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Preliminary Proposal to Encode Dhives Akuru in ISO/IEC 10646

Anshuman Pandey
Department of History
University of Michigan
Ann Arbor, Michigan, U.S.A.
pandey@umich.edu

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1 Introduction

This is a preliminary proposal to encode the Dhives Akuru script in the Universal Character Set (ISO/IEC 10646). The intent is to bring the script to the attention of the Unicode Technical Committee, to seek advice regarding the encoding of the script in the UCS, and to allocate it in the Unicode Roadmap. Research on Dhives Akuru is ongoing and the present author will provide additional information as it is discovered.

This proposal replaces an earlier document titled "Preliminary Proposal to Encode the Dhivehi Script in ISO/IEC 10646" (L2/09-191), submitted to the UTC in May 2009. The name of the script has been changed from 'Dhivehi' to 'Dhives Akuru' (see Section 2.1 for details).

The present document expands upon the information provided in L2/09-191, including background information about Dhives Akuru, details on the writing system, the addition of a code chart and names list, and several specimens of the script. Some issues regarding the encoding of the script are presented in Section 6. A proposal summary form is also enclosed.

2 Overview

Dhives Akuru is a Brahmi-based script that was used for writing Dhivehi [div], an Indo-Aryan language spoken in Maldives, an island republic in the Indian Ocean and on Minicoy (Maliku) Island, part of the Lakshadweep Island territory of India. The script was used extensively in Maldives, but is not known to have been used on Minicoy. It is no longer used, having been replaced by Thaana as the formal script for Dhivehi in the 18th century. Several records important to the history of Maldives are written in Dhives Akuru.

2.1 Name

The normalized name of the script is Dhives Akuru (Thaana: ދިވެހި ތާނަ *dives akuru*), which in Dhivehi means 'script of the island' (Div. *div* < Pali *dīpa* < Skt. द्वीप *dvīpa* 'island'; Div. *akuru* < Pali *akkhara* < Skt. अक्षर *akṣara* 'letter').

In the document L2/09-191, the name 'Dhivehi' was used, but the term is generic and may refer to both Dhives Akuru and Thaana, as well as to the language. Dhives Akuru is the name most commonly used for the script in Maldives and in secondary literature.

There are several variations upon the romanization of the name 'Dhives Akuru': *devehi hakuru*, *dhives akuru*, *divehi akuru*, *dives akuru*, etc. Of these *dives akuru* is the most phonologically accurate transliteration; however, the form *dhives akuru* conforms to the transliteration of Dhivehi used in the Republic of Maldives. In this system, the letter '*h*' is used to distinguish dental stops from retroflex stops; it does not indicate aspiration as is common in Indic transliteration and Dhivehi itself lacks phonemic aspirated consonants. Thus, the dental /d/ (Thaana ދ DHAALU) is written as 'dh' and the retroflex /ɖ/ (Thaana ڈ DAVIYANI) is written 'd'. This rule also governs the formal romanization of the name of the language as 'Dhivehi'.

2.2 Development and Usage

Dhives Akuru belongs typologically to the family of southern Brahmi scripts. Some authorities assert that the earliest form of the script is most closely related to the medieval form of the Sinhala script;[1] others suggest that it shares greatest affinity with the Tulu script.[2] See Figure 3 for a comparison of Dhives Akuru and Sinhala, and see Figure 13 for a comparison of Dhives Akuru with other Brahmi-based scripts.

The development of Dhives Akuru may be divided into three major phases that span a millenium: (1) the 9th to 12th century; (2) 12th to 14th century; and (3) the 14th to the 19th century.

The earliest epigraphical records in Maldives are stone inscriptions dated to the 9th or 10th century CE. These are Vajrayana Buddhist inscriptions on madrepore stelae found in Male (see Figure 3). The script reflects an intermediate stage between Grantha and early Dhives Akuru.

The evolution of the Grantha form in Maldives into a distinctive script occurred during the late 12th century. This early script is called *evēla akuru*, meaning "script of that time" or 'ancient script' in Dhivehi. The term '*evēla akuru*' was coined by H. C. P. Bell in order to distinguish between the archaic and modern forms of Dhives Akuru.[3]

The first proper Evela Akuru records are inscriptions on copper plates from the 12th century. These copper plates, or *lōmāfānu*, are land grants issued by Islamic rulers from the late 12th century until the 14th century. The earliest of these is the *Isdū Lōmāfānu*, written in 1194 during the reign of king Gaḍanādītya and named after the island of Isdhoo in Haddunmati Atoll in southern Maldives where it was found.[4] The second oldest record is the *Dambidū Lōmāfānu*, dated to 1196 and also named after the island upon which the grant was made (see Figure 5). In addition to *lōmāfānu*, Evela Akuru also appears in inscriptions on statues, stone blocks, and burial markers, such as headstones found in Male. By the 14th century Evela Akuru undergoes changes likely spurred by the arrival of Islam in Maldives, at which time new letters and orthographic elements were introduced in order to represent Arabic words in official records.[5] With this reform, Evela Akuru transitioned into the modern form of Dhives Akuru.

[1] Fritz 2002: 6. [2] Geiger 1919: 151. [3] Bell 1919: 149. [4] Maniku and Wijayawardhana 1986: ii. [5] Mohamed 1999: 18.

Dhives Akuru was used extensively between the 14th through 19th centuries for administrative and inscriptional purposes. The first record in the proper Dhives Akuru form is a copper plate called the *Boḍugalu Miskit Lōmāfānu*, dated to 1357. The inscriptions on this copper plate are written in characters that differ from those that appear on earlier *lōmāfānu* and illustrate the transformation of Evela Akuru into the later Dhives Akuru form.[6] In addition to *lōmāfānu*, Dhives Akuru appears upon several other records. It was the script used for writing *fatkoḷu*, or royal documents inscribed on wood or written on paper or parchment (see Figure 6). It was also used for writing dynastic chronicles of Maldives known as *Rādāvaḷī*; of which one of the three extant manuscripts is in Dhives Akuru. There are epitaphs on stone in Dhives Akuru dating from the 16th–18th century in Male, Midu, and Hitadu.[7] Wood engravings in the script also appear on wooden beams in mosques in Male, such as the important and major Hukuru Miskit (Friday Mosque) and the Galolhu Bau Miskit.

Beginning in the early 18th century, usage of Dhives Akuru began to decline when the Thaana script was developed. During this time it appears that the character repertoire of Dhives Akuru was reduced to correspond to the smaller repertoire of Thaana.[8] By the turn of the 19th century Thaana had completely replaced Dhives Akuru for writing Dhivehi and as the regular script for administrative records.

Nonetheless, Dhives Akuru exerted its influence on the new script of Maldives. Thaana is a right-to-left script developed in the islands during the 18th century. The system is a mixture of Brahmi and Arabic models, and the characters are based upon elements from Dhives Akuru and the Arabic script. Of the original 18 characters of Thaana, the first set of nine letters were derived from Arabic digits and the second set from the digits of Dhives Akuru.[9] Later, the addition of new characters to Thaana for representing sounds of the southern dialects of Dhivehi were also based upon Dhives Akuru forms, eg. 𑋂 U+07B1 THAANA LETTER NAA from Dhives Akuru 𑋁 NNA.

Despite the disappearance of Dhives Akuru from the orthographic landscape of present-day Maldives, the historical relationship between it and other scripts is remarkable. Several records, namely *lōmāfānu*, contain text written in both Dhives Akuru and Arabic. While Thaana has completely supplanted Dhives Akuru, the former is used in scholarly work to annotate and transliterate reproductions of records in Dhives Akuru. There is a very small academic community engaged in study of Dhives Akuru and an equally small body of scholarship on the subject. The National Centre for Linguistic and Historical Research (NCLHR) in Male has published a few small, but valuable monographs such as *Dhivehi Writing Systems* (1999). The Royal Asiatic Society of Sri Landa has published translations of the *Isdū Lōmāfānu*[10] and *Daṁbidū Lōmāfānu*. But, knowledge of Dhives Akuru in Maldives is nearly as extinct as the script. An encoding for the script in the UCS will certainly help in representing and preserving Dhives Akuru records, and may even encourage more academic study of the script.

3 Characters Proposed

3.1 Script Name and Allocation

The characters are proposed for encoding in a new script block to be named ‘Dhives Akuru’ and to be allocated in the SMP at the range U+11D00..U+11D4F. The proposed code chart and names list are shown in Figure 1.

[6] Mohamed 1999: 21. [7] Fritz 2003: 7. [8] Bell 1919: 151. [9] Mohamed 1999: 31. [10] Maniku and Wijayawardhana 1986.

3.2 Repertoire

A total of 61 characters is required to encode a basic character set for Dhives Akuru. This character set consists of 10 independent vowel letters and 10 dependent vowel signs, 27 consonant letters, 4 signs, and 10 digits. Further research may uncover additional characters.

3.3 Character Names

There are traditional Dhivehi names for characters. For example, the proposed VIRAMA is called *sukūn*. The names proposed here follow the UCS convention for Brahmi-based scripts. Dhivehi names are provided as annotations in the names list.

3.4 Unification of Evela Akuru

Although the Evela Akuru form possesses some characters not used in the later Dhives Akuru script, the two forms are sufficiently similar to warrant unification. The modern Dhives Akuru is proposed as the representative form. Characters specific to Evela Akuru have been added in order to encode both forms completely.

3.5 Font

A basic font for Dhives Akuru has been developed by the present author. It's purpose is primarily illustrative. The glyphs are derived from script charts and other secondary sources. A new font will be developed to accompany the formal proposal to encode Dhives Akuru.

4 The Writing System

4.1 Structure

The general structure (phonetic order, *mātrā* reordering, use of *virāma*, etc.) in Dhives Akuru is similar to that of other Indic scripts based upon the Brahmi model.

4.2 Directionality

The script is written from left-to-right.

4.3 Vowels

Letters are attested for short and long forms of the basic vowels. Several vowel letters have variant forms, which are produced by writing a vowel sign with the letter 𑋀 A, eg. 𑋁 I may be written as 𑋀𑋁, 𑋂 U as 𑋀𑋂, etc.

In Evela Akuru texts, *ai* appears as the dependent vowel sign 𑋐◌, but there is no attested independent letter. Neither form is attested in the later Dhives Akuru script. It is included here in order to enable the encoding of Evela Akuru texts.

In Dhives Akuru, diphthongs are produced using independent vowel letters, eg. 𑋆𑋁 *vai* = 𑋆 VA + 𑋁 I.

4.4 Vowel Signs

Vowel signs are represented according to the basic Brahmi pattern. There are three two-part signs: EE, O, OO.

Several vowel signs have variant forms: VOWEL SIGN I is also written as ; VOWEL SIGN II appears as in some Evela Akuru texts.

4.5 Consonants

With the exception of DHA, Dhives Akuru does not have letters for aspirated consonants. It is postulated that the script may have had a full repertoire of such letters, but they were not maintained owing to the lack of aspirated sounds in Dhivehi.

4.6 Consonant Conjuncts

The majority of consonant conjuncts consist of two letters, but some three-element conjuncts are attested. Conjuncts are formed as in other Indic scripts using VIRAMA. In Dhives Akuru, conjuncts are represented in several ways:

1. *Gemination* Doubled, or geminated, consonants are represented in several ways. In Evela Akuru, a superscript sign is written above the consonant that is doubled (see Section 4.9). Certain consonants have special contextual forms that are used to represent gemination. The letter TA has a subscript form that is used to write a conjunct of two TA letters, eg. TA + TA = .

2. *Stacking* Gemination is also represented by stacking consonants, eg. NA + NA = . When stacked, letters may be reduced in size in order to maintain proportion with surrounding letters.

3. *Subscript Form* The final element in a conjunct may take a contextual form that is written below the preceding letter. The letter RA takes the form when it is the final element, eg. KA + RA = .

4. *Conjoined* In a conjoined representation of conjuncts the full forms of letters are simply joined together horizontally without modification, eg. NA + TA = .

5. *Half-Form* Some consonants take half-forms when they appear in clusters with other consonants. The letter VA has the half-form , eg. SA + VA =

6. *Special Forms* The letter RA has the contextual form when it is the first element in a consonant cluster. This mark is identical to REPHA in Devanagari.

4.7 *Virāma*

The sign *virāma* is written above and slightly to the right of the consonant it modifies. It is semantically and functionally identical to ◌् U+094D DEVANAGARI SIGN VIRAMA. As in Devanagari and other Indic scripts, VIRAMA is for writing a consonant without the inherent vowel *a* and for producing consonant conjuncts. It is called ◌ް SUKUN in Thaana. However, as is the convention for Brahmi-based scripts, the name VIRAMA is assigned to the character. An annotation is included in the names list.

4.8 'Sukun' Characters

In Dhives Akuru, the sign ◌ was used not only for representing VIRAMA, but appears to have been extended to represent particular phonetic features.[11] The combination of certain letters and an explicit VIRAMA sign produced characters with semantic values that differed from typical applications of VIRAMA. There are five such characters, as shown below. These "sukun letters" are discussed in a very limited manner in Mohammed (1999: 27) and the information provided below is based upon that source.

The origins of the characters are unclear. They are not attested in Evela Akuru. It is possible that these characters were developed for Dhives Akuru in order to accommodate Thaana orthography.

1. *alifu sukūn* A + ◌ VIRAMA = . This character represents the glottal stop /ʔ/ and occurs only in word-final position. It is equivalent to Thaana ށ (ALIFU + SUKUN), which represents glottal stop word-finally and gemination word-medially.

2. *sīnu sukūn* SA + ◌ VIRAMA = . This character is used for marking a vowel-less sibilant. It is equivalent to Thaana ސް (SEENU + SUKUN).

3. *nūnu sukūn* NA + ◌ VIRAMA = . This character is used for marking gemination of nasal consonants. It is equivalent to Thaana ން (NOONU + SUKUN).

4. *tā sukūn* TA + ◌ VIRAMA = . This character is used to mark a /y/ off-glide. It is equivalent to Thaana ތް (THAA + SUKUN).

5. *śaviyani sukūn* SHA + ◌ VIRAMA = . This character is semantically identical to *alifu sukūn*. It is equivalent to Thaana ށް (SHAVIYANI + + SUKUN), in which it is used to mark the dative case of nouns in Dhivehi.

The 'sukun characters' are identified in Section 6 as an issue requiring further research.

4.9 Gemination

In Dhives Akuru, gemination was marked using a combining superscript sign. This feature is similar to ◌ U+0A71 GURMUKHI ADDAK.

In Evela Akuru, the sign ◌ was used for marking geminated consonants, eg. NA + NA → + ◌ = .
In Dhives Akuru, the signs ◌ and ◌ were used for marking doubled consonants. (These two signs are used in Evela Akuru for marking prenasalization and as a variant vowel sign. This overlap has been identified in Section 6 as an issue requiring further attention.)

4.10 Nasalization

Nasalization is indicated in various ways. In Evela Akuru, the ◌ CANDRABINDU was used for indicating a nasal sound. In some Dhives Akuru texts, the ◌ VIRAMA was used for marking nasalization (see note on *nūnu sukūn* in Section 4.8).

[11] Mohamed 1999: 27.

4.11 Prenasalized Consonants

Dhivehi has four prenasalized stops: *n̆g*, *n̆ḍ*, *n̆d*, *m̆b*. These are represented in Sinhala using unique characters. In Evela Akuru, prenasalized stops are represented using the mark ◌. Prenasalization is generally not represented in Thaana, but sometimes a bare ނ NOONU is used, eg. ންގ *n̆g*. The mark ◌ is proposed for encoding as PRENASAL SIGN in order to represent Evela Akuru.

4.12 Letters with NUKTA

The letter FA was created by adding a ◌ NUKTA to PA. The *nukta* is generally not used in Dhives Akuru and fa is the only character produced using the sign. It is therefore proposed as an independent character.

4.13 Digits

Digits from a medieval form of the Sinhala script are used. Representative glyphs have not yet been determined. Space has been reserved for ten digits.

4.14 Punctuation

The । *daṇḍā* and ॥ double *daṇḍā* are used in some records. The Dhives Akuru *daṇḍā*-s are similar in form and function to । U+0964 DEVANAGARI DANDA and ॥ U+0965 DEVANAGARI DOUBLE DANDA, and may be unified with the latter characters.

Symbols similar to ෴ U+0DF4 SINHALA PUNCTUATION KUNDDALIYA are used in some *lōmāfanu*. Punctuation marks of this type may be unified with Sinhala KUNDDALIYA.

5 Implementation

5.1 Encoding Model

The *virāma* model should be implemented for Dhives Akuru.

5.2 Linebreaking

Formal rules for linebreaking do not exist. Linebreaking may follow the rules assigned for Devanagari.

5.3 Collation

Several charts show letters of Dhives Akuru arranged according to the traditional Thaana alphabetical order. As several Dhives Akuru letters have no correspondences in Thaana, it might be practical to base the collation pattern for Dhives Akuru upon the order used for Sinhala.

5.4 Character Properties

Properties for Dhives Akuru characters are given below in the Unicode Character Database format:

```
11D00;DHIVES AKURU LETTER A;Lo;0;L;;;;;N;;;;;
11D01;DHIVES AKURU LETTER AA;Lo;0;L;;;;;N;;;;;
11D02;DHIVES AKURU LETTER I;Lo;0;L;;;;;N;;;;;
11D03;DHIVES AKURU LETTER II;Lo;0;L;;;;;N;;;;;
11D04;DHIVES AKURU LETTER U;Lo;0;L;;;;;N;;;;;
11D05;DHIVES AKURU LETTER UU;Lo;0;L;;;;;N;;;;;
11D06;DHIVES AKURU LETTER E;Lo;0;L;;;;;N;;;;;
11D07;DHIVES AKURU LETTER EE;Lo;0;L;;;;;N;;;;;
11D08;DHIVES AKURU LETTER O;Lo;0;L;;;;;N;;;;;
11D09;DHIVES AKURU LETTER OO;Lo;0;L;;;;;N;;;;;
11D0A;DHIVES AKURU LETTER KA;Lo;0;L;;;;;N;;;;;
11D0B;DHIVES AKURU LETTER KHA;Lo;0;L;;;;;N;;;;;
11D0C;DHIVES AKURU LETTER GA;Lo;0;L;;;;;N;;;;;
11D0D;DHIVES AKURU LETTER CA;Lo;0;L;;;;;N;;;;;
11D0E;DHIVES AKURU LETTER JA;Lo;0;L;;;;;N;;;;;
11D0F;DHIVES AKURU LETTER NYA;Lo;0;L;;;;;N;;;;;
11D10;DHIVES AKURU LETTER TTA;Lo;0;L;;;;;N;;;;;
11D11;DHIVES AKURU LETTER DDA;Lo;0;L;;;;;N;;;;;
11D12;DHIVES AKURU LETTER NNA;Lo;0;L;;;;;N;;;;;
11D13;DHIVES AKURU LETTER TA;Lo;0;L;;;;;N;;;;;
11D14;DHIVES AKURU LETTER DA;Lo;0;L;;;;;N;;;;;
11D15;DHIVES AKURU LETTER DHA;Lo;0;L;;;;;N;;;;;
11D16;DHIVES AKURU LETTER NA;Lo;0;L;;;;;N;;;;;
11D17;DHIVES AKURU LETTER PA;Lo;0;L;;;;;N;;;;;
11D18;DHIVES AKURU LETTER BA;Lo;0;L;;;;;N;;;;;
11D19;DHIVES AKURU LETTER MA;Lo;0;L;;;;;N;;;;;
11D1A;DHIVES AKURU LETTER YA;Lo;0;L;;;;;N;;;;;
11D1B;DHIVES AKURU LETTER RA;Lo;0;L;;;;;N;;;;;
11D1C;DHIVES AKURU LETTER LA;Lo;0;L;;;;;N;;;;;
11D1D;DHIVES AKURU LETTER VA;Lo;0;L;;;;;N;;;;;
11D1E;DHIVES AKURU LETTER SHA;Lo;0;L;;;;;N;;;;;
11D1F;DHIVES AKURU LETTER SSA;Lo;0;L;;;;;N;;;;;
11D20;DHIVES AKURU LETTER SA;Lo;0;L;;;;;N;;;;;
11D21;DHIVES AKURU LETTER HA;Lo;0;L;;;;;N;;;;;
11D22;DHIVES AKURU LETTER FA;Lo;0;L;;;;;N;;;;;
11D23;DHIVES AKURU LETTER LLA;Lo;0;L;;;;;N;;;;;
11D24;DHIVES AKURU LETTER ZA;Lo;0;L;;;;;N;;;;;
11D25;DHIVES AKURU VOWEL SIGN AA;Mc;0;L;;;;;N;;;;;
11D26;DHIVES AKURU VOWEL SIGN I;Mc;0;L;;;;;N;;;;;
11D27;DHIVES AKURU VOWEL SIGN II;Mc;0;L;;;;;N;;;;;
11D28;DHIVES AKURU VOWEL SIGN U;Mn;0;NSM;;;;;N;;;;;
11D29;DHIVES AKURU VOWEL SIGN UU;Mn;0;NSM;;;;;N;;;;;
11D2A;DHIVES AKURU VOWEL SIGN E;Mn;0;NSM;;;;;N;;;;;
11D2B;DHIVES AKURU VOWEL SIGN EE;Mc;0;L;11D2A 11D26;;;;N;;;;;
11D2C;DHIVES AKURU VOWEL SIGN AI;Mn;0;NSM;;;;;N;;;;;
11D2D;DHIVES AKURU VOWEL SIGN O;Mc;0;L;11D2A 11D28;;;;N;;;;;
11D2E;DHIVES AKURU VOWEL SIGN OO;Mc;0;L;11D2A 11D04;;;;N;;;;;
11D2F;DHIVES AKURU SIGN VIRAMA;Mn;9;L;;;;;N;;;;;
11D30;DHIVES AKURU PRENASAL SIGN;Mn;0;NSM;;;;;N;;;;;
11D31;DHIVES AKURU SIGN CANDRABINDU;Mn;0;NSM;;;;;N;;;;;
11D32;DHIVES AKURU GEMINATION SIGN;Mn;0;NSM;;;;;N;;;;;
11D40;DHIVES AKURU DIGIT ZERO;Nd;0;L;;0;0;0;N;;;;;
11D41;DHIVES AKURU DIGIT ONE;Nd;0;L;;1;1;1;N;;;;;
11D42;DHIVES AKURU DIGIT TWO;Nd;0;L;;2;2;2;N;;;;;
11D43;DHIVES AKURU DIGIT THREE;Nd;0;L;;3;3;3;N;;;;;
11D44;DHIVES AKURU DIGIT FOUR;Nd;0;L;;4;4;4;N;;;;;
11D45;DHIVES AKURU DIGIT FIVE;Nd;0;L;;5;5;5;N;;;;;
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11D46;DHIVES AKURU DIGIT SIX;Nd;0;L;;6;6;6;N;;;;;
11D47;DHIVES AKURU DIGIT SEVEN;Nd;0;L;;7;7;7;N;;;;;
11D48;DHIVES AKURU DIGIT EIGHT;Nd;0;L;;8;8;8;N;;;;;
11D49;DHIVES AKURU DIGIT NINE;Nd;0;L;;9;9;9;N;;;;;
```

6 Issues

6.1 'Sukun Characters'

As discussed in Section 4.8, the sign ◌ is used for marking glottal stop, gemination, and other features when combined with certain letters. This sign is also used for representing VIRAMA. The 'sukun characters' discussed are idiosyncratic and some, such as *alifu sukūn*, deviate from the semantic and functional value of VIRAMA in Indic scripts.

How should these five characters be represented? Could they be encoded as atomic characters? Should they be represented using a sequence of VIRAMA and a control character, eg. ZWNJ U+200C ZERO WIDTH NON-JOINER?

6.2 Signs With Multiple Semantic Values

There are several characters whose glyphs have retained the same shape, but whose semantic value changed as Evela Akuru developed into Dhives Akuru.

For instance, the mark ◌ was used in Evela Akuru to represent prenasalization, but came to be used in Dhives Akuru to mark geminated consonants. The sign ◌ was used in Evela Akuru as a variant form of VOWEL SIGN II, but in Dhives Akuru was also used to mark gemination.

How should such cases be treated?

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ﷺ ﷺ [= Bodufenvalhuge Sidi]. 1959. ﷺ [= *Divehi Akuru*]. ﷺ [= *evvana bai* ('volume I')]. Male.

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8 Acknowledgments

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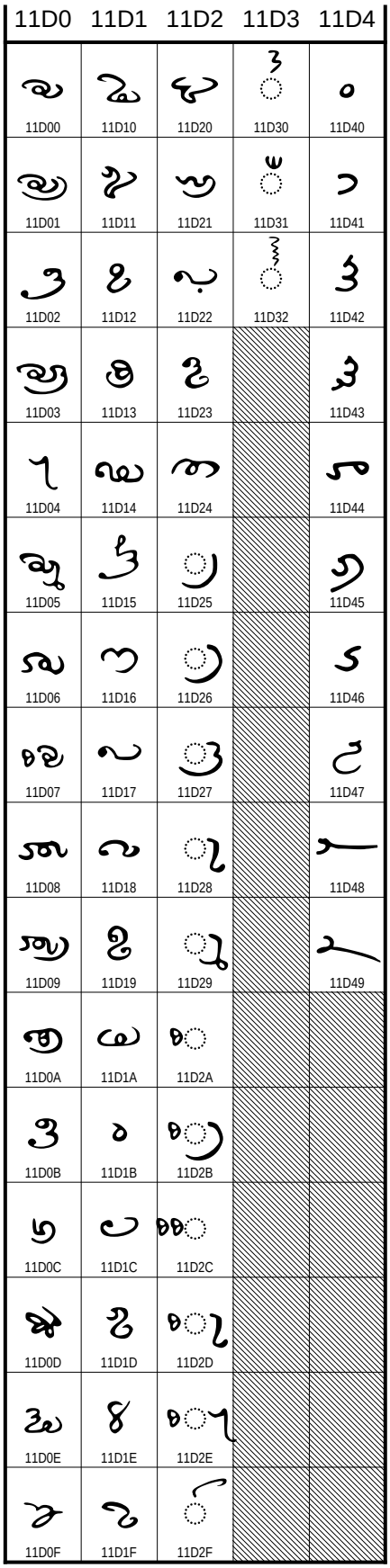


Figure 1: Proposed code chart for Dhives Akuru.

Independent vowels

11D00 𑤀 DHIVES AKURU LETTER A
11D01 𑤁 DHIVES AKURU LETTER AA
11D02 𑤂 DHIVES AKURU LETTER I
11D03 𑤃 DHIVES AKURU LETTER II
11D04 𑤄 DHIVES AKURU LETTER U
11D05 𑤅 DHIVES AKURU LETTER UU
11D06 𑤆 DHIVES AKURU LETTER E
11D07 𑤇 DHIVES AKURU LETTER EE
11D08 𑤈 DHIVES AKURU LETTER O
11D09 𑤉 DHIVES AKURU LETTER OO

Consonants

11D0A 𑤊 DHIVES AKURU LETTER KA
11D0B 𑤋 DHIVES AKURU LETTER KHA
11D0C 𑤌 DHIVES AKURU LETTER GA
11D0D 𑤍 DHIVES AKURU LETTER CA
11D0E 𑤎 DHIVES AKURU LETTER JA
11D0F 𑤏 DHIVES AKURU LETTER NYA
11D10 𑤐 DHIVES AKURU LETTER TTA
11D11 𑤑 DHIVES AKURU LETTER DDA
11D12 𑤒 DHIVES AKURU LETTER NNA
11D13 𑤓 DHIVES AKURU LETTER TA
11D14 𑤔 DHIVES AKURU LETTER DA
11D15 𑤕 DHIVES AKURU LETTER DHA
11D16 𑤖 DHIVES AKURU LETTER NA
11D17 𑤗 DHIVES AKURU LETTER PA
11D18 𑤘 DHIVES AKURU LETTER BA
11D19 𑤙 DHIVES AKURU LETTER MA
11D1A 𑤚 DHIVES AKURU LETTER YA
11D1B 𑤛 DHIVES AKURU LETTER RA
11D1C 𑤜 DHIVES AKURU LETTER LA
11D1D 𑤝 DHIVES AKURU LETTER VA
11D1E 𑤞 DHIVES AKURU LETTER SHA
11D1F 𑤟 DHIVES AKURU LETTER SSA
11D20 𑤠 DHIVES AKURU LETTER SA
11D21 𑤡 DHIVES AKURU LETTER HA
11D22 𑤢 DHIVES AKURU LETTER FA
11D23 𑤣 DHIVES AKURU LETTER LLA
11D24 𑤤 DHIVES AKURU LETTER ZA

Dependent vowel signs

11D25 𑤥 DHIVES AKURU VOWEL SIGN AA
11D26 𑤦 DHIVES AKURU VOWEL SIGN I
11D27 𑤧 DHIVES AKURU VOWEL SIGN II
11D28 𑤨 DHIVES AKURU VOWEL SIGN U
11D29 𑤩 DHIVES AKURU VOWEL SIGN UU
11D2A 𑤪 DHIVES AKURU VOWEL SIGN E
11D2B 𑤫 DHIVES AKURU VOWEL SIGN EE
11D2C 𑤬 DHIVES AKURU VOWEL SIGN AI
11D2D 𑤭 DHIVES AKURU VOWEL SIGN O
11D2E 𑤮 DHIVES AKURU VOWEL SIGN OO

Various signs

11D2F 𑤯 DHIVES AKURU SIGN VIRAMA
= sukun
11D30 𑤰 DHIVES AKURU PRENASAL SIGN
11D31 𑤱 DHIVES AKURU SIGN CANDRABINDU
11D32 𑤲 DHIVES AKURU GEMINATION SIGN

Digits

11D40 𑥀 DHIVES AKURU DIGIT ZERO
11D41 𑥁 DHIVES AKURU DIGIT ONE
11D42 𑥂 DHIVES AKURU DIGIT TWO
11D43 𑥃 DHIVES AKURU DIGIT THREE
11D44 𑥄 DHIVES AKURU DIGIT FOUR
11D45 𑥅 DHIVES AKURU DIGIT FIVE
11D46 𑥆 DHIVES AKURU DIGIT SIX
11D47 𑥇 DHIVES AKURU DIGIT SEVEN
11D48 𑥈 DHIVES AKURU DIGIT EIGHT
11D49 𑥉 DHIVES AKURU DIGIT NINE

Figure 2: Proposed names list for Dhives Akuru.

	DHIVES AKURU	EVELA AKURU		
A			A	—
AA			AA	
I			I	
II			II	
U			U	
UU		?	UU	
E			E	
EE		?	EE	
O			O	
OO		?	OO	

Table 1: Comparison of vowel letters and signs of Dhives Akuru and Evela Akuru

	DHIVES AKURU	EVELA AKURU		DHIVES AKURU	EVELA AKURU
KA			BA		
KHA			MA		
GA			YA		
CA			RA		
JA			LA		
NYA			VA		
TTA			SHA		
DDA			SSA		
NNA			SA		
TA			HA		
DA			FA		—
DHA			LLA		
NA			ZA		—
PA					

Table 2: Comparison of consonant letters of Dhives Akuru and Evela Akuru

	DHIVES AKURU	SINHALA		DHIVES AKURU	SINHALA
KA	𑤀	ක	PA	𑤞	ප
KHA	𑤁	ඛ	BA	𑤟	බ
GA	𑤂	ග	MA	𑤠	ම
CA	𑤃	ච	YA	𑤡	ය
JA	𑤄	ජ	RA	𑤢	ර
NYA	𑤅	ඤ	LA	𑤣	ල
TTA	𑤆	ට	VA	𑤤	ව
DDA	𑤇	ඩ	SHA	𑤥	ශ
NNA	𑤈	ණ	SSA	𑤦	ෂ
TA	𑤉	ත	SA	𑤧	ස
DA	𑤊	ද	HA	𑤨	හ
DHA	𑤋	ධ	LLA	𑤩	ළ
NA	𑤌	න	ZA	𑤪	—

Table 3: Comparison of consonant letters of Dhives Akuru and Sinhala

CONSONANTS		
h	ހ	HAA
ś	ށ	SHAVIYANI
n	ނ	NOONU
r	ރ	RAA
b	ބ	BAA
ļ	ޅ	LHAVIYANI
k	ކ	KAAFU
ʾ	އ	ALIFU
v	ވ	VAAVU
m	މ	MEEMU
f	ފ	FAAFU
d	ދ	DHAALU
t	ތ	THAA
l	ލ	LAAMU
g	ގ	GAAFU
ñ	ޏ	GNAVIYANI
s	ސ	SEENU
ḍ	ޑ	DAVIYANI
z	ޒ	ZAVIYANI
ṭ	ޓ	TAVIYANI
y	ޔ	YAA
p	ޕ	PAVIYANI
j	ޖ	JAVIYANI
c	ޗ	CHAVIYANI
ṇ	ޘ	NAA

VOWEL SIGNS		
-a	◌ަ	ABAFILI
-ā	◌ާ	AABAAFILI
-i	◌ި	IBIFILI
-ī	◌ީ	EEBEEFILI
-u	◌ު	UBUFILI
-ū	◌ū	OOBOOFILI
-e	◌ެ	EBEFILI
-ē	◌ē	EYBEYFILI
-o	◌o	OBOFILI
-ō	◌ō	OABOAFILI
∅	◌ް	SUKUN

Table 4: The Thaana script.

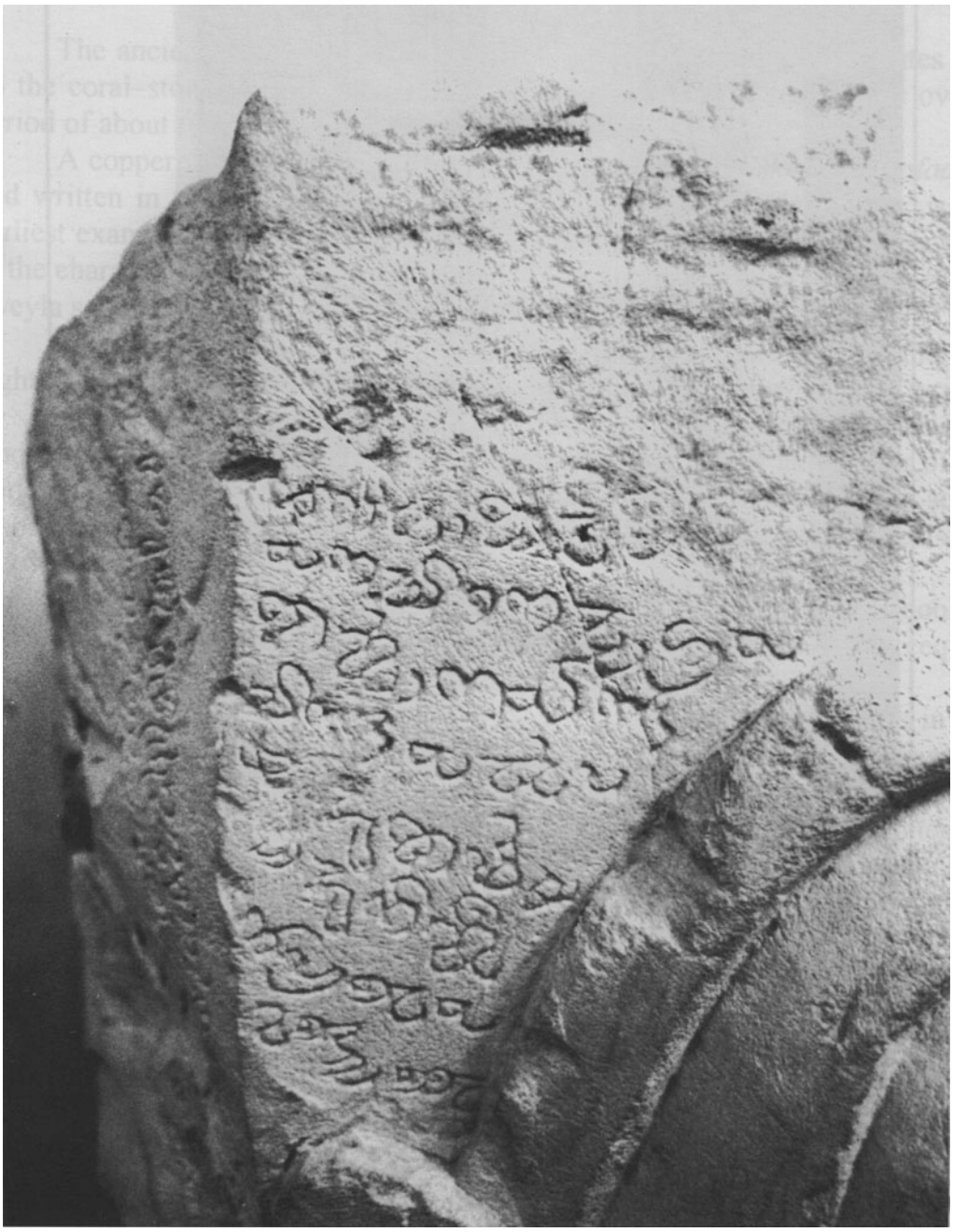


Figure 3: A Vajrayana Buddhist inscription in Evela Akuru on a madrapore stele dated to the 9th or 10th century CE (from Mohamed 1999: 19).

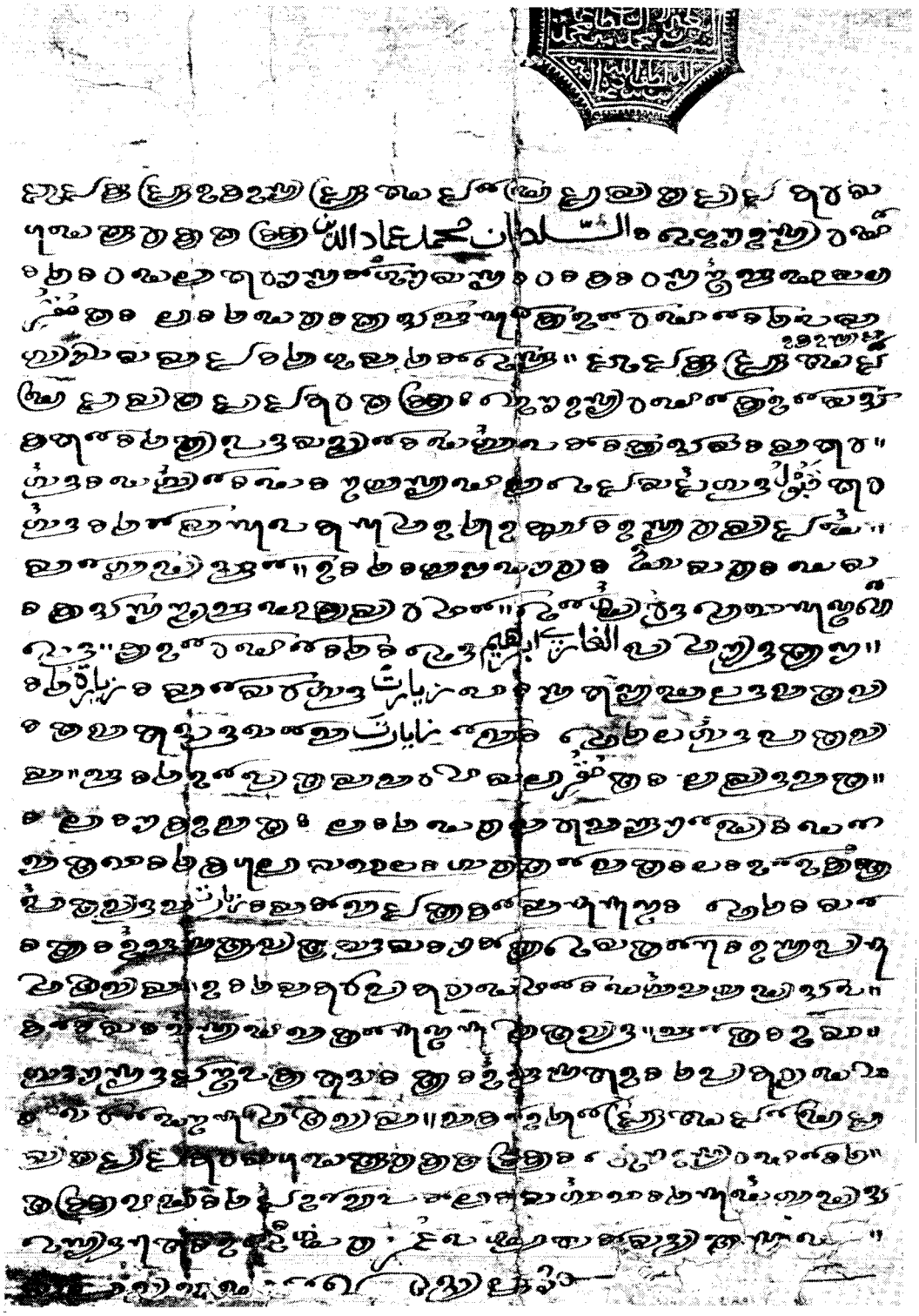


Figure 4: Excerpt from a document written in Dhives Akuru in 1626 CE by the order of Sultan Mohamed Imaduddin (from Mohamed 1999: 30). Note the interspersed Arabic text.

Figure 5: Two folios of the *Dambidū Lōmāfānu* written in Evela Akuru (from Wikipedia: "ދަނބިދޫ ލޯމާފާނު").

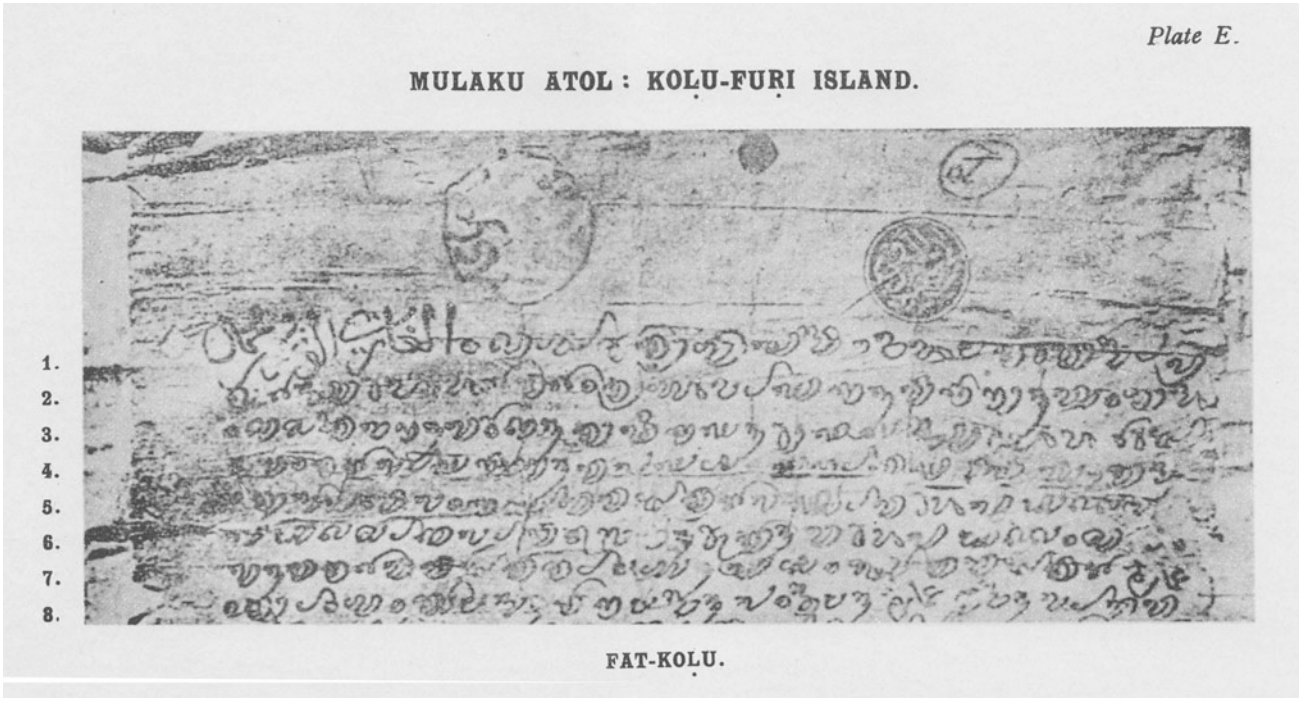


Plate E.

MULAKU ATOL : KOḶU-FURI ISLAND.

1.
2.
3.
4.
5.
6.
7.
8.

FAT-KOḶU.

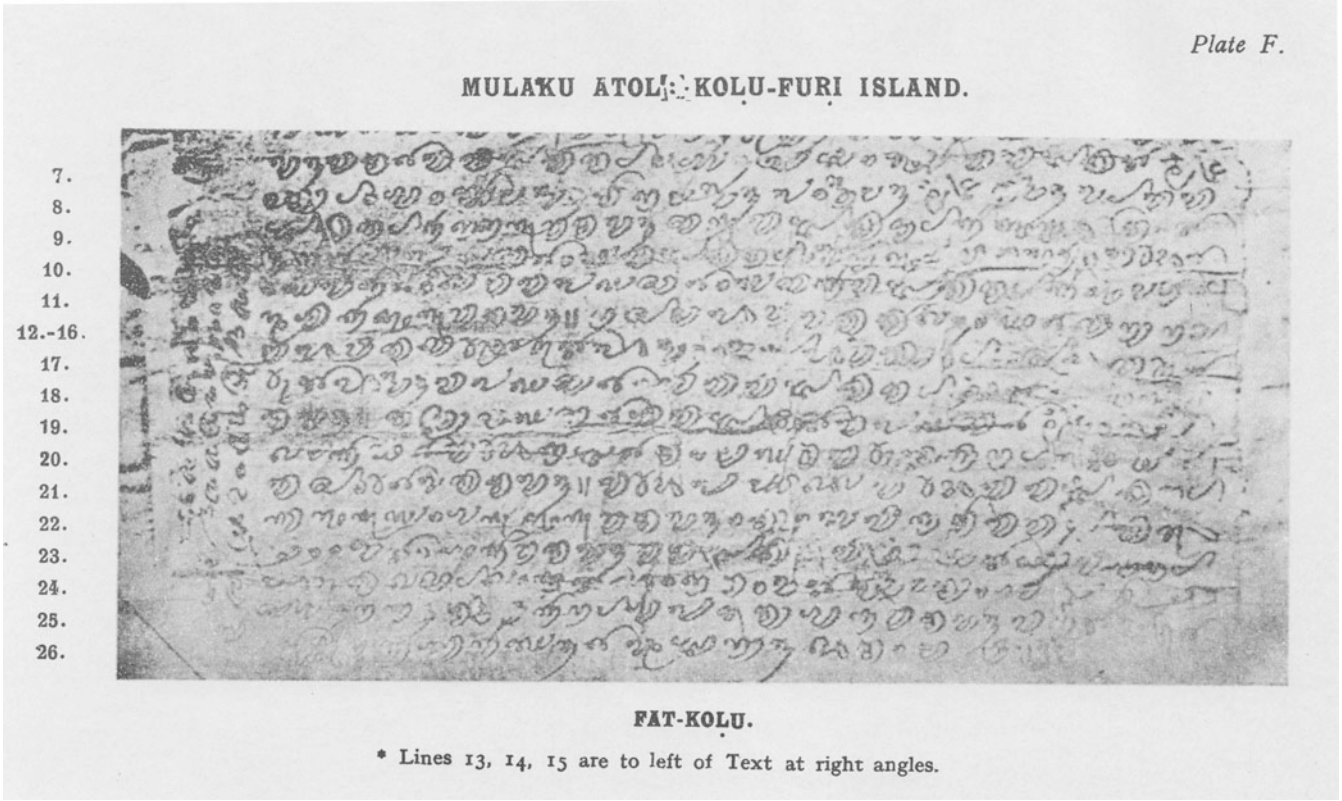


Plate F.

MULAKU ATOL : KOḶU-FURI ISLAND.

7.
8.
9.
10.
11.
12.-16.
17.
18.
19.
20.
21.
22.
23.
24.
25.
26.

FAT-KOḶU.

* Lines 13, 14, 15 are to left of Text at right angles.

Figure 6: A *fatkoḷu* (from Bell 1929: Plate E and Plate F).

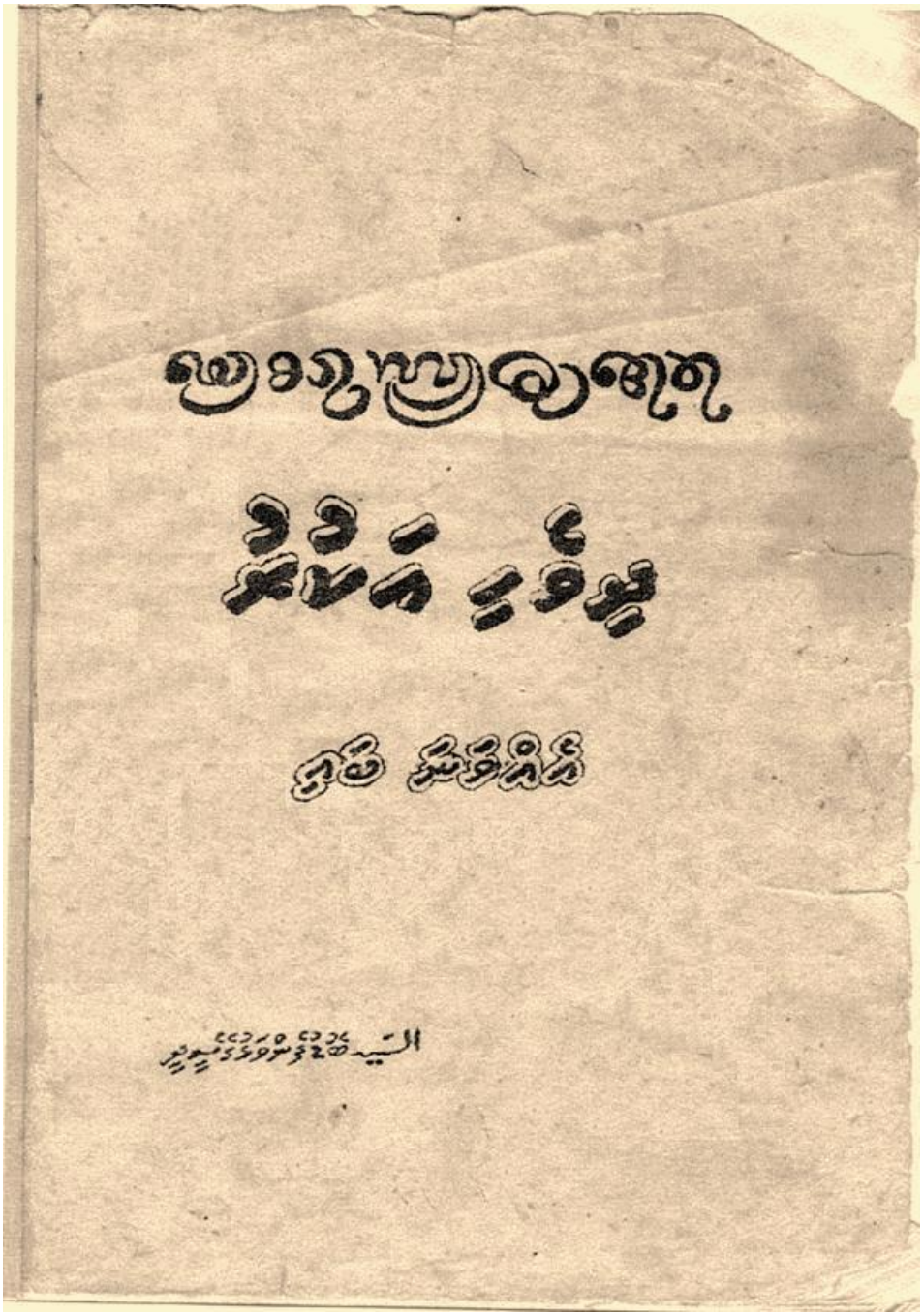
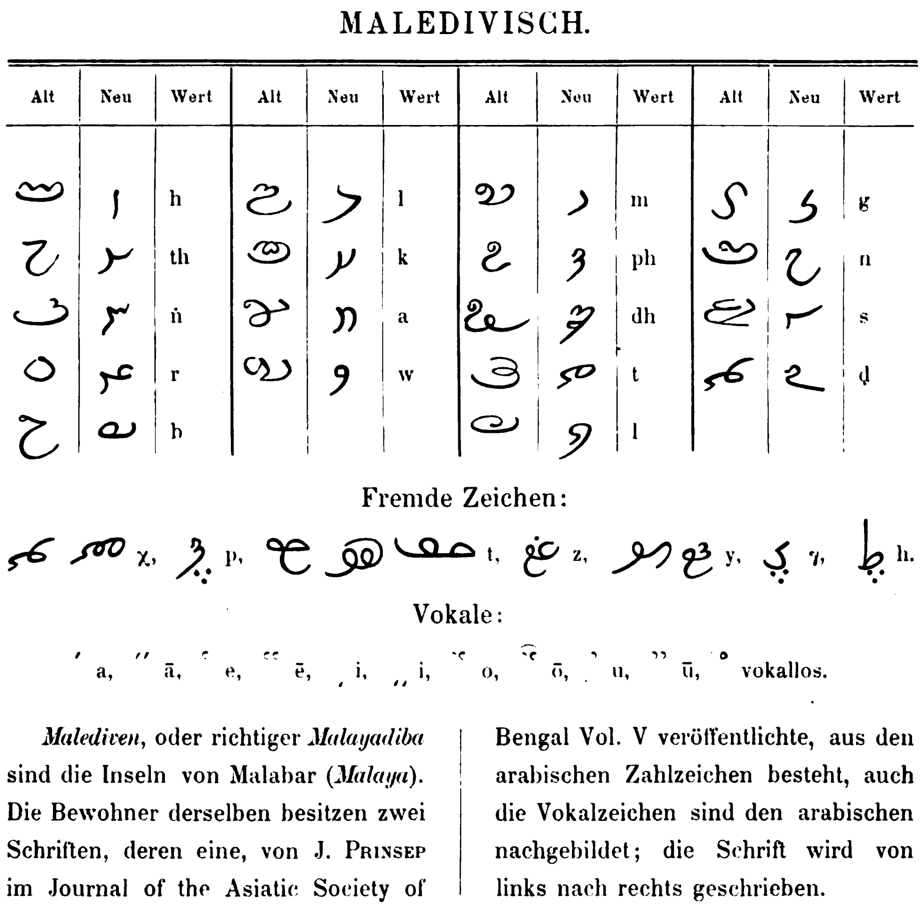


Figure 7: Cover page of a book on Dhives Akuru written by Bodufenvalhuge Sidi (1959) titled "ދިވެހި ތާރީޚް" [*Divehi Akuru*] (from Wikimedia Commons). The text is in both Dhives Akuru and Thaana; the honorific السيد *al-sayyad* appears in Arabic before the author's name.



MALEDIVISCH.

Alt	Neu	Wert	Alt	Neu	Wert	Alt	Neu	Wert	Alt	Neu	Wert
		h			l			m			g
		th			k			ph			n
		ṅ			a			dh			s
		r			w			t			ḍ
		b						l			

Fremde Zeichen:

χ, p, t, z, y, γ, h.

Vokale:

a, ā, e, ē, i, i, o, ō, u, ū, vokallos.

Malediven, oder richtiger *Malayadiba* sind die Inseln von Malabar (*Malaya*). Die Bewohner derselben besitzen zwei Schriften, deren eine, von J. Prinsep im Journal of the Asiatic Society of Bengal Vol. V veröffentlichte, aus den arabischen Zahlzeichen besteht, auch die Vokalzeichen sind den arabischen nachgebildet; die Schrift wird von links nach rechts geschrieben.

Figure 8: (from Faulmann 1880: 155).

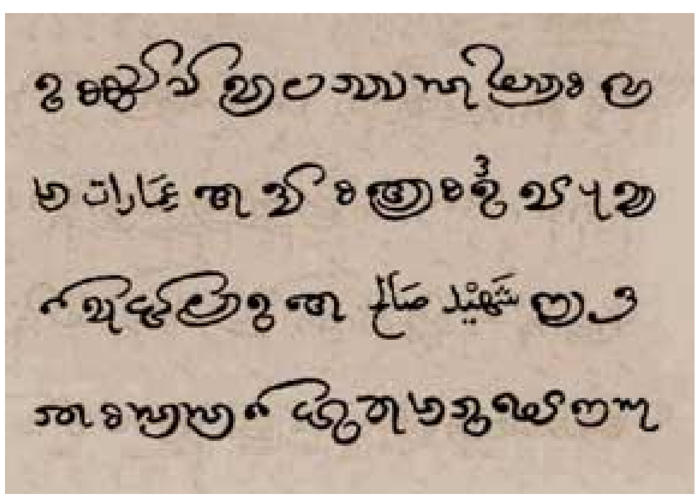


Figure 9: Text in Dhives Akuru with Arabic interspersed (from *Maldives Ethnography*).

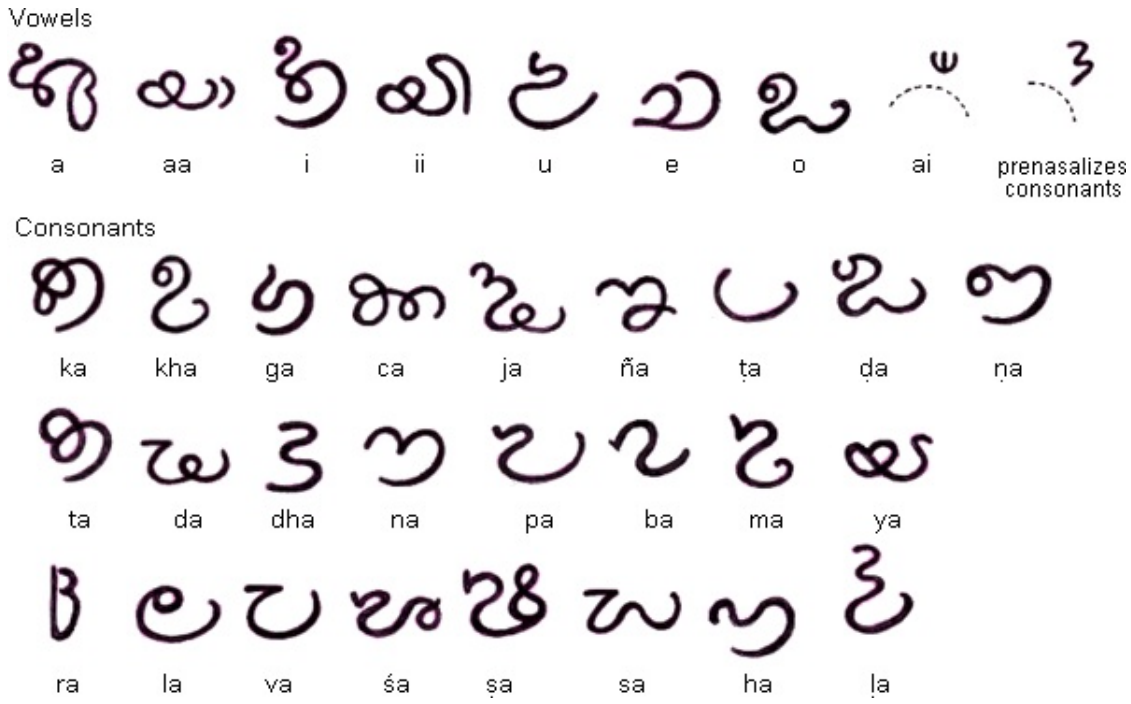


Figure 10: Chart of Evela Akuru (from omniglot.com).

Figure 11: Chart of Dhives Akuru (from ancientscripts.com).

Figure 12: Chart of Dhives Akuru (from omniglot.com).

Figure 13: Comparison of Evela Akuru and Dhives Akuru with other southern Brahmi-based scripts (from Mohamed 1999: Table no. 16).

ISO/IEC JTC 1/SC 2/WG 2
PROPOSAL SUMMARY FORM TO ACCOMPANY SUBMISSIONS
FOR ADDITIONS TO THE REPERTOIRE OF ISO/IEC 10646[12]

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: **Preliminary Proposal to Encode Dhives Akuru in ISO/IEC 10646**
2. Requester's name: **University of California, Berkeley Script Encoding Initiative (Universal Scripts Project); author: Anshuman Pandey (pandey@umich.edu)**
3. Requester type (Member Body/Liaison/Individual contribution): **Liaison contribution**
4. Submission date: **2010-06-30**
5. Requester's reference (if applicable): **N/A**
6. Choose one of the following:
   (a) This is a complete proposal: **No**
   (b) or, More information will be provided later: **Yes**

B. Technical - General

1. Choose one of the following:
   (a) This proposal is for a new script (set of characters): **Yes**
      i. Proposed name of script: **Dhives Akuru**
   (b) The proposal is for addition of character(s) to an existing block: **No**
      i. Name of the existing block: **N/A**
2. Number of characters in proposal: **61**
3. Proposed category: **C - Major extinct**
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. Who will provide the appropriate computerized font (ordered preference: True Type, or PostScript format) for publishing the standard?: **Anshuman Pandey**; **True Type**
   (a) If available now, identify source(s) for the font and indicate the tools used: **The font was designed by Anshuman Pandey using FontForge. A revised font will be developed for the formal proposal.**
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:
   (a) Does the proposal address other aspects of character data processing (if applicable) such as input, presentation, sorting, searching, indexing, transliteration etc. (if yes please enclose information)? **Yes; see text of the proposal**.
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 http://www.unicode.org/Public/UNIDATA/UCD.html and associated Unicode Technical Reports for information needed for consideration by the Unicode Technical Committee for inclusion in the Unicode Standard. **Character properties are included.**

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[12] Form number: N3102-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)

C. Technical - Justification

1. Has this proposal for addition of character(s) been submitted before?: **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.)? **No**
   (a) If Yes, with whom?: **N/A**
      i. If Yes, available relevant documents: **N/A**
3. Information on the user community for the proposed characters (for example: size, demographics, information technology use, or publishing use) is included? **Yes; see text of the proposal.**
   (a) Reference: **N/A**
4. The context of use for the proposed characters (type of use; common or rare): **Common**
   (a) Reference: **The characters were used for administrative purposes in Maldives.**
5. Are the proposed characters in current use by the user community?: **No.**
   (a) If Yes, where? Reference: **A small community of scholars studying Maldivian linguistics, palaeography, and history.**
6. After giving due considerations to the principles in the P&P document must the proposed characters be entirely in the BMP?: **No**
   (a) If Yes, is a rationale provided?: **N/A**
      i. If Yes, reference: **N/A**
7. Should the proposed characters be kept together in a contiguous range (rather than being scattered)? **Yes; the characters belong to a set.**
8. Can any of the proposed characters be considered a presentation form of an existing character or character sequence? **No**
   (a) If Yes, is a rationale for its inclusion provided?: **N/A**
      i. If Yes, reference: **N/A**
9. Can any of the proposed characters be encoded using a composed character sequence of either existing characters or other proposed characters? **No**
   (a) If Yes, is a rationale provided?: **N/A**
      i. If Yes, reference: **N/A**
10. Can any of the proposed character(s) be considered to be similar (in appearance or function) to an existing character? **No**
   (a) If Yes, is a rationale for its inclusion provided? **N/A**
      i. If Yes, reference: **N/A**
11. Does the proposal include use of combining characters and/or use of composite sequences (see clauses 4.12 and 4.14 in ISO/IEC 10646-1: 2000)? **No**
   (a) If Yes, is a rationale for such use provided? **N/A**
      i. If Yes, reference: **N/A**
   (b) Is a list of composite sequences and their corresponding glyph images (graphic symbols) provided? **No**
      i. If Yes, reference: **N/A**
12. Does the proposal contain characters with any special properties such as control function or similar semantics? **No**
   (a) If Yes, describe in detail (include attachment if necessary): **N/A**
13. Does the proposal contain any Ideographic compatibility character(s)? **No**
   (a) If Yes, is the equivalent corresponding unified ideographic character(s) identified? **N/A**
      i. If Yes, reference: **N/A**