

# Revised proposal to encode the Lampung script in Unicode

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## 1 Introduction

This is a revised and expanded version of my “Preliminary proposal to encode the Lampung script in Unicode” (L2/16-073). The fundamental aspects of the proposal remain unchanged: the repertoire is stable and reflects the modern standard form of the Lampung script. The major change is the addition of script-specific digits and punctuation, which were not part of the preliminary repertoire due to lack of information available to me in 2016. Several new specimens showing modern usage of the script have been included. This revision also addresses comments made by the Script Ad Hoc group in L2/16-216.

The Lampung (ꦭꦩꦥꦁ) script is actively used in south Sumatra, Indonesia for writing the Austronesian language, or ‘dialect cluster’, known as Lampung. There are roughly 1.5 million native speakers of Lampung Api (ISO 639-3: 1jp) and Lampung Nyo (ISO 639-3: ab1). The script is related to the Rejang, Batak, Sundanese, and other writing systems of Indonesia. Like its siblings, Lampung developed from the Pallava script, which was introduced in Sumatra during the Srivijaya period in the 6th century CE, and ultimately traces its ancestry to Brahmi.

The script is referred to as ꦭꦩꦥꦁ *had lampung* and ꦭꦩꦥꦁ ꦲꦏ꧀ꦱꦫ ꦭꦩꦥꦁ *aksara lampung*, which use terms for ‘script’ derived, respectively, from Arabic خط *ḥaṭ* → *had* and Sanskrit अक्षर *akṣara* → *aksara*. Another term is ꦭꦩꦥꦁ ꦏꦒꦤꦒ ꦏꦒꦤꦒ *kaganga*, which is based on the names of the first three letters of the repertoire: *ka*, *ga*, *nga*. This term is not specific to Lampung, but is also used for other Sumatran scripts, such as Rejang.

The Lampung script was standardized by a committee of Lampung language experts and community leaders on February 23, 1985 (Udin, et al. 1992: 91). The standard was modeled on the prevalent form of Lampung, as shown in the *Almanak Sumatera Terbitan* of 1969 (see figure 8). Charts of the standard script from different publications are presented in figures 2–7. In addition to standardization, the script is supported by the Lampung provincial government, which considers the Lampung language and script to be core aspects of Lampung culture. The “Lampung Provincial Regulation No. 2 of 2008 on Lampung Cultural Maintenance” states in Article 7, that the Lampung language and script are to be promoted and developed; and in Article 8, that the introduction of education in the Lampung language and script starts in kindergarten and is maintained through secondary school (Suri 2015: 145).

There is active usage, education, scholarship, research on the Lampung script, as well as ongoing digital adaption of it:

- The script is used in official insignia and signage in Lampung province, and the script was published in almanacs (see figure 8).
- It was extensively documented by Dutch colonial scholars, who collected and published historical documents, along with charts of the script, starting in the 18th century (see Marsden 1784; van der Tuuk 1868; Holle 1882).
- Indonesian scholars have published widely on the Lampung script (see Udin, et al 1992; Pudjiastuti 1996, 2014; Suri 2015). As have western scholars, such as Christopher Miller, who described the script in Unicode Technical Note #35 “Indonesian and Philippine Scripts and Extensions” (2010).
- The British Library has been involved in the digitization of Lampung manuscripts and records since 2015. High resolution images of these sources have been made publicly available in the Library’s digital archives (see figure 21 for a sample).
- The script was used for inscriptions, eg. headstones (figure 37) and genealogical plaques (figure 38).
- The script is the focus of technical research, such as optical-character recognition (OCR) models (see Junaidi, et al, 2011, 2013; Sholeh, et al, 2018).
- Typographical studies of the script have been published (see Indrayati and Migotuwio 2020).
- It is featured regularly in Indonesian media (see Hasanah 2019).
- Several mobile apps have been developed for teaching and learning the script (see figure 33).
- Lampung speakers actively create YouTube videos for teaching and learning the script (see figure 31).
- Typographers and artists from the Lampung communiy have developed digital fonts, with several stylized representations of the script (see figure 36).
- Various input methods have been designed for Lampung, from digital keyboard apps (see figure 32) to physical analog keyboards (Vina 2021).

Several users have conveyed a desire for the inclusion of Lampung in Unicode. They wish to see Lampung content displayed natively on their devices, and suggest how common apps may look when localized for the script (see a mock-up of the Microsoft Windows start screen and Facebook landing page in figures 34, 35). The absence of support of Lampung hinders the efforts of scholars, such as Indra Gunawan, who is developing a dictionary of Lampung and requires the ability to encode linguistic data in the script. Furthermore, the existing Lampung fonts are mapped to Latin or Rejang codepoints, which certainly provide for the display of the script, but do not offer distinctive representations of Lampung in plain text alongside other scripts of Indonesia. Users who wish to exchange text use mobile apps to take snapshots formatted Lampung, then send the image to recipients (see figure 33).

Including Lampung in Unicode will support the orthographic, education, and cultural standards of Lampung province and enable users to use, develop, and preserve their script and language using technologies of the 21st century.

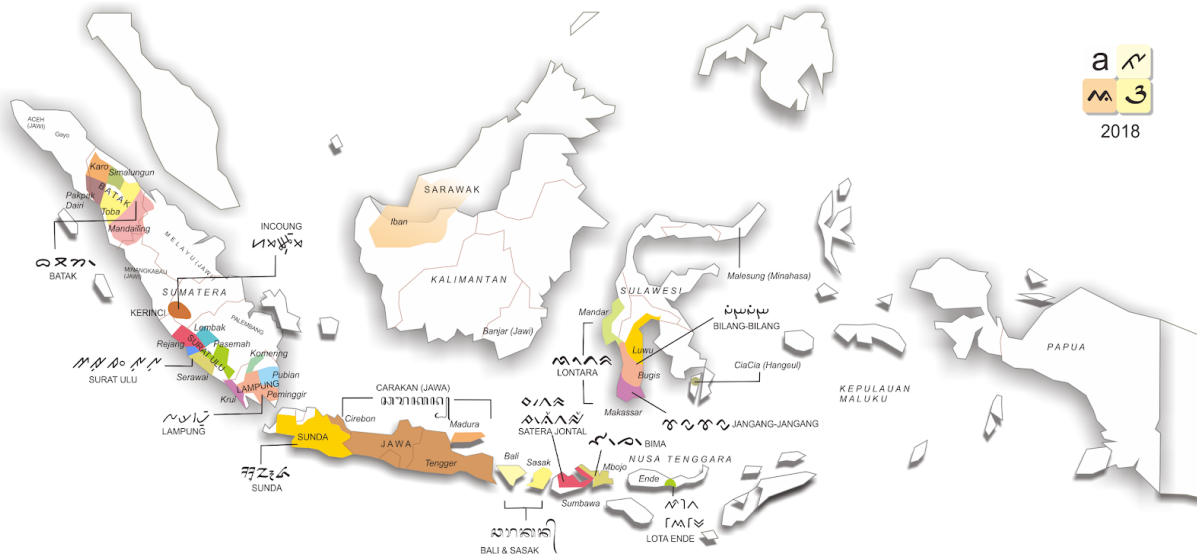


Figure 1: Regional writing systems of Indonesia, with Lampung highlighted.  
<https://writingtradition.blogspot.com/2020/01/pemetaan-aksara-aksara-di-nusantara.html>

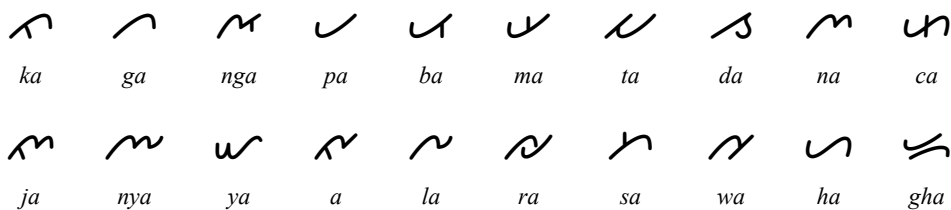
## 2 Script Details

Lampung is an alphasyllabic script that is written from left to right. Its repertoire consists of 49 characters:

- 19 consonant letters
- 1 vowel letter / vowel-carrier
- 7 dependent vowel signs
- 1 vowel-silencing sign
- 4 consonant signs
- 10 digits
- 7 script-specific punctuation signs

### 2.1 Core letters and signs

Each consonant letter possesses the inherent vowel /a/. The vowel letter *a* has the default value /a/, but functions as a vowel-carrier.



Vowels are represented using dependent combining signs. The basic vowel signs *-i*, *-u*, *-e*, *-o* are named using a combination of their anchor position (*ulan* = above; *bitan* = below) and their sound value. The above-base vowel signs may be written either centered above the base or at the top left edge. Below-base signs are generally centered below the base. The signs *tekelingai* and *tekelungau* represent the diphthongs *ai* and *au*, but also represent *i* and *u* when used as secondary vowel signs. The *nengen* is used for suppressing the inherent vowel.

<i>ulan i</i>	<i>bitan u</i>	<i>ulan e</i>	<i>bitan o</i>	<i>bicek e</i>	<i>tekelingai</i>	<i>tekelungau</i>	<i>nengen</i>
/i/	/u/	/e/	/o/	/ə/	/ai/, /i/	/au/, /u/	∅

There are four consonant signs that represent syllable-final (coda) consonants. These signs may be written centered above the base or at the top right edge.

<i>rejunjung</i>	<i>tekelubang</i>	<i>datas</i>	<i>keleniah</i>
/r/	/ŋ/	/n/	/h/

## 2.2 Digits

Lampung has a set of script-specific digits known as *angka lampung*:

0	1	2	3	4	5	6	7	8	9

The digits are part of the standard script and appear on a stone inscription that is housed in the Museum Lampung, along with the standard letters (see figure 2). They are used alongside the Hindu-Arabic digits.

## 2.3 Punctuation signs

Lampung has script-specific punctuation signs (see figure 7). Traditional signs used in old documents are:

start of text sign	end of text sign

The is used at the beginning of texts and is used for indicating the end of text or end of a section within a text (see figure 21).

There are also modern punctuation signs attested in hand-written documents and typeset materials:



















<i>beradu</i>	<i>kuma</i>	<i>kutip</i>	<i>seru</i>	<i>tanya</i>
full stop	comma	quotation mark	exclamation sign	question mark



These are contemporary creations. The Lampung comma and full stop are commonly used, but the quotation mark, exclamation sign, and question mark are less frequently used. The common Latin analogues of the latter three are more typically used nowadays. Figure 22 shows contemporary usage of the signs. Figure 39 uses contrastive usage of the modern Lampung and Latin punctuation signs. Conventional Latin punctuation signs, such as parentheses, are also commonly used today.

## 2.4 Historical Variants

Historically, several consonants were written using different letters (see samples below). Some of these letters may be true alternate forms used for representing the same consonant sounds in within certain areas of south Sumatra and in different time periods; others may be glyphic or stylistic variants. Examples of such historical forms are shown in the documents published by van der Tuuk (1868), presented in figures 11–14. The alternate letters are not used at present.

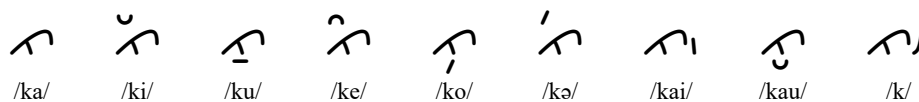
	<i>ba</i>	<i>ma</i>	<i>da</i>	<i>ca</i>	<i>ja</i>	<i>nya</i>	<i>ra</i>	<i>sa</i>	<i>wa</i>
standard									
alternate									

## 2.5 Orthography

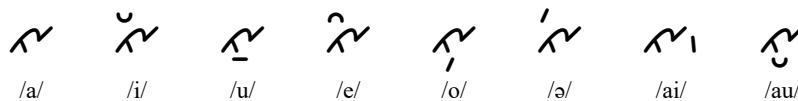
The basic structures of Lampung orthographic syllables are:

$$\begin{aligned} \text{consonantal syllable} & C_{\text{letter}} [ [V_{\text{sign-1}} [V_{\text{sign-2}}]] [C_{\text{sign}}] | [M_{\text{nengen}}] ] \\ \text{initial vowel} & V_{\text{letter}} [ [V_{\text{sign-1}} [V_{\text{sign-2}}]] [C_{\text{sign}}] ] \end{aligned}$$

Examples of CV and CM<sub>nengen</sub> are given below.



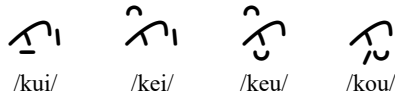
Examples of independent or initial vowels are shown below; the *nengen* is not used with the vowel-carrier.



CVV syllables contain diphthongs that are expressed using *tekelingai* and *tekelungau* as a secondary vowel following a basic vowel sign. In such contexts they have the values *i* and *u*. Initial or independent forms of such diphthongs would be:



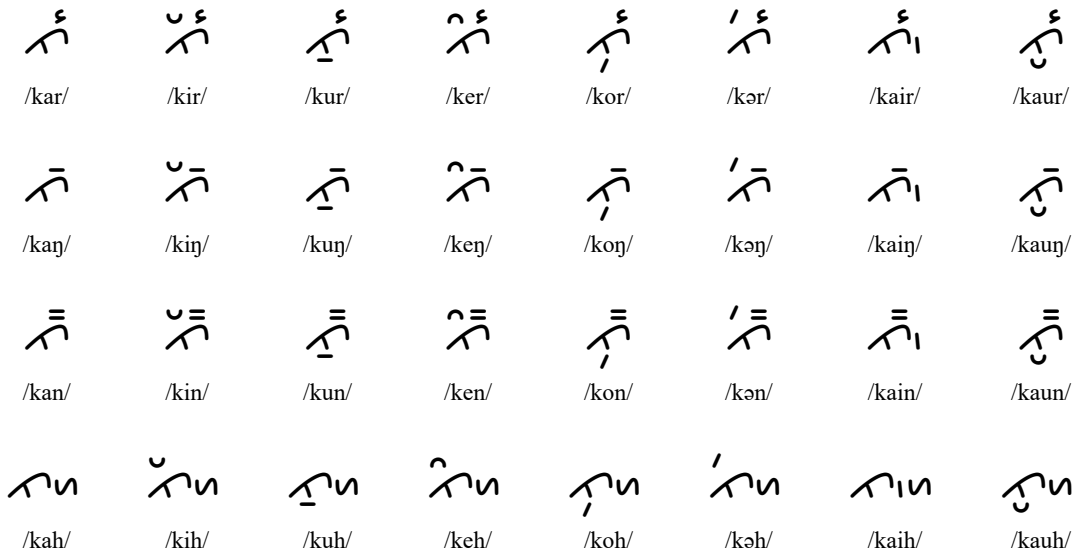
In consonantal syllables, they would appear as:



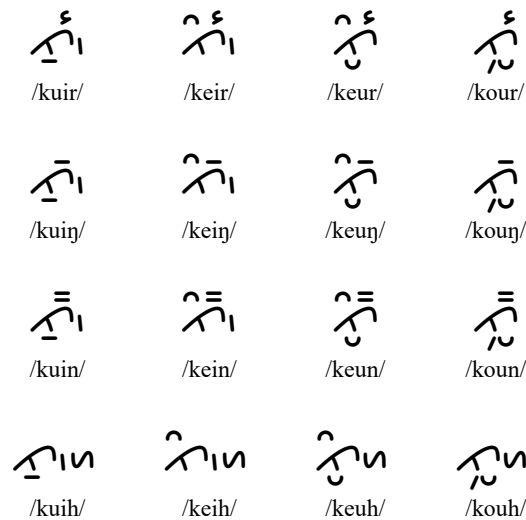
The consonant signs combine with letters as follows:



A full paradigm of CVC orthographic syllables with *ka* is shown below:



Shown below is the full paradigm of CVVC orthographic syllables:



### 3 Relationship to Other Scripts

As part of the South Sumatran script family, Lampung is related to the Rejang script, which is also known as ‘Surat Ulu’. A comparison of modern, conventional forms of Lampung and Rejang show that the two scripts are based on a common palaeographical template, much like the Brahmi-based scripts of South Asia. But, their modern forms possess several unique characteristics in terms of letterforms and ductus, which establish them as distinctive scripts. A comparison of the modern forms of Lampung and Rejang is given below:

Lampung										
Rejang										
Lampung										
Rejang										
Lampung										
Rejang										
Lampung										
Rejang										

The differences in angularity vs roundedness is not simply glyphic, but these features are an integral aspect of the overall graphical identity of the scripts. The graphical differences between Lampung and Rejang are illustrated in common sources, such as the modern street signs shown below:



Street sign in Lampung script



Street sign in Rejang script

Apart from palaeographical, orthographic, and visual distinctions between Lampung and Rejang, the two script differ in the degree of internal variation. Modern standard Lampung had extremely minimal to no variation in letterforms. On the other hand, as described by M. Mahali Syarifuddin in “Towards an Encoding for Surat Ulu” (L2/21-116), there is a good degree of variation within the modern Rejang script.

## 4 Proposed Encoding

### 4.1 Encoding model

The encoding model for Lampung builds upon the basic Brahmi model:

- Consonant letters serve as base characters for combining signs
- Dependent vowels, final-consonants, and the vowel silencer are defined as combining signs
- A maximum of two vowel signs may attach to a base letter
- Only one final-consonant sign may attach to a base letter
- The vowel-silencing sign cannot occur concurrently with another combining sign
- The vowel-silencing sign is analogous to VIRAMA, but it not a conjunct control character
- An orthographic syllable is composed in the logical sequence: base, vowel signs, final consonant sign

### 4.2 Character repertoire

The proposed ‘Lampung’ block contains 49 characters. It has been tentatively allocated four columns in the Supplementary Multilingual Plane (SMP) at U+15B00..U+15B3F. The remaining code points are reserved for the potential encoding of historical forms of characters.

Unicode character names for consonants letters are based on sound values, while those for vowel signs are based on traditional names and sound values.

#### Letters

Character	Character Name	Value	Name
𑌀	LAMPUNG LETTER KA	/k/	<i>ka</i>
𑌁	LAMPUNG LETTER GA	/g/	<i>ga</i>
𑌂	LAMPUNG LETTER NGA	/ŋ/	<i>nga</i>
𑌃	LAMPUNG LETTER PA	/p/, /f/	<i>pa</i>
𑌄	LAMPUNG LETTER BA	/b/	<i>ba</i>
𑌅	LAMPUNG LETTER MA	/m/	<i>ma</i>
𑌆	LAMPUNG LETTER TA	/t/	<i>ta</i>
𑌇	LAMPUNG LETTER DA	/d/	<i>da</i>
𑌈	LAMPUNG LETTER NA	/n/	<i>na</i>
𑌉	LAMPUNG LETTER CA	/tʃ/	<i>ca</i>
𑌊	LAMPUNG LETTER JA	/dʒ/	<i>ja</i>
𑌋	LAMPUNG LETTER NYA	/ɲ/	<i>nya</i>
𑌌	LAMPUNG LETTER YA	/j/	<i>ya</i>

ꦲ	LAMPUNG LETTER A	/a/, Ø	<i>a</i>
ꦱ	LAMPUNG LETTER LA	/l/	<i>la</i>
ꦫ	LAMPUNG LETTER RA	/r/	<i>ra</i>
ꦱꦺ	LAMPUNG LETTER SA	/s/, /z/	<i>sa</i>
ꦱꦮ	LAMPUNG LETTER WA	/w/	<i>wa</i>
ꦱꦲ	LAMPUNG LETTER HA	/h/, /kh/	<i>ha</i>
ꦱꦲꦁ	LAMPUNG LETTER GHA	/gr/, /ɣ/	<i>gha</i>

### Dependent Vowel Signs

Character	Character Name	Value	Name
ꦲꦶ	LAMPUNG VOWEL SIGN I	/i/	<i>ulan i</i>
ꦲꦸ	LAMPUNG VOWEL SIGN U	/u/	<i>bitan u</i>
ꦲꦺ	LAMPUNG VOWEL SIGN E	/e/	<i>ulan e</i>
ꦲꦺꦴ	LAMPUNG VOWEL SIGN O	/o/	<i>bitan o</i>
ꦲꦺꦴꦺ	LAMPUNG VOWEL SIGN EA	/ə/	<i>bicek e</i>
ꦲꦺꦴꦲ	LAMPUNG VOWEL SIGN AI	/ai/	<i>tekelingai</i>
ꦲꦺꦴꦲꦸ	LAMPUNG VOWEL SIGN AU	/au/	<i>tekelungau</i>

### Virama

Character	Character Name	Value	Name
ꦲꦶꦱ	LAMPUNG SIGN NENGEN	Ø	<i>nengen</i>

### Final Consonant Signs

Character	Character Name	Value	Name
ꦲꦶꦱꦸꦱ	LAMPUNG FINAL CONSONANT SIGN R	/-r/	<i>rejunjung</i>
ꦲꦶꦱꦸꦱꦺꦴ	LAMPUNG FINAL CONSONANT SIGN NG	/-ŋ/	<i>tekelubang</i>
ꦲꦶꦱꦸꦱꦺꦴꦺ	LAMPUNG FINAL CONSONANT SIGN N	/-n/	<i>datas</i>
ꦲꦶꦱꦸꦱꦺꦴꦲ	LAMPUNG FINAL CONSONANT SIGN H	/-h/	<i>keleniah</i>

**Digits**

Character	Character Name	Value	Name
◦	LAMPUNG DIGIT ZERO	0	
᠑	LAMPUNG DIGIT ONE	1	<i>sai</i>
᠒	LAMPUNG DIGIT TWO	2	<i>khua</i>
᠓	LAMPUNG DIGIT THREE	3	<i>telu</i>
᠔	LAMPUNG DIGIT FOUR	4	<i>pak</i>
᠕	LAMPUNG DIGIT FIVE	5	<i>lima</i>
᠖	LAMPUNG DIGIT SIX	6	<i>nom</i>
᠗	LAMPUNG DIGIT SEVEN	7	<i>pitu</i>
᠘	LAMPUNG DIGIT EIGHT	8	<i>walu</i>
᠙	LAMPUNG DIGIT NINE	9	<i>siwa</i>

**Punctuation**

Character	Character Name	Value	Name
᠘ᠠ	LAMPUNG START OF TEXT SIGN		
᠘ᠢ	LAMPUNG END OF TEXT SIGN		
◦	LAMPUNG FULL STOP	.	<i>beradu, titik</i>
᠌	LAMPUNG FULL COMMA	,	<i>kuma</i>
᠎ᠠ	LAMPUNG QUOTATION	”	<i>kutip</i>
᠎ᠢ	LAMPUNG EXCLAMATION SIGN	!	<i>seru</i>
᠎ᠣ	LAMPUNG QUESTION SIGN	?	<i>tanya</i>

Notes on the proposed repertoire:

- The vowel sign *bicek e* has been assigned the character name LAMPUNG VOWEL SIGN EA
- The representative glyphs for above-base vowel signs show the signs anchored to the dotted circle at a position that would be relative to the top-left edge of the base letter
- Although the LAMPUNG START OF TEXT SIGN and LAMPUNG END OF TEXT SIGN are not generally used in modern documents, they are included in order to enable the complete encoding of texts.

### 4.3 Collation

The sort order for Lampung is as follows:

ꦏ KA < ꦒ GA < ꦏ NGA < ꦥ PA < ꦨ BA < ꦩ MA < ꦠ TA < ꦢ DA <  
 ꦏ NA < ꦕ CA < ꦗ JA < ꦏ NYA < ꦮ YA < ꦏ A < ꦭ LA < ꦫ RA <  
 ꦱ SA < ꦮ WA < ꦕ HA < ꦒ GHA < ꦲ VOWEL SIGN I < ꦳ VOWEL SIGN U <  
 ꦲ VOWEL SIGN E < ꦴ VOWEL SIGN O < ꦲ VOWEL SIGN EA < ꦲ VOWEL SIGN AI <  
 ꦲ VOWEL SIGN AU < ꦲ FINAL CONSONANT SIGN R < ꦲ FINAL CONSONANT SIGN NG <  
 ꦲ FINAL CONSONANT SIGN N < ꦲ FINAL CONSONANT SIGN H < ꦲ SIGN NENGEN

### 4.4 Linebreaking

Linebreaks may occur after an orthographic syllable. Hyphens or other marks indicating continuance are not used.

### 4.5 Spacing and Punctuation

Spaces are commonly used between words in modern Lampung texts.

In addition to the Lampung-specific punctuation signs, the following common Latin punctuation signs are used: parentheses, question mark, exclamation mark.

### 4.6 Ordering of Combining Sign Sequences

A valid orthographic syllable (§ 2.5) consists of a base letter, which can carry up to two vowel signs and one final consonant sign. This syllable is composed in the logical order: base letter, followed by vowel sign, then final-consonant sign. For example:

ꦏꦲꦏꦏ /ken/ < ꦏ KA, ꦲ VOWEL SIGN E, ꦲ FINAL CONSONANT SIGN N >

When the ꦲ LAMPUNG VOWEL SIGN AI occurs in a syllable, it is naturally placed to the right of the base letter. If ꦲ LAMPUNG FINAL CONSONANT SIGN R or ꦲ LAMPUNG FINAL CONSONANT SIGN NG or ꦲ LAMPUNG FINAL CONSONANT SIGN N also occur in the syllable, then the final-consonant sign attaches above the base. Such a combination results in the graphical display of the LAMPUNG VOWEL SIGN AI after the final-consonant sign. Nonetheless, in the encoded representation of the syllable, the characters should be input in the logical (or spoken) order, not the visual order:

ꦏꦲꦲꦲ /kain/ < ꦏ KA, ꦲ VOWEL SIGN AI, ꦲ FINAL CONSONANT SIGN N >

This also applies to syllables that contain two vowel signs for representing a diphthong:

ꦏꦲꦲꦲꦲ /kein/ < ꦏ KA, ꦲ VOWEL SIGN E, ꦲ VOWEL SIGN AI, ꦲ FINAL CONSONANT SIGN N >

## 4.7 Positioning of Combining Signs

While there are no set rules for the specific anchor positions of above-base and below-base combining signs, some conventions may be gleaned from typographic studies of Lampung, as well as hand-written and printed sources.

Above-base vowel signs may be written at the top left edge of the base letter or centered above:

top left	center	
		< KA, ◌̩ VOWEL SIGN I >
		< KA, ◌̥ VOWEL SIGN E >
		< KA, ◌̇ VOWEL SIGN EA >

Below-base vowel signs are centered beneath the base letter:

center	
	< KA, ◌̩̇ VOWEL SIGN U >
	< KA, ◌̥̇ VOWEL SIGN O >
	< KA, ◌̇̇ VOWEL SIGN AU >

Above-base final-consonant signs may be written at the top right edge of the base letter or centered above:

top right	center	
		< KA, ◌̩̇̇ FINAL CONSONANT SIGN R >
		< KA, ◌̥̇̇ FINAL CONSONANT SIGN NG >
		< KA, ◌̇̇̇ FINAL CONSONANT SIGN N >

When a multiple signs with the same position attach to a base, the graphical positioning of signs follows the logical input order: vowel signs, then final consonants to the right. In the same of two vowel signs, the logical order is preserved in the graphical display.

	< KA, ◌̥̇ VOWEL SIGN E, ◌̩̇̇ FINAL CONSONANT SIGN R >
	< KA, ◌̥̇ VOWEL SIGN O, ◌̇̇̇ VOWEL SIGN AU, ◌̩̇̇̇ FINAL CONSONANT SIGN R >



## 4.8 Characters Not Proposed

As the proposed basic encoding for Lampung is based on the standard form, the historical alternates or variants described in § 2.4 are not included in the Unicode repertoire. Additional research is required in order to understand the usage of historical letters, and to determine if they are distinctive letters or if they were used concurrently with modern letters. If there is a requirement to represent these historical letters in plain text, then a proposal to encode them may be submitted in the future.

## 5 Typographic Features

Please see Indrayati and Migotuwio (2000) for details on the typographic structure, anatomy, and design considerations for Lampung letterforms, some of which is presented here in figures 18–20.

## 6 Character Data

**Character Properties:** UnicodeData.txt

```

15B00;LAMPUNG LETTER KA;Lo;0;L;;;;N;;;;;
15B01;LAMPUNG LETTER GA;Lo;0;L;;;;N;;;;;
15B02;LAMPUNG LETTER NGA;Lo;0;L;;;;N;;;;;
15B03;LAMPUNG LETTER PA;Lo;0;L;;;;N;;;;;
15B04;LAMPUNG LETTER BA;Lo;0;L;;;;N;;;;;
15B05;LAMPUNG LETTER MA;Lo;0;L;;;;N;;;;;
15B06;LAMPUNG LETTER TA;Lo;0;L;;;;N;;;;;
15B07;LAMPUNG LETTER DA;Lo;0;L;;;;N;;;;;
15B08;LAMPUNG LETTER NA;Lo;0;L;;;;N;;;;;
15B09;LAMPUNG LETTER CA;Lo;0;L;;;;N;;;;;
15B0A;LAMPUNG LETTER JA;Lo;0;L;;;;N;;;;;
15B0B;LAMPUNG LETTER NYA;Lo;0;L;;;;N;;;;;
15B0C;LAMPUNG LETTER YA;Lo;0;L;;;;N;;;;;
15B0D;LAMPUNG LETTER A;Lo;0;L;;;;N;;;;;
15B0E;LAMPUNG LETTER LA;Lo;0;L;;;;N;;;;;
15B0F;LAMPUNG LETTER RA;Lo;0;L;;;;N;;;;;
15B10;LAMPUNG LETTER SA;Lo;0;L;;;;N;;;;;
15B11;LAMPUNG LETTER WA;Lo;0;L;;;;N;;;;;
15B12;LAMPUNG LETTER HA;Lo;0;L;;;;N;;;;;
15B13;LAMPUNG LETTER GHA;Lo;0;L;;;;N;;;;;
15B14;LAMPUNG VOWEL SIGN I;Mn;0;NSM;;;;N;;;;;
15B15;LAMPUNG VOWEL SIGN U;Mn;0;NSM;;;;N;;;;;
15B16;LAMPUNG VOWEL SIGN E;Mc;0;L;;;;N;;;;;
15B17;LAMPUNG VOWEL SIGN O;Mc;0;L;;;;N;;;;;
15B18;LAMPUNG VOWEL SIGN EA;Mc;0;L;;;;N;;;;;
15B19;LAMPUNG VOWEL SIGN AI;Mc;0;L;;;;N;;;;;
15B1A;LAMPUNG VOWEL SIGN AU;Mc;0;L;;;;N;;;;;
15B1B;LAMPUNG FINAL CONSONANT SIGN R;Mc;0;L;;;;N;;;;;
15B1C;LAMPUNG FINAL CONSONANT SIGN NG;Mc;0;L;;;;N;;;;;
15B1D;LAMPUNG FINAL CONSONANT SIGN N;Mc;0;L;;;;N;;;;;
15B1E;LAMPUNG FINAL CONSONANT SIGN H;Mc;0;L;;;;N;;;;;

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15B1F;LAMPUNG SIGN NENGEN;Mc;9;L;;;N;;;
15B20;LAMPUNG DIGIT ZERO;Nd;0;L;;0;0;N;;;
15B21;LAMPUNG DIGIT ONE;Nd;0;L;;1;1;1;N;;;
15B22;LAMPUNG DIGIT TWO;Nd;0;L;;2;2;2;N;;;
15B23;LAMPUNG DIGIT THREE;Nd;0;L;;3;3;3;N;;;
15B24;LAMPUNG DIGIT FOUR;Nd;0;L;;4;4;4;N;;;
15B25;LAMPUNG DIGIT FIVE;Nd;0;L;;5;5;5;N;;;
15B26;LAMPUNG DIGIT SIX;Nd;0;L;;6;6;6;N;;;
15B27;LAMPUNG DIGIT SEVEN;Nd;0;L;;7;7;7;N;;;
15B28;LAMPUNG DIGIT EIGHT;Nd;0;L;;8;8;8;N;;;
15B29;LAMPUNG DIGIT NINE;Nd;0;L;;9;9;9;N;;;
15B2A;LAMPUNG START OF TEXT SIGN;Po;0;L;;;N;;;
15B2B;LAMPUNG END OF TEXT SIGN;Po;0;L;;;N;;;
15B2C;LAMPUNG FULL STOP;Po;0;L;;;N;;;
15B2D;LAMPUNG COMMA;Po;0;L;;;N;;;
15B2E;LAMPUNG QUOTATION;Po;0;L;;;N;;;
15B2F;LAMPUNG EXCLAMATION SIGN;Po;0;L;;;N;;;
15B30;LAMPUNG QUESTION MARK;Po;0;L;;;N;;;

```

**Linebreaking Properties:** LineBreak.txt

```

15B00..15B13;AL # Lo [20] LAMPUNG LETTER KA .. LAMPUNG LETTER GHA
15B14..15B1D;CM # Mn [10] LAMPUNG VOWEL SIGN I .. LAMPUNG CONSONANT SIGN N
15B1E..15B1F;CM # Mc [2] LAMPUNG FINAL CONSONANT SIGN H .. LAMPUNG SIGN NENGEN
15B20..15B29;NU # Nd [10] LAMPUNG DIGIT ZERO..LAMPUNG DIGIT NINE
15B2A..15B30;BA # Po [7] LAMPUNG START OF TEXT SIGN..LAMPUNG QUESTION MARK

```

**Syllabic Categories:** IndicSyllabicCategory.txt

```

# Indic_Syllabic_Category=Vowel_Dependent
15B14..15B18 ; Vowel_Dependent # Mn [5] LAMPUNG VOWEL SIGN I..
LAMPUNG VOWEL SIGN EA
15B19 ; Vowel_Dependent # Mc LAMPUNG VOWEL SIGN AI
15B1A ; Vowel_Dependent # Mn LAMPUNG VOWEL SIGN AU

# Indic_Syllabic_Category=Consonant
15B00..15B0C ; Consonant # Lo [13] LAMPUNG LETTER KA..LAMPUNG LETTER YA
15B0E..15B13 ; Consonant # Lo [6] LAMPUNG LETTER LA..LAMPUNG LETTER GHA

# Indic_Syllabic_Category=Vowel_Independent
15B0D ; Vowel_Independent # Lo LAMPUNG LETTER A

# Indic_Syllabic_Category=Pure_Killer
15B1F ; Pure_Killer # Mc LAMPUNG SIGN NENGEN

# Indic_Syllabic_Category=Consonant_Final
15B1B..15B1E ; Consonant_Final # Mn [4] LAMPUNG FINAL CONSONANT SIGN R..
LAMPUNG FINAL CONSONANT SIGN H

```

**Positional Categories:** IndicPositionalCategory.txt

```

# Indic_Positional_Category=Right
15B19      ; Right      # Mc      LAMPUNG VOWEL SIGN AI
15B1E      ; Right      # Mc      LAMPUNG FINAL CONSONANT SIGN H
15B1F      ; Right      # Mc      LAMPUNG SIGN NENGEN

# Indic_Positional_Category=Top
15B14      ; Top        # Mn      LAMPUNG VOWEL SIGN I
15B16      ; Top        # Mn      LAMPUNG VOWEL SIGN E
15B18      ; Top        # Mn      LAMPUNG VOWEL SIGN EA
15B1B      ; Top        # Mn      LAMPUNG FINAL CONSONANT SIGN R
15B1C      ; Top        # Mn      LAMPUNG FINAL CONSONANT SIGN NG
15B1D      ; Top        # Mn      LAMPUNG FINAL CONSONANT SIGN N

# Indic_Positional_Category=Bottom
15B15      ; Bottom     # Mn      LAMPUNG VOWEL SIGN U
15B17      ; Bottom     # Mn      LAMPUNG VOWEL SIGN O
15B1A      ; Bottom     # Mn      LAMPUNG VOWEL SIGN AU

```

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













































van der Tuuk, Hermanus Neubronner. 1868. *Les manuscrits Lampongs: en possession de M. le Baron Sloet van de Beele, (ancien gouverneur-general des indes neerlandaises)*. Leide: T. Hooiberg et fils, Libraires-editeurs.

## 8 Acknowledgments

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- Indra Gunawan shared his plans for creating a digital Lampung dictionary and his requirements for including Lampung in Unicode.
- Lisa Mislani provided me with information about modern usage of the script in 2016.
- Titik Pudjiastuti shared materials about the script with me.
- IMUG (International Multilingual User Group), to whom I presented the Lampung script as part of my talk in March 2016 in San Jose, California. I would like to extend my appreciation to the audience for their questions and feedback.

This effort to include Lampung in Unicode has been made possible in part by funding from the Adopt-A-Character program of the Unicode Consortium and the effort is supervised by Deborah Anderson and Andrew Glass.

	15B0	15B1	15B2	15B3
0	 15B00	 15B10	 15B20	 15B30
1	 15B01	 15B11	 15B21	
2	 15B02	 15B12	 15B22	
3	 15B03	 15B13	 15B23	
4	 15B04	 15B14	 15B24	
5	 15B05	 15B15	 15B25	
6	 15B06	 15B16	 15B26	
7	 15B07	 15B17	 15B27	
8	 15B08	 15B18	 15B28	
9	 15B09	 15B19	 15B29	
A	 15B0A	 15B1A	 15B2A	
B	 15B0B	 15B1B	 15B2B	
C	 15B0C	 15B1C	 15B2C	
D	 15B0D	 15B1D	 15B2D	
E	 15B0E	 15B1E	 15B2E	
F	 15B0F	 15B1F	 15B2F	

*Also known as Aksara Lampung and Had Lampung.*

### Consonants

15B00	↖	LAMPUNG LETTER KA
15B01	↗	LAMPUNG LETTER GA
15B02	↘	LAMPUNG LETTER NGA
15B03	↙	LAMPUNG LETTER PA
15B04	↘	LAMPUNG LETTER BA
15B05	↙	LAMPUNG LETTER MA
15B06	↘	LAMPUNG LETTER TA
15B07	↙	LAMPUNG LETTER DA
15B08	↘	LAMPUNG LETTER NA
15B09	↙	LAMPUNG LETTER CA
15B0A	↘	LAMPUNG LETTER JA
15B0B	↙	LAMPUNG LETTER NYA
15B0C	↘	LAMPUNG LETTER YA
15B0D	↙	LAMPUNG LETTER A
		• vowel carrier
15B0E	↘	LAMPUNG LETTER LA
15B0F	↙	LAMPUNG LETTER RA
15B10	↘	LAMPUNG LETTER SA
15B11	↙	LAMPUNG LETTER WA
15B12	↘	LAMPUNG LETTER HA
15B13	↙	LAMPUNG LETTER GHA

### Vowel signs

15B14	⊖	LAMPUNG VOWEL SIGN I
		• ulan i
15B15	⊖	LAMPUNG VOWEL SIGN U
		• bitan u
15B16	⊖	LAMPUNG VOWEL SIGN E
		• ulan e
15B17	⊖	LAMPUNG VOWEL SIGN O
		• bitan o
15B18	⊖	LAMPUNG VOWEL SIGN EA
		• bicek e
15B19	⊖	LAMPUNG VOWEL SIGN AI
		• tekelingai
15B1A	⊖	LAMPUNG VOWEL SIGN AU
		• telelungau

### Final consonant signs

15B1B	⊖	LAMPUNG FINAL CONSONANT SIGN R
		• rejunjung
15B1C	⊖	LAMPUNG FINAL CONSONANT SIGN NG
		• tekelubang
15B1D	⊖	LAMPUNG FINAL CONSONANT SIGN N
		• datas
15B1E	⊖	LAMPUNG FINAL CONSONANT SIGN H
		• keleniah

### Virama

15B1F	⊖	LAMPUNG SIGN NENGEN
		• virama
		• does not produce conjuncts

### Digits

15B20	⊖	LAMPUNG DIGIT ZERO
15B21	⊖	LAMPUNG DIGIT ONE
15B22	⊖	LAMPUNG DIGIT TWO
15B23	⊖	LAMPUNG DIGIT THREE
15B24	⊖	LAMPUNG DIGIT FOUR
15B25	⊖	LAMPUNG DIGIT FIVE
15B26	⊖	LAMPUNG DIGIT SIX
15B27	⊖	LAMPUNG DIGIT SEVEN

15B28	⊖	LAMPUNG DIGIT EIGHT
15B29	⊖	LAMPUNG DIGIT NINE

### Punctuation

15B2A	⊖	LAMPUNG START OF TEXT SIGN
15B2B	⊖	LAMPUNG END OF TEXT SIGN
15B2C	⊖	LAMPUNG FULL STOP
15B2D	⊖	LAMPUNG COMMA
15B2E	⊖	LAMPUNG QUOTATION MARK
15B2F	⊖	LAMPUNG EXCLAMATION MARK
15B30	⊖	LAMPUNG QUESTION MARK

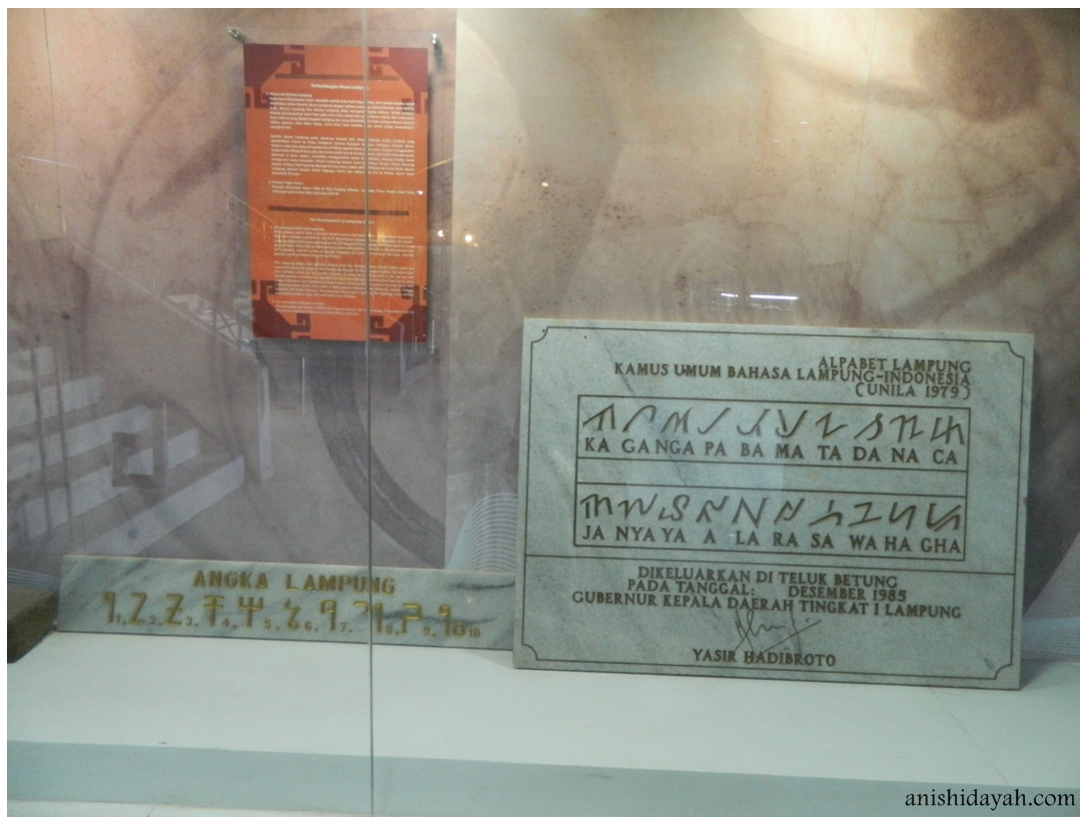


Figure 2: Stone inscription dated December 1985, housed in the Museum Lampung, showing the letters of the modern standard Lampung script, with the signature of Yasir Hadibroto, the governor of Lampung province, 1978–1988. The smaller plaque (left) shows the *angka lampung*, or a set of Lampung digits. Photo by Anis Hidayah, 2019. Image source:

<http://www.anishidayah.com/2019/07/belajar-budaya-dan-aksara-di-museum.html>



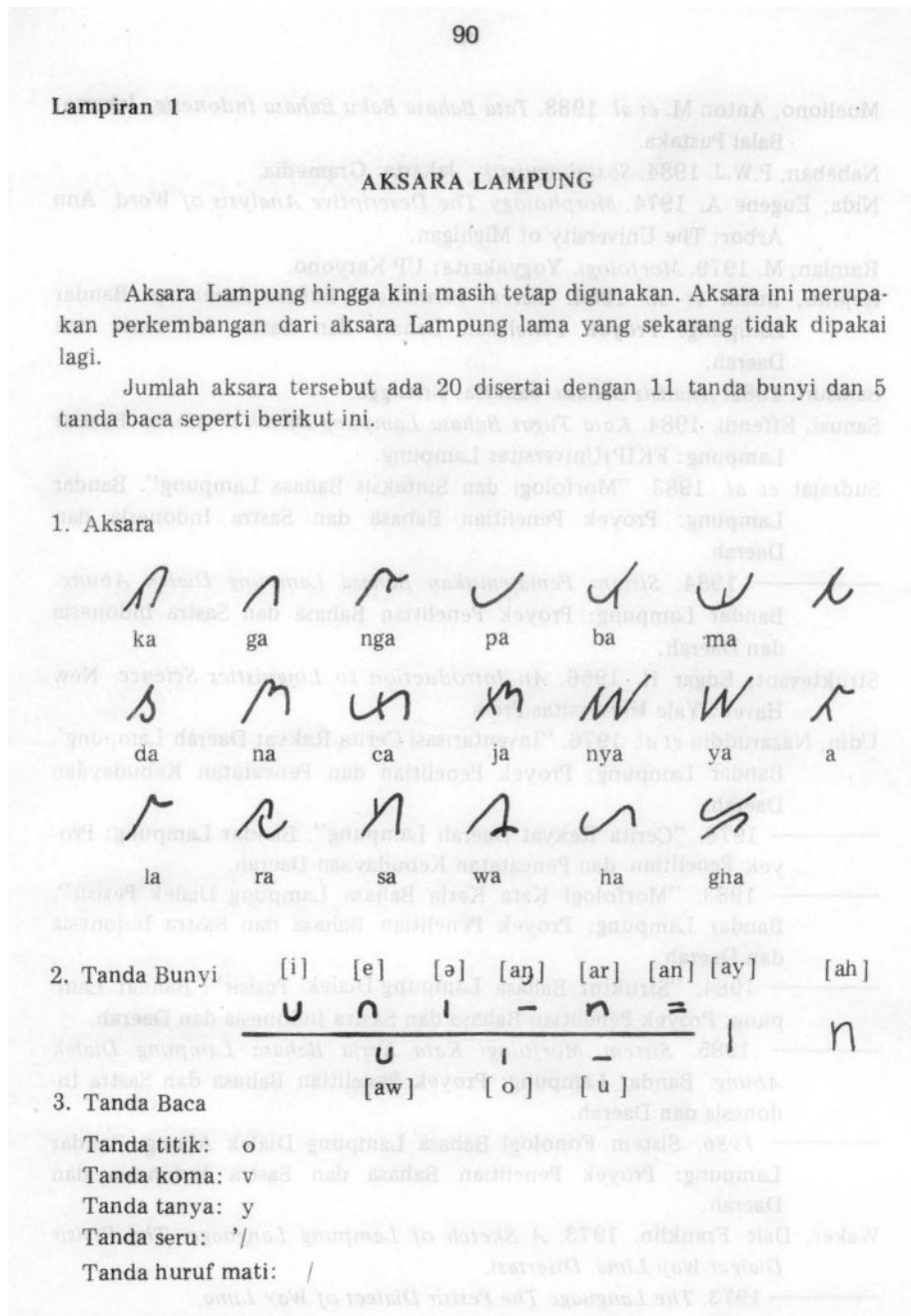


Figure 3: Chart showing the official form of Lampung letters used in Indonesia (from Udin, et al. 1992: 90).

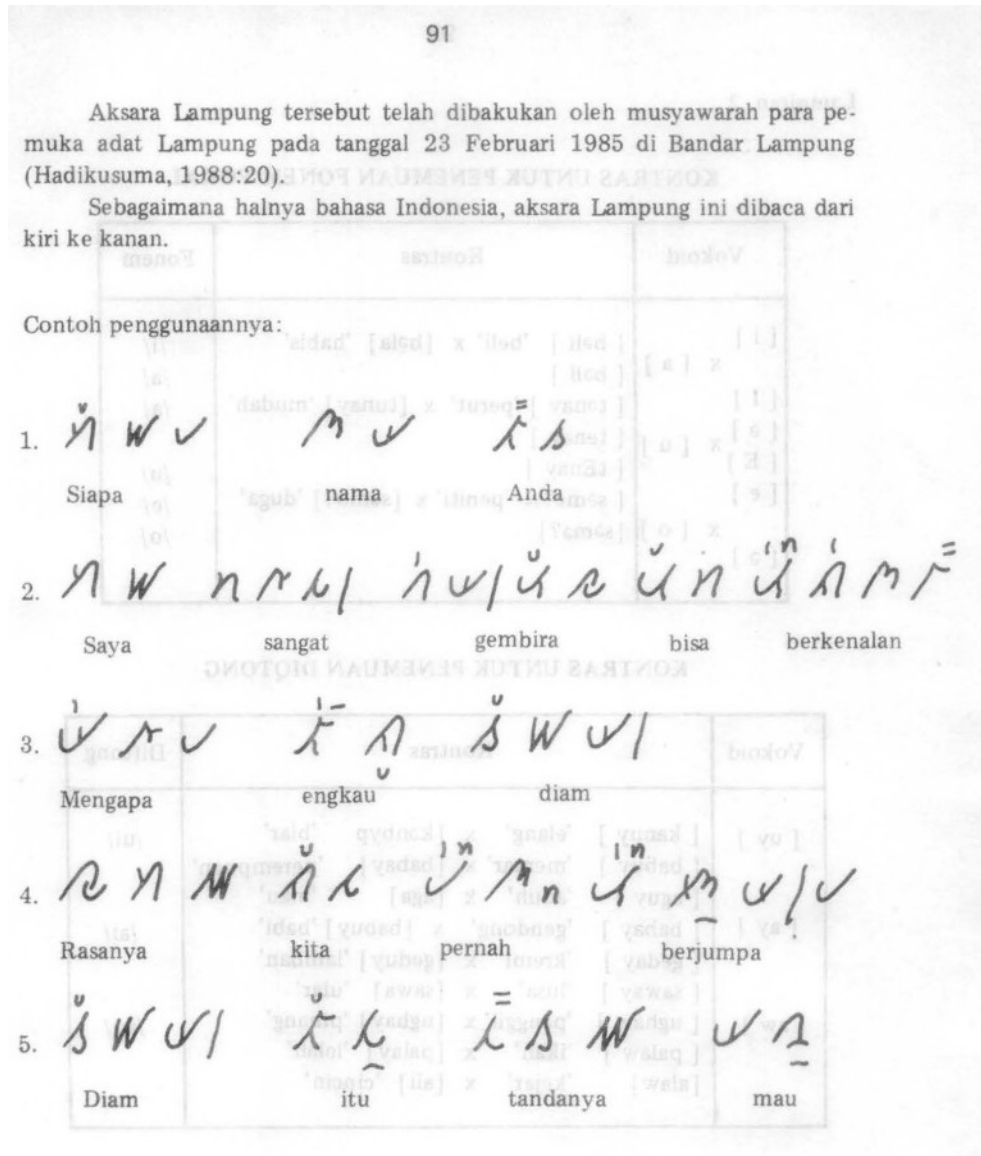


Figure 4: Hand-written examples of words in the Lampung script (from Udin, et al. 1992: 91). The text at top states that “the Lampung script was standardized during a meeting of Lampung traditional leaders on February 23, 1985”.

tanduk kerbau, dan sebagainya. Pada masa kini, orang Lampung asli yang dapat membaca atau menulis tulisan Lampung lama sudah sangat jarang sekali, mungkin tinggal orang tua-tua saja. Contoh bentuk tulisan Lampung Lama yang tertulis dalam naskah kuna dapat diuhat dalam lampiran.

### 5.2.2 Aksara Lampung Sekarang

Aksara Lampung Sekarang merupakan perkembangan dari aksara Lampung Lama. Menurut Razi Arifin bahwa bentuk tulisan Lampung sudah dikenal dan dipakai oleh masyarakat Lampung sejak tahun tiga puluhan.

Aksara Lampung sekarang berjumlah 20 huruf, dengan tambahan satu huruf gra. Bentuk tulisan dan beberapa tanda bunyi dan tanda bacanya juga berbeda dengan bentuk tulisan Lampung lama. Untuk itu orang yang dapat membaca jenis tulisan Lampung sekarang belum tentu dapat membaca tulisan Lampung lama. Selain itu faktor bahasa juga menjadi kendalanya.

#### Aksara Lampung Sekarang

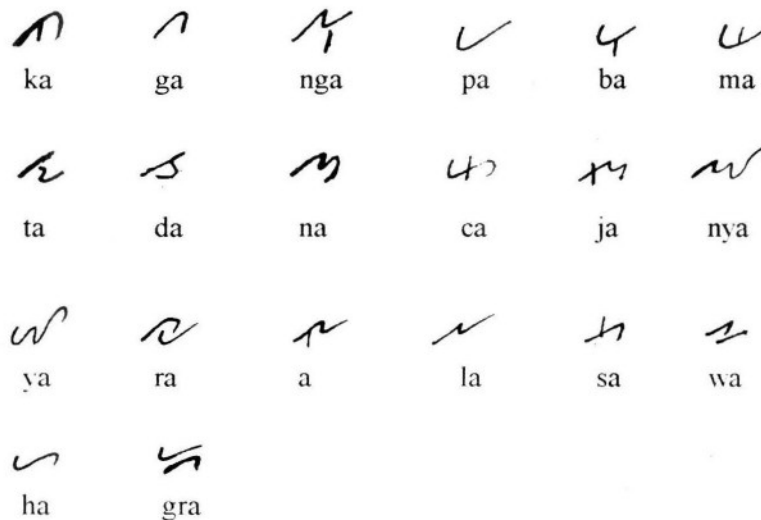








Figure 5: Hand-written forms of modern Lampung letters (from Pudjiastuti 1996: 49).

## 50

Seperti halnya aksara Lampung lama, istilah tanda baca aksara Lampung sekarang juga mengikuti istilah tanda baca aksara Arab. *Fathah* untuk tanda baca ditempatkan di atas huruf dan *kasrah* adalah tanda baca yang ditempatkan di bawah huruf.


(a) tanda fathah (di atas huruf) :

- (1) ulan untuk bunyi i,  contohnya ----- kita
- (2) ulan untuk bunyi é,  contohnya ----- péta
- (3) bicek untuk bunyi e,  contohnya ----- kera
- (4) *datas* untuk bunyi n,  contohnya ----- sayan (= sendiri)
- (5) tekclubang untuk bunyi ng,  contohnya ----- abang
- (6) rejengjung untuk bunyi r,  contohnya ----- damar

b). Tanda kasrah (di bawah huruf) :

- (1) *bitan* untuk bunyi u, contohnya ----- huma
- (2) *bitan* untuk bunyi o, contohnya ----- kota
- (3) *teklengu* untuk bunyi w, contohnya ----- ambaw bau)

c). Tanda di belakang huruf (sejajar huruf):

- (1) teklingai untuk bunyi al, contohnya ---- | sai (= satu)
- (2) *klengiyah* untuk bunyi h, contohnya ----  kamah (= kotor)

Dalam praktek sehari-hari, tanda-tanda baca yang tetap dipakai dalam menulis aksara Lampung sekarang adalah tanda *nengen* dan tanda *beradu*, sedangkan tanda-tanda lainnya jarang sekali digunakan. Tanda-tanda baca ini letaknya di belakang huruf dengan posisi sejajar. Beberapa tanda baca itu sebagai berikut:

Figure 6: Hand-written forms of modern Lampung signs (from Pudjiastuti 1996: 50).

- (1) *nengen* untuk tanda huruf mati = /
- (2) *kuma* untuk tanda koma = ↵
- (3) *beradu* untuk tanda titik = o
- (4) tanda seru = |
- (5) *ngulih* untuk tanda tanya = 4
- (6) *ngemula* untuk tanda permulaan kalimat = ☀

Jenis tulisan inilah yang sampai sekarang masih dikenal dan dipakai oleh masyarakat Lampung, baik yang tinggal di kampung-kampung pedalaman maupun yang di kota.

Sependapat dengan van der Tuuk dalam Arifin (19..... : 1), Said Arifin, budayawan, dan punyimbang adat yang bertugas sebagai *pacalang* dan bergelar Raja Perbasa, juga mengatakan bentuk tulisan Lampung itu bermacam-macam. Menurut Said Arifin ada enam macam variasi *had Lampung* yang diketahuinya sebagai berikut,

- (1) Had Lampung Ho
- (2) Had Lampung Jebi
- (3) Had Lampung Tumbal
- (4) Had Lampung Ampai
- (5) Had Lampung Angka
- (6) Had Lampung Ganta

Setiap bentuk tulisan had Lampung menunjukkan pengaruh zaman yang memasukinya, sehingga masing-masing tulisan mempunyai ciri khas yang berbeda-beda. Misalnya dalam Had *Lampung Tumbal* terdapat beberapa huruf yang mirip tulisan Arab. Hal itu disebabkan dengan munculnya tulisan itu sejak Islam masuk ke Lampung. Adapun *Had Lampung Angka*, beberapa aksaranya ada yang mirip dengan angka Latin. Sebab bentuk tulisan ini muncul setelah orang Lampung mengenal tulisan Latin. Adapun *Had Lampung Ampai*, sebenarnya sama dengan bentuk *Had Lampung Ganta*, tetapi *Had Lampung Ampai* tidak mempunyai aksara gra. *Had Lampung Ganta*, sesungguhnya merupakan aksara gabungan dari had Lampung masyarakat pepadun dan saibatin.

Figure 7: Hand-written forms of modern Lampung punctuation (from Pudjiastuti 1996: 51).

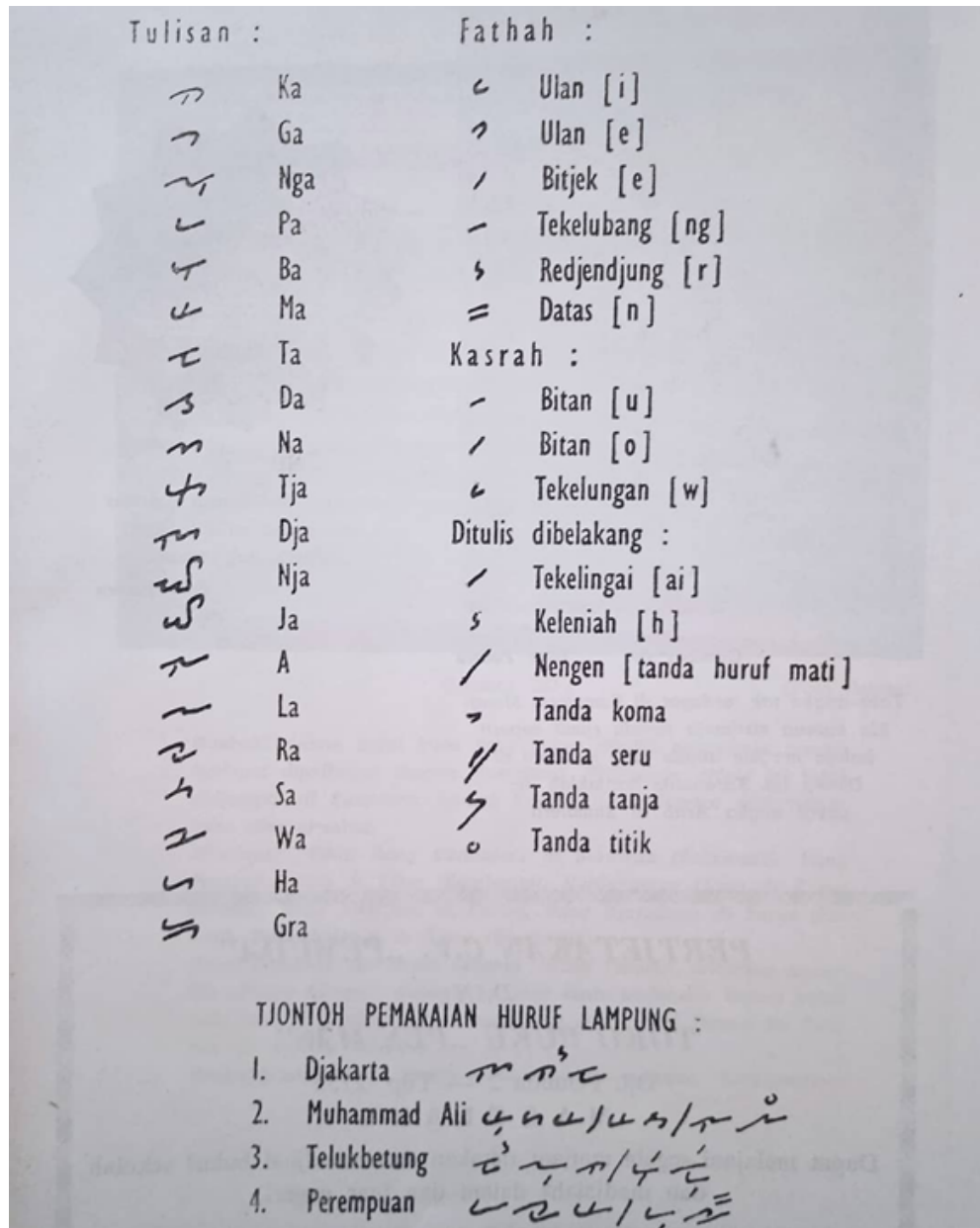


Figure 8: The Lampung script as used in 1969, shown in the *Almanak Sumatera Terbitan*. This was the basis for the standard script developed in 1985. Image courtesy of Febri Muhammad.

### REJANG ALPHABET.

⤴	⤵	⤶	⤷	⤸	⤹	⤺	⤻	⤼	⤽	⤾	⤿
ka	ya	nga	ta	da	na	pa	ba	ma	cha	ja	nia
⤿	⤾	⤽	⤼	⤻	⤺	⤹	⤸	⤷	⤶	⤵	⤴
sa	ra	la	ea	oa	ha	mba	ngga	nda	nja	a	o

⤴ Mark of Commencement.      o Mark of Pause.

The Letters of these Alphabets are governed by a variety of Signs the application of which considerably alters the terminating sound. Those which belong peculiarly to the Rejang are as follows.

* Duo deatas which changes the Termination from..... a to an		Catoolong changes..... a to ang
* Cajeena or Duo debonwa changes a to ah		Cameetan..... to oo
* Cajeonjong..... to ur		Catooling..... to i
* Calowan..... to ee		Catooloong..... to on
* Camecha..... to ay		

⤴ ka   ⤵ kan   ⤶ kah   ⤷ kar   ⤸ kee   ⤹ kay   ⤺ kang   ⤻ kee   ⤼ ki   ⤽ ken

The Letters are never joined in writing, each for the most part representing a syllable  
 The Writing is from the left hand to the right.

### BATTA

⤴	⤵	⤶	⤷	⤸	⤹	⤺	⤻	⤼	⤽
a	ha	na	ma	ra	ta	ba	wa	sa	ga
⤿	—	⤾	⤽	⤼	⤻	⤺	⤹	⤸	⤷
la	pa	gua	ja	du	nyu	e	ea	oo	

### LAMPOON

⤴	⤵	⤶	⤷	⤸	⤹	⤺	⤻	⤼	⤽
ka	ga	gua	pa	ba	ma	ta	da	na	cha
⤿	⤾	⤽	⤼	⤻	⤺	⤹	⤸	⤷	⤶
ja	guia	ea	a	la	ra	sa	na	ha	

Figure 9: Inventory of Lampung (“Lampoon”) letters in comparison with those of Batak (“Batta”) and Rejang (from Marsden 1784: plate following p. 166). A version of this table from Marsden (1811) is given in figure 10.

### SUMATRAN ALPHABETS.

#### Rejang:

ka ga      nga      ta      da      na pa      ba      ma

cha ja nia      su      ra la ya      wa ha mba nga nda nja a.

The terminating sounds of these letters are varied by the application of the following Signs:

" Duo de-atas changes	ka to		kan	Ka-tulang	to		kaug
" Ka-jina	to		kah	\ Ka-mitan	to		ku
✓ Ka-jangung	to		kar	) Ka-tiling	to		ka, kē
^ Ka-luan	to		ki	⌋ Ka-tulang	to		kau, kou
* Ka-micha	to		kā kō kē	o Mati or bunuh-an	to		k;

which last, like the jezma of the Arabians, serves to cut off or deaden the vocal utterance, as the term expresses. Of these signs more than one may be applied to the same character, as lin, lun, nuh, gang, haun, pur. marks the commencement of the writing, which proceeds horizontally, from the left hand to the right, the series of lines descending, most usually, from the top of the page; but not unfrequently the bottom line is the first written, and the others in succession towards the top. This practice (common to other tribes) appears to have given rise to the idea (noticed at p. 383) that the Battas are accustomed to write perpendicularly "from the bottom to the top of the line."

#### Batta.

a ha na ma ta da ba pa wa ya sa ga la ra nga ja nia i u

The signs which govern the terminating sounds of these letters are, e, o, i, ang, and u or ung; as te, to, ti, tang, and tu or tung. The final ha takes the sound of k. With the exception of the first two letters, it does not appear that any determinate order is observed in the arrangement of the Alphabet, which is found to vary more or less in every specimen.

#### Lampung:

ka ga      nja      pa      ba      ma      ta      da      na

cha ja nia ya a la nu sa wa ha

To these letters the signs are applied in the following manner: kē, kaug, or ku, kan, kar, ka or kē, kau or kou, kā, kō, kah kar, koi, mati, as y z z tampat.

W. Marsden's Scrip.

Swaine's

Figure 10: Description of Lampung in a chart of Sumatran alphabets (from Marsden 1811: plate 1).



## LES ALPHABETS.

## MANUSCRIT A.

Le Manuscrit A contient plusieurs formes de l'alphabet lampong. Une de ces formes se rapproche de l'alphabet moderne; suivent les consonnes arrangées dans l'ordre adopté par ZOLLINGER et MARSDEN.

## I. Alphabet tiré de I.

ku	ga	nga	pa	ba	ma	ta	da	na	tja	dja	nja	ja	a	la	ra	sa	wa	ha
ou																		

Ainsi que dans l'écriture javanaise, batak etc. chaque consonne est sensée être suivie de la voyelle *a*.

La lettre que l'on peut convenablement nommer *fulcrum vocalis* est aussi une consonne. D'autres voyelles, ainsi que les diphthonges, y sont indiquées par un signe particulier. Il y a de plus des signes pour *h*, *ng*, *n* et *r* quand elles sont finales, et puis encore un signe qui marque l'omission d'une voyelle.

Le *i* est indiqué par ° au-dessus de la consonne p. e. (*i*) (*mi*); en cas que le *ng*, comme finale, est indiqué au-dessus de la consonne, le ° le surmonte (*ing*).

Le *u* est indiqué par , au-dessous de la consonne p. e. (*ngu*) (*ku*).

Le *ë* est indiqué par × au-dessus de la consonne p. e. (*pë*) (*dë*). V. Essai p. X.

Le *è* est indiqué par ε à gauche de la consonne p. e. (*pè*). v. Essai, p. XV n. 5.

Le *ng*, comme finale, est indiqué par - au-dessus de la consonne p. e. (*pang*)

Le *r*, comme finale, est indiqué par ~ au-dessus de la consonne p. e. (*war*)

L'*h*, comme finale, est indiqué par < ou // à droite de la consonne p. e. (*lah*) (*ih*)

Les diphthongues ne se présentent pas dans la pièce que j'ai marquée I, puisque le malais, comme il est parlé à Java, ne les connaît pas. L'absence d'une voyelle est exprimée par 7 à droite de la consonne; p. e.

(*nihammal*) mot malais dérivé de l'arabe . Comme en batak, la voyelle qui se prononce avec la consonne, s'écrit auprès de ou au-dessous de la consonne suivante, celle-ci étant muette p. e. (*ikoet*). Le *i* cependant est placé ordinairement entre les lettres; p. e. (*il*)

II. La deuxième partie du Ms. présente une autre écriture. Nous faisons suivre ici les consonnes dont quelques unes, comme on voit, sont différentes et d'une date plus ancienne; les traits plus gros le prouvent.

ka	ga	nga	pa	ba	ma	ta	da	na	tja	dja	nja	ja	a	la	ra	sa	wa	ha

Figure 11: Character inventories of various Lampung manuscripts (from van der Tuuk 1868: 139). Continued in figure 12.

Les autres signes sont:

o; p. e.		(li)
i; n		(ku)
xi; n		(më) comp. part. I.
xi; n		(bè)
-; n		(lang)  (ning)  (rong)
xi; n		(bar)  (ujir)
=; n		(kuh)
xi; n		(hudjaw)

Ce tableau montre en même temps que les signes spéciaux, qui représentent dans l'écriture actuelle *aj* et *aw*, n'étaient pas encore en usage. Dans cette partie la diphthongue *aj* ne se trouve pas. Comme signe de division, chapitre ou paragraphe on se sert de (comp. le *batak hindu na éték*). Ici nous rencontrons aussi le signe d'une voyelle, joint à la consonne finale, quand celle-ci est muette p. e. (hëkkëk).

III. La troisième partie en A contient l'alphabet suivant:

ka ga nga pa ba ma ta da na tja, dja, nja ja a la ra sa wa ha  
ne se trouve pas dans cette partie

Le i: ; p. e. (dji). Les autres signes ne diffèrent point des signes déjà mentionnés et les signes des diphthongues ne se rencontrent point.

IV. La quatrième partie contient l'alphabet suivant:

ka ga nga pa ba ma ta da na tja dja nja ja a la ra sa wa ha  
ne se trouve pas dans cette partie

Les voyelles et les autres signes ne diffèrent point de ceux de III.

V. La cinquième partie présente une écriture qui se rapproche de l'écriture actuelle; cependant il s'y rencontre quelques caractères tout différents,


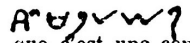
ka ga nga pa ba ma ta da na tja dja nja ja a la ra sa wa ha  
 (U)

Le i: p. e. (ti). Les autres signes sont peu différents. Le signe qui marque l'absence d'une voyelle: . Les signes indiquant les diphthongues sont: , à droite de la consonne; p. e. (pakaj); au-dessous de la consonne, p. e. (angkaw). Dans les six dernières lignes écrites d'une autre main, se trouve pour *da*: pour *ta*: et pour le signe qui marque une consonne muette:







VI. La sixième partie contient l'alphabet suivant:

ka ga nga pa ba ma ta da na tja dja nja ja a la ra sa wa ha  
  
 ou   
 ou   
 ou   
 ou

Figure 12: Character inventories of various Lampung manuscripts (from van der Tuuk 1868: 140). Continued in figure 13.

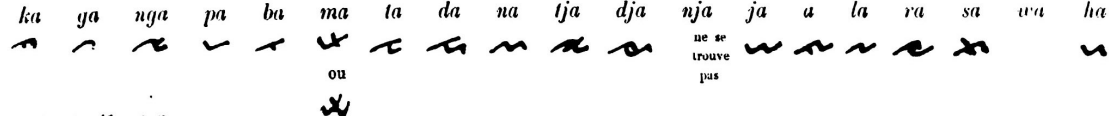
Encore ici ne se trouve aucun signe particulier pour les diphthongues; de là  (*harimaw*),  (*simpaj*). Il est remarquable qu'on trouve plusieurs formes pour *da* et *nga*. En déduira-t-on que c'est une copie d'un autre Ms. plus ancien, et que le copiste y a introduit par inadvertance des caractères modernes ?







## MANUSCRIT B.





L'alphabet est moderne, comme il est prouvé par l'usage du signe  au-dessus des consonnes. Ce signe se trouve aussi dans l'écriture rēdjang et est une imitation de la nunation arabe. A la page 1 et 2 le signe marquant l'absence d'une voyelle est: , de la page 3 jusqu'à la troisième ligne de la page 5:  et à la partie restante par . D'ailleurs l'écriture ne présente rien de remarquable, si ce n'est qu'à la page 3 jusqu'à la troisième ligne de la page 5, quelques voyelles et l'*n* et l'*h*, comme finales, sont indiqués non par des traits, mais par des points; p. e.  (*kan*),  (*lah*).




## MANUSCRIT C.


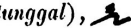
L'écriture est moderne, contenant cependant quelques caractères de forme plus ancienne,

*ka ga nga pa bu ma ta da na tja dja nja ja a la ra sa wa ha*  
  
 ne se trouve pas

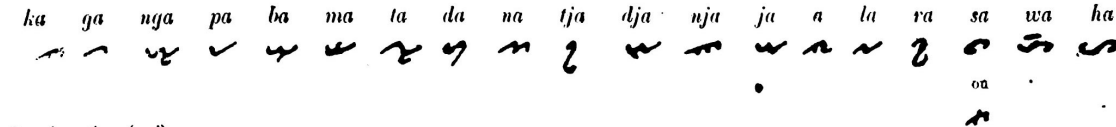
Le *i*:  (*ri*)  
*u*:  (*bu*) ou   
*ě*:  (*kě*)  
*è*: manque  
*aj*:  (*gaj*)  
*aw*:  (*gaw*).








Le *n* final:  (*han*),  (*sin*)  
*r n*:  (*pör*)  
*ng n*:  (*pang*)

Le signe marquant une consonne muette est tantôt  ou , tantôt 

p. e.  (*tunggal*),  (*lantak*)

## MANUSCRIT D.

*ka ga nga pa ba ma ta da na tja dja nja ja a la ra sa wa ha*  
  
 ou

Le *i*:  (*mi*)  
*oe*:  (*nu*)  
*ö*:  (*bö*)  
*è*: ne se rencontre pas  
*n* final:  (*man*)  
*aj*:  (*baj*)  
*aw*:  (*naw*)  
*r* final:  (*nér*)


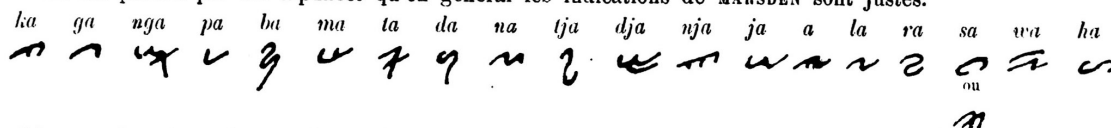
Le signe marquant l'absence d'une voyelle:  (*runggak*)















Figure 13: Character inventories of various Lampung manuscripts (from van der Tuuk 1868: 141). Continued in figure 14.

MANUSCRIT E.

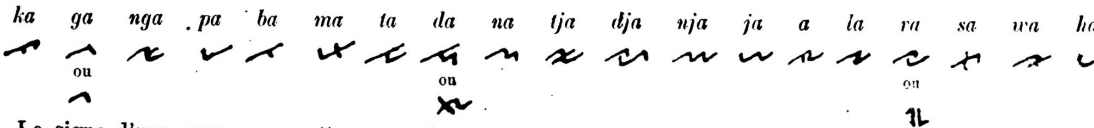
Il est prouvé par cet alphabet qu'en général les indications de MARSDEN sont justes.

ka ga nga pa ba ma ta da na tja dja nja ja a la ra sa wa ha  


L'usage des deux formes de s est remarquable. La première forme cependant ne se trouve qu'à la première page.

- Le i:  (dji)
- u:  (tu)
- ö:  (të)
- è manque
- aj:  (baj)
- aw:  (baw)
- n final:  (man),  (mën),  (ljin).
- h n:  (luh)
- r n:  (tir)  (djar)
- Le signe d'une consonne muette: ; p.e.  (ratus)
- Le signe indiquant les paragraphes: 

MANUSCRIT G.

ka ga nga pa ba ma ta da na tja dja nja ja a la ra sa wa ha  


















- Le signe d'une consonne muette: 
- Le i:  (ngin)
- u:  (mu)
- ö:  (dë)  (kën)  (p. 11)
- ng final:  (wang)
- r n:  (hur)
- n n:  (ngan)
- h n:  (gih)
- è manque; p.e.  = Jav. sakèhè;  = Jav. wètan;  (vaj)
- l'aw n'est pas indiqué toujours par un signe particulier; p.e.  p.10, l.3 on trouve  (akow)
- et  (guraw)

Figure 14: Character inventories of various Lampung manuscripts (from van der Tuuk 1868: 142).

### SCHRIFTEN AUF CELEBES UND SUMATRA.

Mañkāsar	Bugi		Battak		Redžañ	Lampuñ	Wert
	Alt	Neu	Alt	Neu			
		3					a
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ka
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ga
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ña
⌘	⌘	⌘	⌘	⌘	⌘	⌘	tša,t'a
⌘	⌘	⌘	⌘	⌘	⌘	⌘	dža,d'a
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ña
⌘	⌘	⌘	⌘	⌘	⌘		ta
⌘	⌘	⌘	⌘	⌘	⌘	⌘	da
⌘	⌘	⌘	⌘	⌘	⌘	⌘	na
⌘	⌘	⌘	⌘	⌘		⌘	pa
⌘	⌘	⌘	⌘	⌘		⌘	ba
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ma
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ya
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ra
⌘	⌘	⌘	⌘	⌘	⌘	⌘	la
⌘	⌘	⌘	⌘	⌘	⌘	⌘	wa
⌘	⌘	⌘	⌘	⌘	⌘	⌘	sa
⌘	⌘	⌘	⌘	⌘	⌘	⌘	ha

Die Vokale der *Bugi* sind: <sup>˙</sup> *titi* oder *ana irate i*, <sup>˙</sup> *titi* oder *ana irawa u*, <sup>˙</sup> *ana ri-boko ē*, <sup>˙</sup> *ana ri-yolo o* z. B.: <sup>˙</sup> *ki*, <sup>˙</sup> *ku*, <sup>˙</sup> *kē*, <sup>˙</sup> *ko*. Die *Battak*-Vokale sind: die Initiale <sup>˙</sup> *a*, <sup>˙</sup> *i*, <sup>˙</sup> *u*, in der Mitte und am Ende <sup>˙</sup> *i*,

<sup>˙</sup> *u*, <sup>˙</sup> *o*, <sup>˙</sup> *e*, <sup>˙</sup> *a* ist den Konsonanten inhärent, <sup>˙</sup> *e* steht am Anfang der Konsonanten (<sup>˙</sup> *bere*), <sup>˙</sup> am Ende oder über Vokalen (<sup>˙</sup> *pā*, <sup>˙</sup> *pī*), <sup>˙</sup> wird auch verbunden, z. B. <sup>˙</sup> *bupusutu*.

Figure 15: Comparison of Lampung (“Lampuñ”) and related scripts (from Faulmann 1880: 179).

Volgorde der Letters	E. NEDERLANDSCH INDIE												SUMATRA								
	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	
	Lampongs												Kom- mering	Ab on	Pasemah	Redjang		Man- deling	Ang- kola	Toba	Daeri
	Alphabetten uit les M <sup>82</sup> Lampongs v. Sloet van den Beele, door Neubronner van der Tuuk															Ommelanden Bengkoelen	Kroeing				
modern	La	A <sup>I</sup>	A <sup>II</sup>	A <sup>III</sup>	A <sup>IV</sup>	A <sup>V</sup>	A <sup>VI</sup>	C	D	E	G										
K	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	
K <sub>H</sub>														ngka	⌣	⌣	⌣				
G	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	kan	⌣	⌣	⌣	⌣	⌣	⌣	
G <sub>H</sub>														ngga	⌣	⌣	⌣				
NG	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	
-NG	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
T <sub>J</sub>	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	
T <sub>JH</sub>														ndjara	⌣	⌣	⌣	⌣	⌣	⌣	
D <sub>J</sub>	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	
D <sub>JH</sub>														ndja	⌣	⌣	⌣	⌣	⌣	⌣	
N <sub>J</sub>	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	
Ī																					
Ī <sub>H</sub>																					
Ď																					
Ď <sub>H</sub>																					
Ñ																					
T	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	
T <sub>H</sub>														nda	⌣	⌣	⌣	⌣	⌣	⌣	
D	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	⌣	

Figure 16: Chart showing scripts from Sumatra (stitched together from Holle 1882: 10, 11). Shown are letters from ka to da.

E. [ SUMATRA ]													
Volgorde der Letters	114	115	116	117	118	119	120	121	122	123	124	125	126
	Lampongs												
	Alphabetten uit les M <sup>rs</sup> Lampongs v. Sloet van den Beelde door Neubronner van der Tuuk.												
	modern	A <sup>r</sup>	A <sup>s</sup>	A <sup>w</sup>	A <sup>r</sup>	A <sup>r</sup>	A <sup>r</sup>	C	D	E	G	Kom- mering	Abong
D <sub>H</sub>													
N													
P													
P <sub>H</sub>													
B													
B <sub>H</sub>													
M													
I <sub>J</sub>													
-J	3 1						1		1 3 3				
R													
-R													
-R-													
L													
V													
C													
S <sub>J</sub>													
S <sub>H</sub>													
H													
-H													

Figure 17: Chart showing scripts from Sumatra (stitched together from Holle 1882: 19, 20). Shown are letters from *dha* to the consonant sign *\_h*.



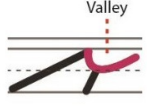
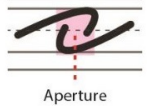
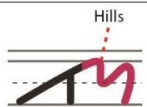

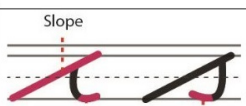

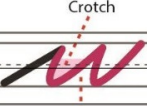
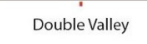
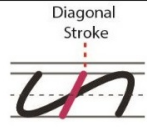
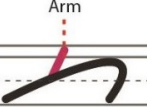
Nama	Bentuk	Keterangan
Hook		Bagian puncak dari garis lengkung utama yang membentuk cembung
Leg		Bagian dari huruf yang memanjang kebawah, melekat pada garis huruf utama dan menggantung di ujung lainnya.
Valley		Bagian patahan garis utama huruf yang berbentuk cekung
Aperture		Sebuah ruang negatif antar huruf yang membentuk area terbuka membulat
Hills		Bagian patahan garis utama huruf yang bergerigi dan membentuk cembungan
Cannal		Sebuah ruang negatif tipis berbentuk memanjang antara dua garis utama huruf
Slope		Garis utama huruf pembentuk seluruh karakter aksara Lampung
Terminal		Garis perpanjangan kaki (leg) yang berbentuk melengkung
Crotch		Sebuah sudut ruang negatif di antara garis cekungan tajam
Double Valley		
Double Valley		Garis cekung dengan sudut tajam yang berulang
Diagonal Stroke		Garis diagonal yang memotong garis utama
Arm		Bagian dari huruf yang memanjang ke atas, melekat pada garis huruf utama dan menggantung di ujung lainnya.

Figure 18: Chart showing typographic features of Lampung letters (from Indrayati and Migotuwio 2000: figures 5 and 6).



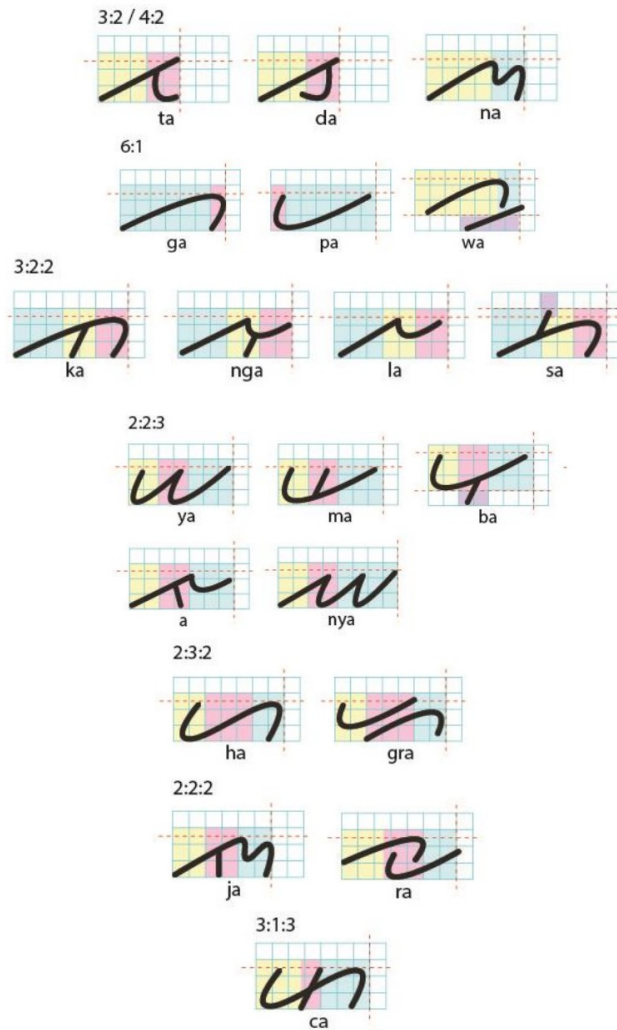
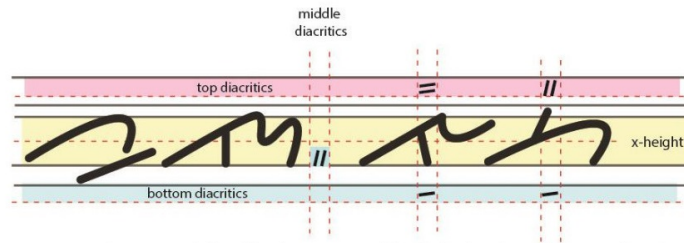


Figure 19: Chart showing typographic proportions of Lampung letters (from Indrayati and Migotuwio 2000: figures 6 and 7).



Gambar 5. Contoh identifikasi garis proporsi huruf induk aksara Lampung (Sumber: Dokumentasi Penulis)



- a. base line for top diacritics
- b. top line for middle diacritics
- c. base line for bottom diacritics

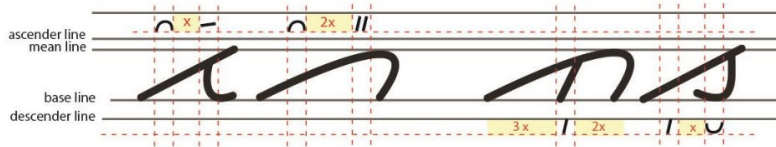


Figure 20: Chart showing baseline, x-height, and other typographic dimensions of Lampung letters (from Indrayati and Migotuwio 2000: figures 6 and 7).

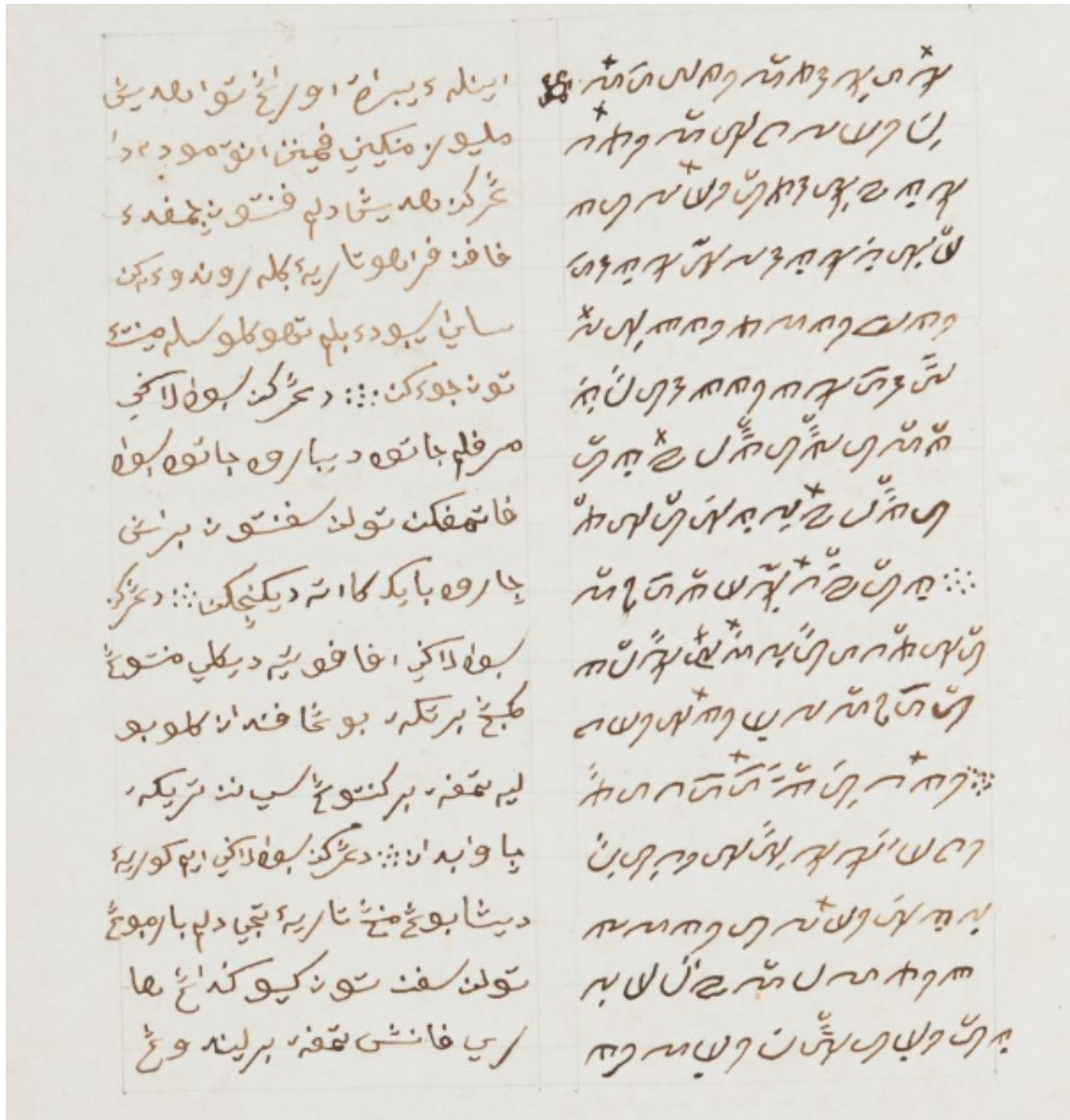


Figure 21: A folio from a manuscript titled “Inilah surat pantun cara Lampung” containing Malay text in Arabic script and Lampung text in a historical form of the Lampung script, dated 1812. (British Library, Mss Malay 4, folio 1r.)

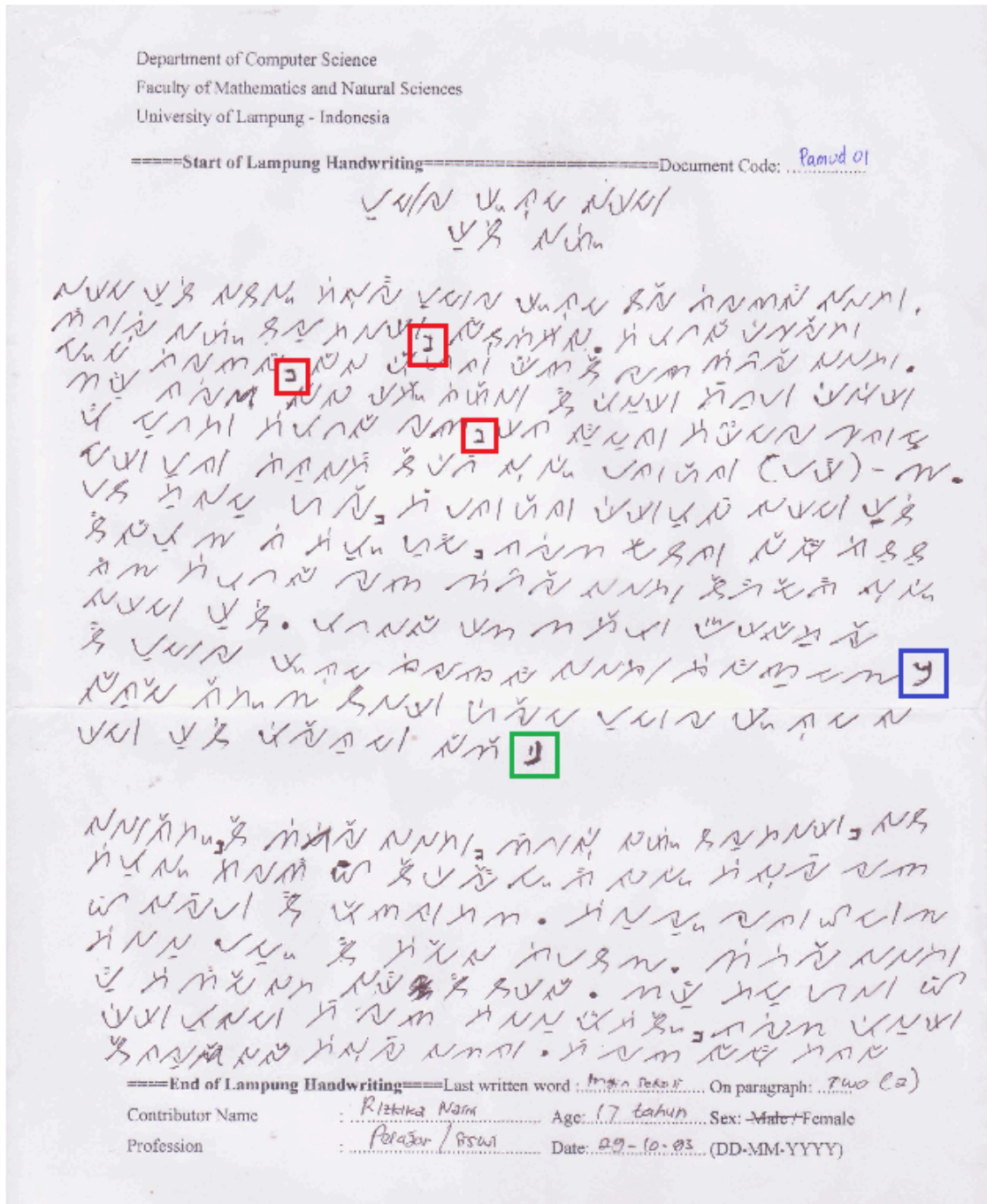


Figure 22: Hand-written specimen of modern Lampung used for OCR training (from Junaidi et al 2011: figure 1). Note the usage of punctuation signs specific to Lampung: comma (red), question mark (blue), exclamation mark (green).



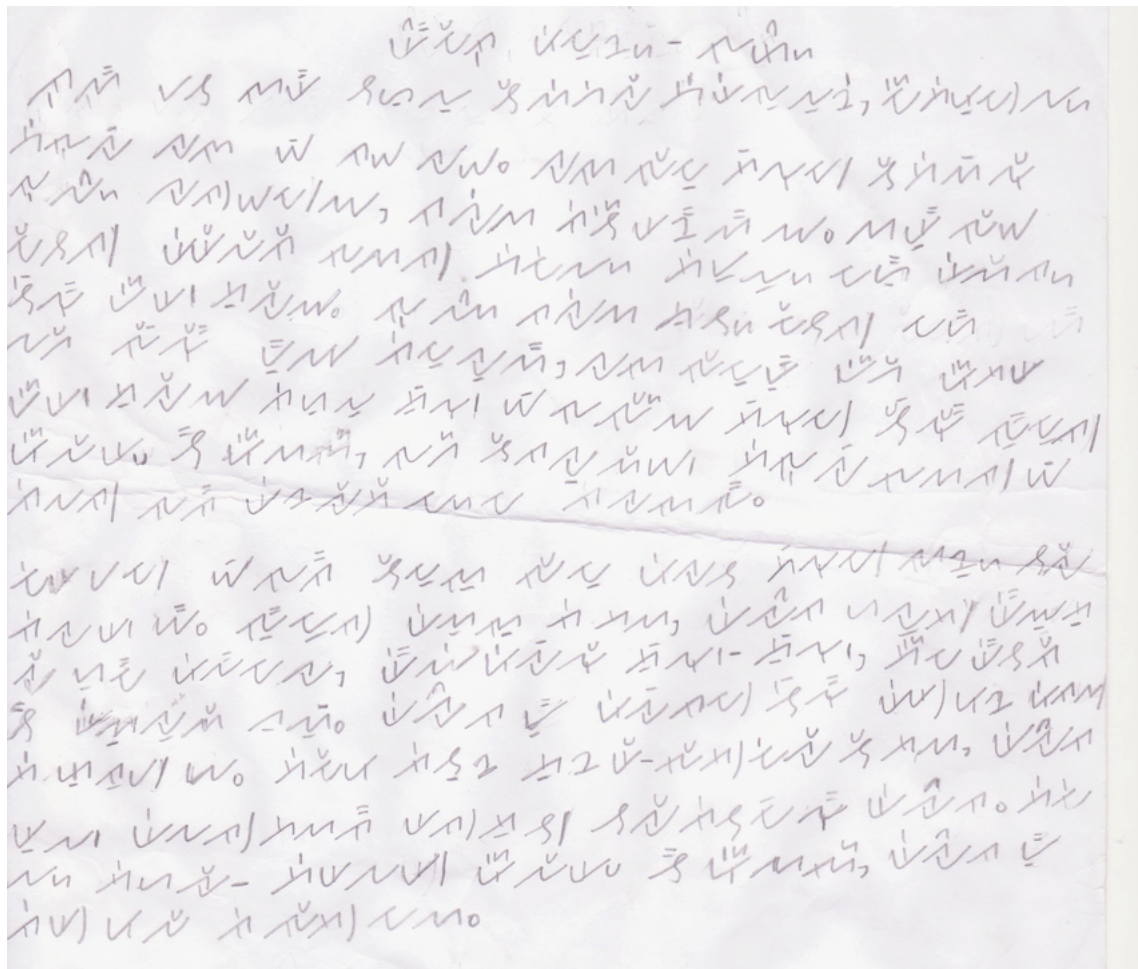


Figure 23: Hand-written specimen of modern Lampung used for OCR training (from Junaidi et al 2011: figure 5).



Source: [https://commons.wikimedia.org/wiki/File:Lampung\\_Emblem.svg](https://commons.wikimedia.org/wiki/File:Lampung_Emblem.svg)

Figure 24: The emblem of Lampung Province, Indonesia, with the name ‘Lampung’ represented in the Lampung script.



Source: [https://upload.wikimedia.org/wikipedia/id/5/53/Logo\\_Lampung\\_Selatan\\_Baru.jpg](https://upload.wikimedia.org/wikipedia/id/5/53/Logo_Lampung_Selatan_Baru.jpg)

Figure 25: An emblem of Lampung with the phrase “*kagom mafakat*” inscribed in the Lampung script.



Source: <https://id.wikipedia.org/wiki/Berkas:Logo-baru-bandar-lampung1.jpg>

Figure 26: An emblem of the city of Lampung with the phrase “*ragom gawi*” (actually *ragom gawa*) inscribed in the Lampung script.



Source: [https://nepatronews.files.wordpress.com/2012/12/metro\\_2.jpg](https://nepatronews.files.wordpress.com/2012/12/metro_2.jpg)

Figure 27: An emblem of the metro transport of Lampung with the phrase “*bumi sai wawai*” inscribed in the Lampung script.



Source:

[http://cdn-2.tstatic.net/tribunnews/foto/bank/images/gapura-bandar-lampung-city\\_20150722\\_214640.jpg](http://cdn-2.tstatic.net/tribunnews/foto/bank/images/gapura-bandar-lampung-city_20150722_214640.jpg)

Figure 28: A gate to the city of Lampung with the phrase “*selamat jalandari kota bandar lampung*” inscribed in the Lampung script.





Source: <https://www.facebook.com/aksara1ampung/photos/2727733737272220>

Figure 29: Building sign



Source: [https://upload.wikimedia.org/wikipedia/id/c/c5/PLANG\\_JALAN.jpg](https://upload.wikimedia.org/wikipedia/id/c/c5/PLANG_JALAN.jpg)

Figure 30: Road sign with text in Lampung.

0 1 2 3 4 5 6 7 8 9  
0 9 Z Z ƒ 4 4 7 4 7

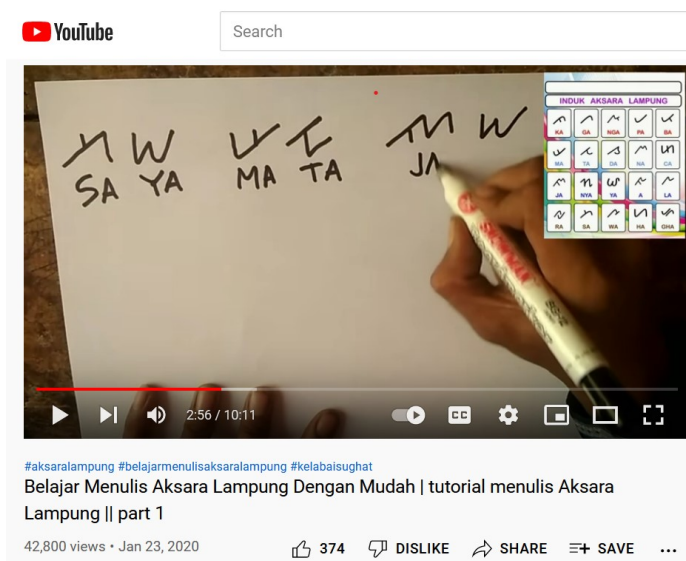
Source: <http://www.omniglot.com/writing/lampung.htm>

--- J Comma	vv Quotation Mark	Exclamation Mark
--- O Full stop	y Question Mark	⊗ Section Mark

Source: <http://www.omniglot.com/writing/lampung.htm>



“Belajar Membaca dan Menulis Aksara Lampung (Huruf Lampung)” by user ‘Bimbel Cendikia’:  
[https://www.youtube.com/watch?v=rYGMjV1\\_TU4](https://www.youtube.com/watch?v=rYGMjV1_TU4)



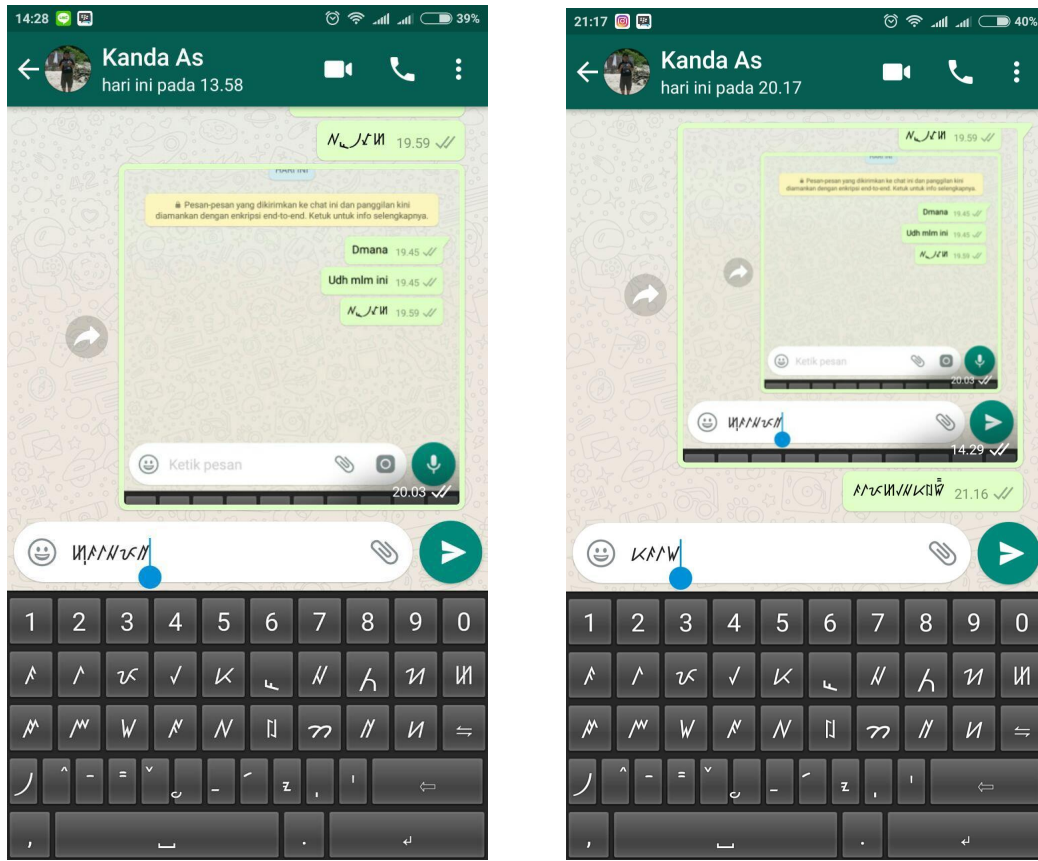
“Belajar Menulis Aksara Lampung Dengan Mudah | tutorial menulis Aksara Lampung || part 1” by user ‘Iswahyudi channel’:  
<https://www.youtube.com/watch?v=MN2neoNF0nQ>

Figure 31: Screenshots of YouTube videos of Lampung script tutorials.



Source: [https://id.wikipedia.org/wiki/Berkas:Keyboard\\_Lampung\\_Script.jpg](https://id.wikipedia.org/wiki/Berkas:Keyboard_Lampung_Script.jpg)

Figure 32: A virtual keyboard for a Lampung font based upon the Latin encoding.



An Android keyboard app for Lampung. A user can employ the custom keyboard with a Lampung font for display. But, the text has to be captured as an image for exchange with a recipient. Notice the text in the left image as an image of the app interface in the screenshot at right.

Figure 33: Screenshots of the ‘Keyboard Aksara Lampung’, v1.0 for Android, 2017-11-17. Source: <https://apkpure.com/in/keyboards-aksara-lampung/com.lampung.belial.customkeyboard>





<https://www.facebook.com/aksaralampung/photos/533923663319916>

Figure 34: Microsoft Windows mockup



<https://www.facebook.com/aksaralampung/photos/510752792303670>

Figure 35: Facebook landing page mockup





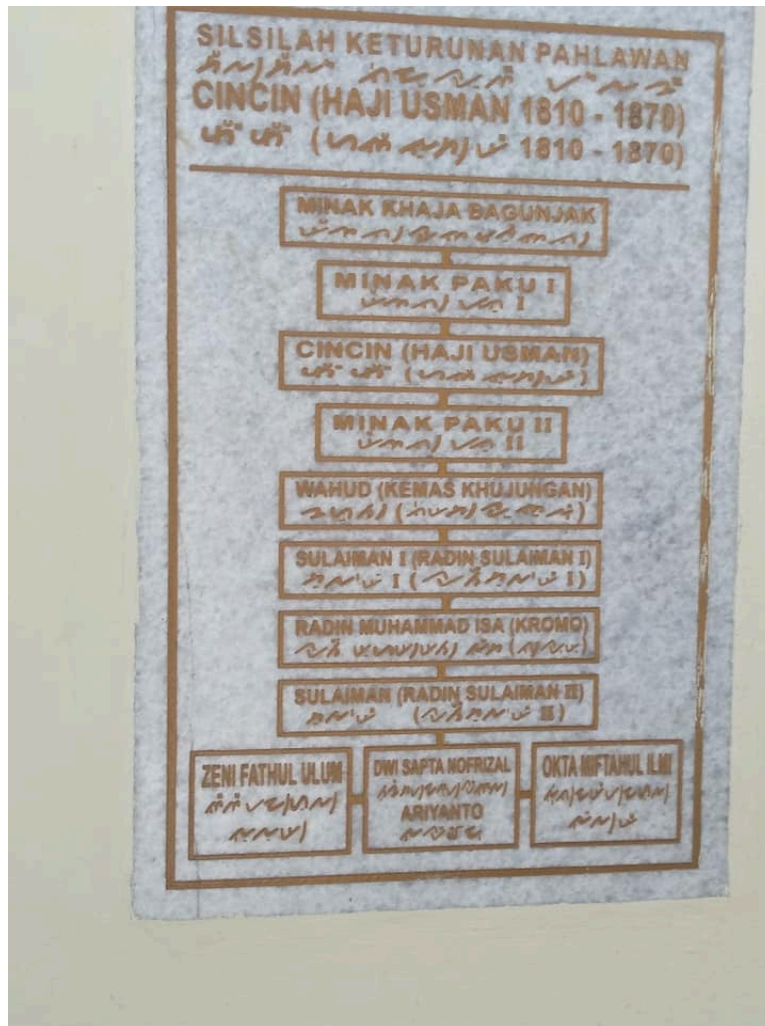
<https://www.facebook.com/aksaralampung/photos/3916101981768717>

Figure 36: Ramadan greeting in stylized Lampung font



<https://www.facebook.com/aksaralampung/photos/2686954268016834>

Figure 37: Headstone



<https://www.facebook.com/aksaralampung/photos/2686954274683500>

Figure 38: Genealogy chart





**ISO/IEC JTC 1/SC 2/WG 2  
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS  
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646<sup>1</sup>**

**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:	<b>Revised proposal to encode the Lampung script in Unicode</b>
2. Requester's name:	<i>Anshuman Pandey (pandey@umich.edu)</i>
3. Requester type (Member body/Liaison/Individual contribution):	<i>Expert contribution</i>
4. Submission date:	<i>2022-02-18</i>
5. Requester's reference (if applicable):	
6. Choose one of the following:	
This is a complete proposal:	<input type="checkbox"/> Yes
(or) More information will be provided later:	<input type="checkbox"/>

**B. Technical – General**

1. Choose one of the following:		
a. This proposal is for a new script (set of characters):	<input type="checkbox"/> Yes	
Proposed name of script:	<i>Lampung</i>	
b. The proposal is for addition of character(s) to an existing block:		
Name of the existing block:		
2. Number of characters in proposal:	<i>49</i>	
3. Proposed category (select one from below - see section 2.2 of P&P document):		
A-Contemporary <input checked="" type="checkbox"/>	B.1-Specialized (small collection) <input type="checkbox"/>	B.2-Specialized (large collection) <input type="checkbox"/>
C-Major extinct <input type="checkbox"/>	D-Attested extinct <input type="checkbox"/>	E-Minor extinct <input type="checkbox"/>
F-Archaic Hieroglyphic or Ideographic <input type="checkbox"/>	G-Obscure or questionable usage symbols <input type="checkbox"/>	
4. Is a repertoire including character names provided?	<input type="checkbox"/> Yes	
a. If YES, are the names in accordance with the "character naming guidelines" in Annex L of P&P document?	<input type="checkbox"/> Yes	
b. Are the character shapes attached in a legible form suitable for review?	<input type="checkbox"/> Yes	
5. Fonts related:		
a. Who will provide the appropriate computerized font to the Project Editor of 10646 for publishing the standard?	<i>Anshuman Pandey</i>	
b. Identify the party granting a license for use of the font by the editors (include address, e-mail, ftp-site, etc.):	<i>Anshuman Pandey (pandey@umich.edu)</i>	
6. References:		
a. Are references (to other character sets, dictionaries, descriptive texts etc.) provided?	<input type="checkbox"/> Yes	
b. Are published examples of use (such as samples from newspapers, magazines, or other sources) of proposed characters attached?	<input type="checkbox"/> 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)?	<input type="checkbox"/> Yes	

**8. Additional Information:**

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

<sup>1</sup> Form number: N3902-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)

**C. Technical - Justification**

1. Has this proposal for addition of character(s) been submitted before? If YES explain	No
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? If YES, available relevant documents:	Yes <i>Titik Pudjiastuti, Lisa Misliani, Indra Gunawan, Febri Muhammad</i> <i>See text of proposal</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>Lampung is standardized and used in official communication, education, and print and digital publications; see proposal for details</i>
4. The context of use for the proposed characters (type of use; common or rare) Reference:	Common <i>See proposal for details</i>
5. Are the proposed characters in current use by the user community? If YES, where? Reference:	Yes <i>Sumatra, Indonesia</i>
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:	No
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:	No
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? If YES, is a rationale for its inclusion provided? If YES, reference:	Yes Yes <i>See proposal for details.</i>
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 Yes <i>Common combining signs</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