared online.

Latin transliteration: “Wuodwa, kik ibed gi samuoyo. Itimo tich maber kabisa. Kaponi abedo jatelo mar Luo, abiro hakikisha ni ndiko miloso ni ema ibiro tiyogo e puiny Luo.”

English translation: “Our son, do not falter. You have done a good job. If I become a leader of the Luo, I will ensure the writing is the one to be used in Luoland.”

Amala isa keessa inni guddaan nama gargaruudha = (His greatest attribute is helping others)
 ኣለኦ ንቀ ምዚቀቐ ንሓር ኣረጋገኡ ዕሽ ሓጺሓጺብ

Amantaa cimaan qaba = I have a firm belief
 ኣለኦብኡ ቀርኢኡ ጭዳ

Amma dammaqun narra jiraataa? = Do I have to get up now?
 ኣለኦ ጸባሽቁጭ ዕጽጽ ጸጽኡብ?

Amma yeroon meeqa? = What time is it?
 ኣለኦ ደረጃ ሓላ?

Amma iyyuu muggaan jira = I am still sleepy
 ኣለኦ ርዩሮ ሓረከኡ ጸጽ

Please = Tafadhali
 ሀጺብኛር

Please write it down. = Waweza kuiandika.
 ጸሓፊ ምርኢኡኒሮ.

Do you speak English? = Unazungumza Kingereza?
 ርዕዢኡኒሮ ምርኢኡኒሮ?

Do you speak Swahili? = Unazungumza Kiswahili?
 ርዕዢኡኒሮ ምርኢኡኒሮ?

Sorry = Samahani
 ቀረብኒር



Figure 17. Video screenshot of Oromo (top) and Swahili (bottom) being written in the Ndiko Jonam script. See Reference 6-7 in Section VII.

X ISO Proposal Summary Forms

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://std.dkuug.dk/JTC1/SC2/WG2/docs/principles.html> for guidelines and details before filling this form.

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

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

A. Administrative

1. Title:	Proposal to Encode the Ndiko Jonam Script in the UCS		
2. Requester's name:	Oreen Yousuf		
3. Requester type (Member body/Liaison/Individual contribution):	Individual contribution		
4. Submission date:	2025 December 26		
5. Requester's reference (if applicable):	oreen.yousuf@gmail.com		
6. Choose one of the following:			
This is a complete proposal:			Yes
(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):			Yes
Proposed name of script:			
b. The proposal is for addition of character(s) to an existing block:			No
Name of the existing block:			
2. Number of characters in proposal:			69
3. Proposed category (select one from below - see section 2.2 of P&P document):			
A-Contemporary	☒	B.1-Specialized (small collection)	☐
C-Major extinct	☐	D-Attested extinct	☐
F-Archaic Hieroglyphic or Ideographic	☐	G-Obscure or questionable usage symbols	☐
4. Is a repertoire including character names provided?			Yes
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?			Yes
b. Are the character shapes attached in a legible form suitable for review?			Yes
5. Fonts related:			
a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?	Kefa Ombewa		
b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):	Kefa Ombewa, kefa.ombewa@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)?			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

¹ Form number: N4502-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)

Mark Up contexts, Compatibility equivalence and other Unicode normalization related information. See the Unicode standard at <http://www.unicode.org> for such information on other scripts. Also see Unicode Character Database (<http://www.unicode.org/reports/tr44/>) and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard.

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?	Yes
If YES explain	<i>Short proposal submitted - L2/19-268</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.)?	Yes
If YES, with whom?	<i>User community; script creator(s)</i>
If YES, available relevant documents:	<i>Enclosed in this proposal</i>
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included?	Yes
Reference:	<i>Enclosed in this proposal</i>
4. The context of use for the proposed characters (type of use; common or rare)	Rare
Reference:	<i>Enclosed in this proposal</i>
5. Are the proposed characters in current use by the user community?	Yes
If YES, where? Reference:	<i>Kenya (various parts) and Botswana (mainly Lobatse)</i>
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?	No
If YES, is a rationale provided?	
If YES, reference:	
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)?	Yes
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to, or could be confused with, an existing character?	No
If YES, is a rationale for its inclusion provided?	
If YES, reference:	
11. Does the proposal include use of combining characters and/or use of composite sequences?	No
If YES, is a rationale for such use provided?	
If YES, reference:	
Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided?	
If YES, reference:	
12. Does the proposal contain characters with any special properties such as control function or similar semantics?	No
If YES, describe in detail (include attachment if necessary)	
13. Does the proposal contain any Ideographic compatibility characters?	No
If YES, are the equivalent corresponding unified ideographic characters identified?	
If YES, reference:	