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## **The Segmental and Tonal Structure of Verb Inflection in Babanki**

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### **ABSTRACT**

In this paper we present a phonological and morphological analysis of the inflectional marking of the verb in Babanki, a Grassfields Bantu language of the Ring subgroup in Cameroon. We show that both the segmental markers and tonal patterns are sensitive to multiple past and future tenses, perfective vs. progressive aspect, indicative vs. subjunctive mood, and negation. Of particular interest is the discovery of a conjoint-disjoint (CJ/DJ) contrast better known from Eastern and Southern Bantu languages. After presenting the different tense aspect markers, we develop rules assigning tone patterns by tense-aspect-mood-negation. Fourteen appendixes provide full (color-coded) conjugations of eight verbs of different syllable structure and tone.

### **1. Introduction**

The purpose of this paper is to provide a description of tense-aspect-mood (TAM) marking in Babanki, a Grassfields Bantu language of the Ring subgroup spoken in Western Cameroon (Hyman 1980, Akumbu & Chibaka 2012). Similar to related Grassfields Bantu languages, we will show that Babanki distinguishes multiple past and future tenses as well as a progressive/non-progressive aspect distinction. Particularly striking is the discovery of a thorough-going conjoint-disjoint contrast similar to, but more pervasive than the CJ/DJ distinctions which have been extensively documented in Narrow Bantu (see the papers in van der Wal & Hyman 2017 and references cited therein). The various tense aspect markers (TAMs) are expressed through an extensive system of multiple exponence, which may involve pre- and/or post-verbal particles, prefixes and suffixes, and tone. In the following sections we will first present preliminary aspects of Babanki morphology and tonology (§2), then describe the seven indicative tenses as they appear in the perfective (§3), the progressive (§4), and their corresponding negatives (§5). We then turn to the imperative, subjunctive, and conditional moods, first presenting their affirmative forms (§6), then the corresponding negative forms (§7). In our conclusion (§8) we present an analysis integrating all of the forms seen in the preceding sections.

### **2. Preliminaries**

As indicated, Babanki is a member of the Ring subgroup of Grassfields Bantu, with close relatives such as Kom, Bum and Men in Central Ring, Aghem and Isu in Western Ring, and Lamnso and Babungo in Eastern Ring, among others. Previous work on Babanki includes studies by Hyman (1979a, 1980), Mutaka and Chie (2006), Akumbu (2011, 2015, 2016), Akumbu & Chibaka (2012) and Chie (2014). Much of this work has centered around the morphology and tone of elements within the noun phrase, as Babanki has a full Bantoid-like noun class system. However, comparative lexical work has included verbs and especially the study of the verb extension system (Akumbu 2015, Hyman 2018). Only recently have we begun to look systematically at the

verb inflection system, which we report on here.<sup>1</sup> The current materials were compiled by the first author, a native speaker of Kejom Ketinguh (Babanki Tungo) dialect, which differs from the Kejom Keku (Big Babanki) dialect in only minor ways.<sup>2</sup> In order to facilitate the discussion of the tense-aspect system, a few preliminaries are in order.

First, since we will present sentences with both a subject and an object, it is important to note that Babanki is an SVO language, where the object, whether nominal or pronominal, follows the verb. Second, as seen in the following table, there is subject-verb agreement which differs from subject pronouns and is most visible in classes which have a Cə shape, since the schwa that marks other classes may completely fuse with a neighboring vowel.<sup>3</sup>

class	Pro	Agr	class	Pro	Agr
1	ghə	∅	7	ká	á
2	vá	á	8	vá	á
3	ghé	é	9	zə	∅
5	zə	é	10	sə	sə
6	ghé	é	13	tə	tə
6a	mə	∅	19	fə	fə

Table 1. Babanki Subject Pronouns and Concords

An overt class 19 subject concord marker (SM) *fə* is seen in the following example, agreeing with *fənyín* ‘bird’:

- (1) *fənyín fə n-lám lí kə-báyn* ‘A bird cooked fufu’  
 19-bird SM P3-cook P3 7-fufu

As also seen, in its disjoint (DJ) form, the distant past (P3) is marked both by the prefix *n-* as well as the post-verbal particle *lí*. As we will see, a perfective morpheme /ə/ actually occurs between the SM and the verb, but fuses with *fə*. In other tenses preverbal particles can have the shape CV, e.g. general past (P2) /tə/. While (1) clearly shows a SM, we will generally cite sentences where the subject is the name *búŋ* ‘Bung’ belonging to class 1, which does not have a SM.

<sup>1</sup> The first author acknowledges the Fulbright Scholar Program for a Fulbright African Research Scholar Grant to the University of California Berkeley (2015-2016) and the Alexander von Humboldt Foundation for a Georg Forster Research Fellowship for Experienced Researchers (2019-2020) which have allowed for greater progress and the present collaboration. Special thanks to two other Kejom Ketinguh speakers: Regina Phubong and Vivian Ba-ah who contributed some of the data.

<sup>2</sup> Only a few lexical items are different in the two dialects (examples to the left are from Kejom Keku while those to the right are from Kejom Ketinguh): *fəmváŋ* vs. *túbù* ‘jigger’; *kəbwín* vs. *jì* ‘road’; *wúŋ* vs. *fəlám* ‘fishing net’. There are also a few sound differences: *kəbòndə* vs. *kəbòlə* ‘calabash’; *kəbwá* vs. *kəbyá* ‘half’; *wàn* vs. *wàyn* ‘child’; *kənshíf* vs. *kənfyíf* ‘blindness’.

<sup>3</sup> We have indicated the standard Bantu numbering since the noun classes that exist in Babanki correspond to those reconstructed in Proto-Bantu (Meeussen 1967). In transcribing Babanki forms, we recognize 26 consonants [b, t, d, k, g, ʔ, m, n, ny, ŋ, f, v, s, z, sh, zh, gh, pf, bv, ts, dz, ch, j, l, w, and y] and 8 vowels [i, í, ɪ, u, e, o, ə, a]. We follow IPA transcription except that [ʃ, ʒ, ɲ, ɣ, j] are transcribed [sh, zh, ny, gh y] respectively, and [ɪ] represents IPA [ɪ].

Turning to the structure of the verb, the verb root may have the shape CV or CVC, while the verb stem can be CV, CVC, CVCV or CVCCV. The bisyllabic stem forms derive diachronically from a root + suffix, which may be either identifiable as a “verb extension” (e.g. causative, pluractional)<sup>7</sup>, or can be lexically frozen on the root. In Table 2, the verbs cited in our study are presented in their root, stem, infinitive, and imperative forms.

root tone	root	stem	infinitive	imperative	gloss	stem shape
H	zhí	zhí	á- <sup>+</sup> zhí	zhí	‘eat’	CV
H	lám	lám	á- <sup>+</sup> lám	lám	‘cook’	CVC
H	shí	shítá	á- <sup>+</sup> shítá	shítá	‘collect’	CVCV
H	səŋ	səŋtá	á- <sup>+</sup> səŋtá	səŋtá	‘sift’	CVCCV
L	lè	lè	á-lè	lèé	‘lose’	CV
L	kùm	kùm	á-kùm	kùmá	‘touch’	CVC
L	shì	shìsə	á-shìsə	shìsá	‘remove’	CVCV
L	lìm	lìmsə	á-lìmsə	lìmsá	‘heat’	CVCCV

Table 2. Babanki Verbs Cited in this Study

As seen, verb roots contrast high (H) and low (L) tone, marked with an acute (´) vs. grave (̀) accent. Suffixes are underlyingly toneless and take the same tone as the root unless a conflicting suffix tone is assigned by a specific TAM. In the examples *səŋtá* ‘sift’ has the pluractional suffix *-tə* (cf. *səŋ* ‘sift’) while *lìmsə* ‘heat’ has the causative suffix *-sə* (cf. *lìm* ‘be hot’). Analyzing these (and more complex) forms requires further discussion of the tone system. The underlying /H/ and /L/ are subject to various tone rules which produce additional surface contrasts. The infinitive prefix *á-* in Table 2 causes a H tone root to be downstepped, marked by the down arrow (<sup>+</sup>). We attribute this to a floating L which follows the schwa, i.e. /ə̀/, and which also prevents the H of the prefix from spreading onto a L verb root. In addition, there is a third, derived surface-contrastive mid (M) pitch height, marked by a macron (̄). Falling HL (ˆ) and rising LH (ˇ) tones also occur, but are much more restricted. In the data to be presented they only occur on preverbal TAM particles and not on the verb stem itself.<sup>4</sup> M tones derive from two sources (cf. Hyman 1979, Akumbu 2019), illustrated in the following examples involving the H and L tone verb roots /lám/ ‘cook’ and /kùm/ ‘touch’:

- (2) a. lám kə́báyn                      ‘cook fufu!’                      (imperative)  
 b. kùmá kə́báyn                      ‘touch fufu!’
- (3) a. Búŋ t̄ə lám kə́báyn              ‘Bung cooked fufu’              (P2 conjoint general past)  
 b. Búŋ t̄ə kùm kə́báyn              ‘Bung touched fufu’

In (2) we see that the noun class prefix /kə́-/ is raised to M between two H tones. As was also seen in Table 2, the L tone verb in (2b) has acquired an epenthetic schwa to avoid the rising tone

<sup>4</sup> The only time a verb can have a HL tone is when it occurs clause-finally in certain non-indicative moods such as the hortative, e.g. *yúwù kùm* ‘let’s touch!’ (see §6). Contour tones are also rare on nouns, occurring only on the first stem syllable, mostly limited to borrowings, lexicalized compounds, and reduplications, e.g. *lám* ‘lamp’, *sə* ‘saw’, *ànkũnyàm* ‘pig’, *bũbũ* ‘deaf (mute) person’, *fənzõnzdò* ‘bird (sp.)’.

that would otherwise result from combining the root L with the H suffix tone of the imperative (\**kǔm*). Such register raising of L to M occurs only in TAMs which assign a H suffix to the verb.

The second source seen in (3a) owes its existence to a rule of L tone spreading (LTS), here applying from the P2 TAM marker /tə/ onto the H verb root /lám/ ‘cook’. Since the language does not tolerate rising tones on lexical morphemes, the result in this case is to shift the H onto the prefix, producing an intermediate HL falling tone (*lám kǎbáyǎn*). The resulting L-HL-H sequence is then converted to L-M-H (cf. Hyman 1979, Akumbu 2019). Although beyond the scope of this paper, whether LTS will apply onto a monosyllabic verb depends on what follows it:

(4) a. LTS applies

with object:	Búŋ tǎ làm kǎbájǎn	‘Bung cooked the fufu’
	Búŋ tǎ làm kǎtǎ?	‘Bung cooked the snail’
adverbial:	Búŋ tǎ làm nántô	‘Bung cooked too much’
preposition:	Búŋ tǎ làm nǎ mbàsǎ	‘Bung cooked with soup’
WH-question:	Búŋ tǎ làm ghǎ	‘what did Bung eat?’

b. LTS doesn’t apply

Multiverb:	Búŋ tǎ lám ǎ mǎ	‘Bung finished cooking/cooked completely’
Y-N question:	Búŋ tǎ lám ǎ	‘Did Bung eat?’
Final position:	Búŋ ǎ tǎ lám	‘Bung cooked’

As seen in (4a), it is only a L-H noun which becomes M-H. In other cases the H of the verb /lám/ is lost—although /ghǎ/ ‘what’ has acquired the H (compare *Búŋ tǎ kǔm ghǎ* ‘what did Bung touch?’ where the verb *kǔm* is L tone and /ghǎ/ remains L). In (4b) LTS does not apply when followed either by a consecutivized verb (‘cook & finish’) or the yes-no question marker /ǎ/. The last example shows that LTS also will not apply if the monosyllabic verb is final. Since the conjoint verb form cannot occur finally in a main clause affirmative (MCA), the corresponding disjoint form is cited (where the P2 marker /tə/ → [tǎ] by H tone spreading from the preceding DJ marker /ǎ/—see discussion in §3). Finally, it should be noted that a bisyllabic H-H verb undergoes LTS independent of what follows, hence finally: *Búŋ ǎ tǎ sǎŋtǎ* ‘Bung sifted’.

In the following discussion we will almost exclusively cite forms where the verb is followed by the object noun *kǎbájǎn* ‘fufu’ so that we can see whether the process of LTS occurs. In the following sections we first analyze the indicative tense-aspect contrasts starting with perfective (§3), then progressive (§4), and negative (§5), and then turn to non-indicative forms (§6).

### 3. Perfective forms

In this section we will introduce the temporal contrasts and describe their realization in the perfective aspect. As summarized in Table 3, Babanki distinguishes four present/past and three future tenses, which we refer to as P0-P3 and F1-F3. We indicate the pre-verbal segmental tense auxiliaries which are held constant across the perfective and progressive aspects as well as in the corresponding negatives. (F2 *nǎ* and F3 *lǎ* are also consistently present in non-indicative moods.)

Tense	AUX	Approximate time period
P0	`	Present, a few minutes ago
P1	yì	Today
P2	tè	Yesterday to about 2 weeks ago
P3	N-	More than 2 weeks ago
F1	à	Not longer than in a few minutes
F2	nè	Later today
F3	lù	From tomorrow on

Table 3. Babanki Tense Distinctions

As indicated, the P1, P2, F1, F2 and F3 tenses have L tone segmental auxiliaries. The P0 and P3 do not have a segmental auxiliary, although the latter requires a nasal prefix on the verb. Since tone is also involved, these markers tell only part of the story. In addition, in the perfective aspect there is a distinction between conjoint (CJ) and disjoint (DJ) forms in all seven tenses. We schematize the analysis of MCA perfective tense marking in Table 4, where ... refers to the position of the verb stem. The tonal marking is intended to be underlying, e.g. P1 DJ /ə̀ yì/ and P2 /ə̀ tè/ which are however realized [ə̀ yí] and [ə̀ tɛ̀] by H tone spreading. Examples involving all of the verbs in Table 2 can be found in Appendix 1.

Tense	Conjoint	Disjoint
P0	` ...	ə́ ... ` lí
P1	yì ...	ə́ yì ...
P2	tè ...	ə́ tè ...
P3	N ... (´)	ə́ N ... ` lí
F1	à ...	ə́ à ... ´
F2	nè ...	ə́ nè ... ´
F3	lù ...	ə́ lù ... ´

Table 4. Conjoint and Disjoint Tense Marking

Since the CJ/DJ distinction is found only in MCA perfective forms, we can refer to these directly as “conjoint” and “disjoint” or CJ and DJ. The above contrasts have all of the properties of the CJ/DJ contrast reported in Bantu, e.g. in the studies in van der Wal & Hyman (2017):<sup>5</sup>

- (i) The DJ is used with truth value focus, either contrastively (‘Bung DID eat the fufu’) or when the truth value is part of the assertion (i.e. not presupposed): “Hey, guess what? Bung ate the fufu’).
- (ii) The CJ is used when the truth value is presupposed, either in answer to a question ‘What happened?’ (answer: ‘Bung ate the fufu’) or when focus is on another element of the

<sup>5</sup> Although they differ in form, the Babanki CD/DJ also parallels the contrast reported in non-future tenses in Aghem, a Western Ring Grassfields Bantu language (Anderson 1979, Watters 1979), as well as in certain other non-Bantu languages (Hyman & Watters 1984). More closely related within Central Ring, Kom also has a CJ/DJ contrast, again marked by different forms, as in the general past *Ngóŋ tí jùm mēnywín* (CJ) vs. *Ngóŋ tí mēn jùm mēnywín* (DJ) ‘Ngong drove away the birds’ (second author, personal notes).

utterance, either in answer to a WH question, e.g. ‘Who ate the fufu?’, answer: ‘BUNG ate the fufu’. ‘What did Bung eat?’, answer: ‘Bung ate the FUFU’. ‘What did Bung do with the fufu?’, answer: -‘Bung ATE the fufu’, or contrastively, e.g. ‘Bung ate the FUFU, not the vegetables’.

- (iii) The verb can occur at the end of a MCA sentence with DJ marking; it cannot occur at the end of a MCA sentence with CJ marking (there must be something following the verb).
- (iv) There is no CJ/DJ contrast in negatives or relative clauses (where the verb can occur last).
- (v) As we will see in subsequent sections, non-contrastive negative and relative clause marking of P (non-future) tenses looks like the CJ marking in main clause affirmatives (where one does not expect focus marking of truth value). While this is typical of CJ/DJ languages, the future tenses are different: their marking in negatives and relative clauses looks more like the DJ in main clause affirmative clauses.
- (vi) The DJ forms are more segmentally marked than the CJ forms. As seen in Table 4, the DJ forms all involve a H tone schwa that precedes the TAM auxiliary. P0 and P3 also have a postposed marker /` lí/.

We start with the CJ forms, since they are segmentally and tonally simpler. Representative forms of all seven CJ tenses are provided in the first data column in Appendix 1, color-coded for tone pattern. Except for the P3, all of the cells are gray, indicating that the verb is preceded by the L auxiliary indicated above in Table 4. (The P0 auxiliary is a floating L tone.) While the L tone auxiliary has no effect on L tone roots, it causes H tone roots to become L by LTS, as in the P2 forms in (5).

- (5) a. Búŋ tɛ̀ zhì kə̀báyn ‘Bung ate the fufu’
- b. Búŋ tɛ̀ lám kə̀báyn ‘Bung cooked the fufu’
- c. Búŋ tɛ̀ sɛ̀ŋtə́ kə̀báyn ‘Bung sifted the fufu’

As seen the L of P2 /tɛ̀/ spreads and delinks the underlying root H of /zhí/ ‘eat’, /lám/ ‘cook’ and /sɛ̀ŋtə́/ ‘sift’.<sup>6</sup> In (5a,b), where the verb stems are monosyllabic, this frees the H, which then joins the L of the following class 7 noun prefix /kə̀-/ to form a M tone. In the case of bisyllabic /sɛ̀ŋtə́/ (→ sɛ̀ŋtə́) in (5c), only its first H delinks, with the suffix -tə́ maintaining the H tone. Since the H is not reassigned to the following noun, its /kə̀-/ prefix remains L, as it also is after a L tone verb:

- (6) a. Búŋ tɛ̀ lè kə̀báyn ‘Bung lost the fufu’
- b. Búŋ tɛ̀ kùm kə̀báyn ‘Bung touched the fufu’
- c. Búŋ tɛ̀ lím sɛ̀ kə̀báyn ‘Bung heated the fufu’

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<sup>6</sup> Recall that suffixes are toneless, taking their tone from the root. As we will see, some TAMs assign a L suffixal tone that may cause a bisyllabic H root stem to be realized H-L (as in progressive forms—see §4), while other TAMs assign a H suffix tone that may cause a bisyllabic L root stem to be realized L-H (as in the P3 CJ as well as the imperatives seen in Table 2.)

A glance at the other CJ tenses in Appendix 1 will reveal that with the exception of P3 they all share the same tone pattern. P3 is also exceptional in being the only perfective tense that requires a nasal prefix on the verb (also in the DJ). The H tone verbs undergo LTS and have the same realization as the other CJ tenses:

- (7) a. Búŋ è nzhì kə́báyn ‘Bung ate the fufu’  
 b. Búŋ è nlàm kə́báyn ‘Bung cooked the fufu’  
 c. Búŋ è nsə̀ŋtə́ kə́báyn ‘Bung sifted the fufu’

The L tone verbs, however, show a different pattern in the P3:

- (8) a. Búŋ è nlèè kə́báyn ‘Bung lost the fufu’  
 b. Búŋ è ŋkùmá kə́báyn ‘Bung touched the fufu’  
 c. Búŋ è nlimsə́ kə́báyn ‘Bung heated the fufu’

First, the monosyllabic verbs in (8a,b) acquire a second H tone schwa syllable, which assimilates to the vowel of a CV root, but is realized [é] after a CVC root, also conditioning the class 7 prefix /kə-/ to become M. Given that the L verbs show this different pattern, we have encoded the P3 CJ cell blue.

We are now ready to consider the corresponding DJ forms in the second data column of Appendix 1. As seen, these all involve a DJ marker /é/ occurring between the subject and the verb (which however fuses with the /á/ auxiliary in the F1). Except for the spreading of the H of this /é/ onto the TAM auxiliaries /yì/ and /tə̀/, yielding [yî] and [tê], the P1 and P2 tone patterns are the same as CJ, hence shaded grey in Appendix 1. Again we illustrate with the P2 H and L verb forms in (9) and (10), respectively.

- (9) a. Búŋ é tē zhì kə́báyn ‘Bung ate the fufu’  
 b. Búŋ é tē làm kə́báyn ‘Bung cooked the fufu’  
 c. Búŋ é tē sə̀ŋtə́ kə́báyn ‘Bung sifted the fufu’

- (10) a. Búŋ é tē lè kə́báyn ‘Bung lost the fufu’  
 b. Búŋ é tē kùm kə́báyn ‘Bung touched the fufu’  
 c. Búŋ é tē limsə̀ kə́báyn ‘Bung heated the fufu’

Both P0 and P3 work differently from the CJ and are hence shaded orange. First, they both acquire a post-verbal auxiliary /lí/, represented by the P3 DJ forms in (11) and (12).

- (11) a. Búŋ é nzhí ‘lí kə́báyn ‘Bung ate the fufu’  
 b. Búŋ é nlám ‘lí kə́báyn ‘Bung cooked the fufu’  
 c. Búŋ é nsə̀ŋtə́ ‘lí kə́báyn ‘Bung sifted the fufu’

- (12) a. Búŋ é nlèè lí kə́báyn ‘Bung lost the fufu’  
 b. Búŋ é ŋkúmè lí kə́báyn ‘Bung touched the fufu’  
 c. Búŋ é nlimsə̀ lí kə́báyn ‘Bung heated the fufu’



In (11) we see that the verbs are realized H followed by the downstep of <sup>4</sup>lí, which we interpret as triggered by a floating L tone. In (12) the H of the DJ auxiliary /ǎ/ spreads through the toneless nasal prefix onto the verb, creating a HL sequence. In (12a,b) an extra mora is observed which avoids the creation of a HL falling tone on the roots: \*[lê], \*[kûm]. Since /lí/ is preceded by a L tone, there is no contrastive downstep, although Babanki is subject to automatic downstep or “downdrift”. In the above forms and elsewhere where present, a nasal prefix is underlyingly toneless, realized M between H tones, otherwise L if preceded or followed by L.<sup>7</sup> As seen in Appendix 1, the P0 DJ forms are identical to the P3 DJ except that they lack a nasal prefix.

This leaves the future DJ tenses, which have a still different tone pattern and hence are encoded yellow. As seen in Appendix 1, the H of the DJ marker /ǎ/ spreads onto the future auxiliaries /à/, /nè/ and /lù/. Rather than creating a HL falling tone, the result is that the L of these markers is delinked. As seen in the F2 DJ forms in (13), the delinked L triggers downstep on H tone verbs.<sup>8</sup>

- (13) a. Búŋ ǎ né ‘zhí kǎbáyŋ      ‘Bung will eat the fufu’  
 b. Búŋ ǎ né ‘lám kǎbáyŋ      ‘Bung will cook the fufu’  
 c. Búŋ ǎ né ‘sǎŋtǎ kǎbáyŋ      ‘Bung will sift the fufu’

The corresponding L tone verbs show that the future DJ forms also involve a post-verbal H which fuses with the L tone of the noun prefix /kǎ-/, converting it to M:

- (14) a. Búŋ ǎ né lè kǎbáyŋ      ‘Bung will lose the fufu’  
 b. Búŋ ǎ né kùm kǎbáyŋ      ‘Bung will touch the fufu’  
 c. Búŋ ǎ né límśǎ kǎbáyŋ      ‘Bung will heat the fufu’

Although only tonal, the presence of a second post-verbal DJ marker is of course less surprising given the post-verbal DJ marker /lí/ in the P0 and P3.

This completes our discussion of the CJ and DJ perfective forms. In the following section we examine the same tenses in the progressive aspect, provided in the third data column of Appendix 1.

#### 4. Progressive forms

The first important thing to note is that the progressive forms do not distinguish CJ from DJ. There is only one form per tense which is marked by a nasal prefix except in the P0 and a /L/ schwa suffix on the verb. In most cases the /L/ /-ǎ/ suffix is realized with the same tone as the verb root:

<sup>7</sup> For discussion of the interaction of prenasal nasals with tone in the noun class system, see Akumbu & Hyman (2017).

<sup>8</sup> Since /à/, /nè/ and /lù/ are auxiliaries, we might expect them to tolerate a HL tone, as in the P1 DJ [yí] and P2 DJ [tǎ]. We speculate that the reason why the L delinks is that the F1 and F2 auxiliaries are less grammaticalized and hence retain some of their original lexical root status as earlier verbs (cf. *nè* ‘do, act’, *lù* ‘rise up, get up in the morning’). They are, however, apparently not “lexical” enough to lengthen their vowel to *\*néè* and *\*lúù*.

- (15) a. Búŋ lámé kəbáyŋ ‘Bung is cooking fufu’ (P0)  
 b. Búŋ tǎ nlámé kəbáyŋ ‘Bung was cooking fufu’ (P2)  
 c. Búŋ é né nlámé kəbáyŋ ‘Bung will be cooking fufu’ (F2)
- (16) a. Búŋ kùmè kəbáyŋ ‘Bung is touching fufu’ (P0)  
 b. Búŋ tǎ ŋkùmè kəbáyŋ ‘Bung was touching fufu’ (P2)  
 c. Búŋ é né ŋkùmè kəbáyŋ ‘Bung will be touching fufu’ (F2)

It is however the H-L pattern of the CV(C)CV verb stems /səŋtə/ ‘sift’ and /shítə/ ‘collect’ that show that the suffix must be L:

- (17) a. Búŋ səŋtə kəbáyŋ ‘Bung is sifting fufu’ (P0)  
 b. Búŋ tǎ nsəŋtə kəbáyŋ ‘Bung was sifting fufu’ (P2)  
 c. Búŋ é né nsəŋtə kəbáyŋ ‘Bung will be sifting fufu’ (F2)

We therefore propose that the H of the root spreads and delinks the L of CV-ə and CVC-ə stems, producing an all H verb stem in (15), while H tone spreading is blocked when the verb stem has a suffix such as the /-tə/ in (17). In all cases the progressive L keeps the following /kə-/ suffix L.

As seen in the above forms and in the third column of data in Appendix 1, what is significant is that all progressive forms have the same tonal pattern throughout all of the tenses which overrides the distinctions found in other columns.<sup>9</sup> We have shaded this pattern green.

While the input of tense markers is the same as in Table 3, the following curious fact should be noted: the P tenses show the same segmental marking as the CJ forms in column 1, while the F tenses have the same /é/ preceding the tense auxiliary as in the DJ forms in column 2. There are tonal differences, however.<sup>10</sup> First, except in the P3, the P tenses have a H tone following the tense auxiliary which produces a rising tone in the case of P1 and P2: /yì’/ → [yǐ], /tə’/ → [tǎ]. The same H tone accounts for the tonal differences between the P0 CJ and the corresponding progressive:

- (18) a. /Búŋ ` lám kəbáyŋ/ → Búŋ lám kəbáyŋ ‘Bung has cooked the fufu’  
 b. /Búŋ ´ lám-ə kəbáyŋ/ → Búŋ lámé kəbáyŋ ‘Bung is cooking the fufu’

<sup>9</sup> As will be seen in §5 and §6, the same tone pattern is also found throughout the negative progressive paradigm as well as in non-indicative moods.

<sup>10</sup> The *preverbal* high tone effects in the future progressives seem to correlate with the *postverbal* high tones of the futures in the DJ paradigm. So on purely formal grounds one might come to think that actually the progressive future forms retain periphrastic traits in that the tense markers (two of which, F1 *nè* and F2 *lù*, have been identified as originating in erstwhile verbs) are inflected for the DJ (accounting for the tonal effects in the yellow cells of Appendix 1) whereas the verb itself is segmentally marked for the progressive by the marker combination N- ... -ə. This leaves us with the (open) question of the semantic link between both categories, i.e. the progressive paradigm and the disjoint perfective paradigm in the future tenses. Taking this line of argumentation one step further and giving it a slightly different spin, one might as well see the quirky extra H tone in all progressive past tenses, except P3, in the same context, i.e. as taking part in a general progressive pattern of N- ... -ə, possibly representing (relics of) an erstwhile periphrastic construction of an auxiliary plus nominalized main verb. Under this assumption, P0 and P3 stand out in that they do not share the full package of markers, P0-PROG lacking N- and P3 lacking the preverbal H (and possibly also the progressive N-, since the nasal prefix might as well be interpreted as the ordinary P3 marker).

As seen in (18a), a L tonal morpheme precedes the verb in the P0 CJ which links to the verb, causing its H to delink. The delinked H then causes the following /kə-/ noun prefix to become M. In contrast, in (18b) a H tonal morpheme precedes the verb in the P0 progressive, and the verb is realized H-H with its schwa suffix. The /kə-/ noun prefix is therefore not affected.

## 5. Negative forms

From the forms in Appendix 2 it can be observed that negative indicative verb forms all involve the markers *á kó`* preceding the tense auxiliaries, as in the following P2 Neg perfective forms:

- (19) a. *Búŋ á kó tɛ̀ zhì kə́báyn* ‘Bung did not eat the fufu’  
 b. *Búŋ á kó tɛ̀ lám kə́báyn* ‘Bung did not cook the fufu’  
 c. *Búŋ á kó tɛ̀ sɛ̀ŋtá kə́báyn* ‘Bung did not sift the fufu’
- (20) a. *Búŋ á kó tɛ̀ lè kə́báyn* ‘Bung did not lose the fufu’  
 b. *Búŋ á kó tɛ̀ kùm kə́báyn* ‘Bung did not touch the fufu’  
 c. *Búŋ á kó tɛ̀ lím sɛ̀ kə́báyn* ‘Bung did not heat the fufu’

As mentioned, there is no CJ/DJ distinction in the negative, although it is tempting to identify the omnipresent negative H tone schwa as the same *á* observed in the DJ, summarized above in Table 4.<sup>11</sup> Table 2 also shows that the progressives have the same tones as in the affirmative, again shaded in green. Thus compare the following sentences with those in (15) and (16).

- (21) a. *Búŋ á kó ʼlámə́ kə́báyn* ‘Bung is not cooking fufu’ (P0)  
 b. *Búŋ á kó tɛ̀ n\_lámə́ kə́báyn* ‘Bung was not cooking fufu’ (P2)  
 c. *Búŋ á kó ʼné n\_lámə́ kə́báyn* ‘Bung will not be cooking fufu’ (F2)
- (22) a. *Búŋ á kó kùmə̀ kə́báyn* ‘Bung is not touching fufu’ (P0)  
 b. *Búŋ á kó tɛ̀ ŋ\_kùmə̀ kə́báyn* ‘Bung was not touching fufu’ (P2)  
 c. *Búŋ á kó ʼné ŋ\_kùmə̀ kə́báyn* ‘Bung will not be touching fufu’ (F2)

The downsteps on *ʼlámə́* in (21a) and *ʼné* in (21c) show that there is a floating L following *kó*. One might have proposed that the underlying representation of the negative indicative marker is /kə/ which would undergo H tone spreading from the preceding /á/, exactly as the F2 auxiliary /nè/ undergoes after the DJ marker /á/ in (13) and (14), and similarly in other future tenses in Appendix 1. However, since the non-indicative negative marker is /ká/, as in *ká nzhí kə́báyn* ‘don’t be eating fufu!’, it is equally likely that the negative indicative marker is /kó`/.

Before concluding this section, we should note that there are some tonal differences between the perfective affirmative and negative paradigms. What is curious is that the P tenses take the same tones as the corresponding affirmative CJ forms (shaded in gray except for P3 blue), while the F tenses take the same tones as the corresponding affirmative DJ forms (shaded

<sup>11</sup> It is well known that both DJ and negation involve an inherent focus, hence form a natural class (see Hyman & Watters 1984).

in yellow). We will return to this in §8, where we propose a ranked set of morphosyntactic tone assignment rules.

## 6. Non-indicative affirmative forms

In the preceding sections we have seen that Babanki distinguishes seven tenses in indicative forms: P0-P3 and F1-F3. In this and the following section we describe the non-indicative forms which by their semantics are all future-oriented. As a result each of them has only three forms which correspond to indicative F1-F3. In addition, there is no CJ/DJ contrast. As we will see, only what we identify as F1 is really different from indicative marking in its tonal patterns.

We start with the singular imperative forms which were already shown in Table 2 above. As seen in Appendix 3, the bare F1 imperative has the same tone pattern as the indicative F1 DJ and negative, shaded yellow, while the F2 and F3 imperatives share the grey-shaded pattern of their corresponding CJ forms, as in (23b,c) involving the H tone verb /lám/ ‘cook’ and the L tone verbs /kùm/ ‘touch’ and /lìmsə/ ‘heat’:<sup>12</sup>

- |         |    |              |                   |                   |
|---------|----|--------------|-------------------|-------------------|
| (23) a. | F1 | lám kəbáyn   | ‘cook the fufu!’  |                   |
|         |    | kùmə kəbáyn  | ‘touch the fufu!’ |                   |
|         |    | lìmsə kəbáyn | ‘heat the fufu!’  |                   |
|         | b. | F2           | nè lám kəbáyn     | ‘cook the fufu!’  |
|         |    |              | nè kùm kəbáyn     | ‘touch the fufu!’ |
|         |    |              | nè lìmsə kəbáyn   | ‘heat the fufu!’  |
|         | c. | F3           | lù lám kəbáyn     | ‘cook the fufu!’  |
|         |    |              | lù kùm kəbáyn     | ‘touch the fufu!’ |
|         |    |              | lù lìmsə kəbáyn   | ‘heat the fufu!’  |

As in the future indicative forms, L tone verbs acquire a H tone schwa, hence *kùmə* ‘touch!’ in (23a). As seen in (24a), neither the F1 marker /à/ nor the H tone schwa suffix appear in the plural imperative

- |         |    |                    |                           |                           |
|---------|----|--------------------|---------------------------|---------------------------|
| (24) a. | F1 | ghəŋ lám kəbáyn    | ‘you pl. cook the fufu!’  |                           |
|         |    | ghəŋ kúm kəbáyn    | ‘you pl. touch the fufu!’ |                           |
|         |    | ghəŋ lím’sə kəbáyn | ‘you pl. heat the fufu!’  |                           |
|         | b. | F2                 | ghəŋ nè lám kəbáyn        | ‘you pl. cook the fufu!’  |
|         |    |                    | ghəŋ nè kùm kəbáyn        | ‘you pl. touch the fufu!’ |
|         |    |                    | ghəŋ nè lìmsə kəbáyn      | ‘you pl. heat the fufu!’  |
|         | c. | F3                 | ghəŋ lù lám kəbáyn        | ‘you pl. cook the fufu!’  |
|         |    |                    | ghəŋ lù kùm kəbáyn        | ‘you pl. touch the fufu!’ |
|         |    |                    | ghəŋ lù lìmsə kəbáyn      | ‘you pl. heat the fufu!’  |

However, the F1 plural imperative shows a H tone prefix, which links to a following L verb. As seen most clearly when the L verb is bisyllabic, a H-<sup>4</sup>H downstep sequence is created: /ghəŋ ’lìmsə kəbáyn/ → *ghəŋ lím’sə kəbáyn* ‘you pl. heat the fufu!’.<sup>13</sup> In the case of a monosyllabic verb

<sup>12</sup> Full paradigms of the non-indicative forms discussed in this section can be found in Appendices 3-7.

<sup>13</sup> We color this pattern gold in the appendices.

a H<sup>4</sup>H contour is expected on the one syllable. Instead, since such contours are not permitted, the second H is deleted, with the preceding L, now delinked, keeping the prefix of ‘fufu’ L.<sup>14</sup> Finally, note that the F2 and F3 forms in (24b,c) are identical to the F2-F3 indicative forms in Appendix 1. The same is true of the corresponding hortative forms in (25), extracted from Appendix 5.

- |         |    |                                      |                         |
|---------|----|--------------------------------------|-------------------------|
| (25) a. | F1 | yúwù lám kə́báyn                     | ‘let’s cook the fufu!’  |
|         |    | yúwù kúm kə̀báyn                     | ‘let’s touch the fufu!’ |
|         |    | yúwù lím <sup>4</sup> sə́ kə́báyn    | ‘let’s heat the fufu!’  |
| b.      | F2 | yúwù nè lám kə́báyn                  | ‘let’s cook the fufu!’  |
|         |    | yúwù nè kúm kə̀báyn                  | ‘let’s touch the fufu!’ |
|         |    | yúwù nè lím <sup>4</sup> sə́ kə́báyn | ‘let’s heat the fufu!’  |
| c.      | F3 | yúwù lù lám kə́báyn                  | ‘let’s cook the fufu!’  |
|         |    | yúwù lù kúm kə̀báyn                  | ‘let’s touch the fufu!’ |
|         |    | yúwù lù lím <sup>4</sup> sə́ kə́báyn | ‘let’s heat the fufu!’  |

Again the F1 has both a preceding H prefix and suffix, while the F2 and F3 forms are identical to those in the indicative in Appendix 1. (See Appendix 4 for more plural imperative examples.)

The same pattern is also found in the subjunctive forms in (26) and the future conditional forms in (27), extracted from Appendices 6 and 7:<sup>15</sup>

- |         |    |   |                                       |
|---------|----|---|---------------------------------------|
| (26) a. | F1 | ... lá yúwù lám kə́báyn                     | ‘(Bung wants) that we cook the fufu’  |
|         |    | ... lá yúwù kúm kə̀báyn                     | ‘(Bung wants) that we touch the fufu’ |
|         |    | ... lá yúwù lím <sup>4</sup> sə́ kə́báyn    | ‘(Bung wants) that we heat the fufu.’ |
| b.      | F2 | ... lá yúwù nè lám kə́báyn                  | ‘(Bung wants) that we cook the fufu’  |
|         |    | ... lá yúwù nè kúm kə̀báyn                  | ‘(Bung wants) that we touch the fufu’ |
|         |    | ... lá yúwù nè lím <sup>4</sup> sə́ kə́báyn | ‘(Bung wants) that we heat the fufu’  |
| c.      | F3 | ... lá yúwù lù lám kə́báyn                  | ‘(Bung wants) that we cook the fufu’  |
|         |    | ... lá yúwù lù kúm kə̀báyn                  | ‘(Bung wants) that we touch the fufu’ |
|         |    | ... lá yúwù lù lím <sup>4</sup> sə́ kə́báyn | ‘(Bung wants) that we heat the fufu.’ |
- 
- |         |    |  |                                |
|---------|----|--|--------------------------------|
| (27) a. | F1 | sátsèn Búŋ lám kə́báyn                     | ‘if Bung cooks the fufu ...’   |
|         |    | sátsèn Búŋ kúm kə̀báyn                     | ‘if Bung touches the fufu ...’ |
|         |    | sátsèn Búŋ lím <sup>4</sup> sə́ kə́báyn    | ‘if Bung heats the fufu ...’   |
| b.      | F2 | sátsèn Búŋ nè lám kə́báyn                  | ‘if Bung cooks the fufu ...’   |
|         |    | sátsèn Búŋ nè kúm kə̀báyn                  | ‘if Bung touches the fufu ...’ |
|         |    | sátsèn Búŋ nè lím <sup>4</sup> sə́ kə́báyn | ‘if Bung heats the fufu ...’   |
| c.      | F3 | sátsèn Búŋ lù lám kə́báyn                  | ‘if Bung cooks the fufu ...’   |
|         |    | sátsèn Búŋ lù kúm kə̀báyn                  | ‘if Bung touches the fufu ...’ |
|         |    | sátsèn Búŋ lù lím <sup>4</sup> sə́ kə́báyn | ‘if Bung heats the fufu ...’   |

<sup>14</sup> We find this analysis preferable to restricting the suffixal H to all forms except monosyllabic L verbs. Recall that the suffixal H is needed after H verbs as well in order for the noun prefix to be raised to M.

<sup>15</sup> Since the past conditional forms take the same (yellow) tone pattern in both the affirmative and negative, they are treated together in the next section.

Since the F2 and F3 forms are non-distinct from the corresponding indicative F2 and F3, it is reasonable to consider only F1 as a non-indicative. However, even the F1 non-indicative succumbs to the expected, green-shaded pattern that characterizes the progressive aspect throughout the verb paradigm:

- (28) a. Imp.sg    *é nlámé kə̀báyn*                    ‘be cooking the fufu!’  
          b. Imp.pl    *ghə̀ŋ é nlámé kə̀báyn*                    ‘you pl. be cooking the fufu!’  
          c. Hort        *yúwù é nlámé kə̀báyn*                    ‘let’s be cooking the fufu!’  
          d. Sbjn        *...lá yúwù é nlámé kə̀báyn*                    ‘(Bung wants) that we be cooking the fufu’  
          e. Cond        *sə̀tsən Búŋ dí? kə̀ nlámé kə̀báyn ...*                    ‘if Bung is cooking the fufu...’

In the following we will see that the corresponding negative forms largely tell the same story with the exception of the conditional negative.

### 7. Non-indicative negative forms

As seen first in the following singular imperative forms taken from Appendix 9, the negative markers are consistently different in indicative vs. non-indicative forms.

- (29) a. F1        *ká* ‘lám kə̀báyn                    ‘don’t cook the fufu!’  
                   *ká kùm kə̀báyn*                    ‘don’t touch the fufu!’  
                   *ká límś kə̀báyn*                    ‘don’t heat the fufu!’  
          b. F2        *ké né* ‘lám kə̀báyn                    ‘don’t cook the fufu!’  
                   *ké né kùm kə̀báyn*                    ‘don’t touch the fufu!’  
                   *ké né límś kə̀báyn*                    ‘don’t heat the fufu!’  
          c. F3        *ká lú* ‘lám kə̀báyn                    ‘don’t cook the fufu!’  
                   *ká lú kùm kə̀báyn*                    ‘don’t touch the fufu!’  
                   *ká lú límś kə̀báyn*                    ‘don’t heat the fufu!’

Whereas we established /kó`/ as the indicative negative marker, the forms in (29) show that the non-indicative marker is /ká/, which however fuses with the F1 marker /à/ in (29a). As also seen, the H of /ká/ spreads onto the tense marker, delinking its L, which then triggers a downstep on a following H: /ká à/, /ká nè/, /ká lù/ → *ká`*, *ká né`*, *ká lú`*. Finally, although /kùm/ ‘touch’ lacks the final H tone schwa seen in the affirmative imperative, it is clear that all of the above forms have a H suffix, hence a M tone prefix on *kə̀*.

The corresponding negative plural imperatives taken from Appendix 10 appear in (30).

- (30) a. F1        *ká ghə̀ŋ lám kə̀báyn*                    ‘you pl. don’t cook the fufu!’  
                   *ká ghə̀ŋ kúm kə̀báyn*                    ‘you pl. don’t touch the fufu!’  
                   *ká ghə̀ŋ lím‘ś kə̀báyn*                    ‘you pl. don’t heat the fufu!’  
          b. F2        *ká ghə̀ŋ nè lám kə̀báyn*                    ‘you pl. don’t cook the fufu!’  
                   *ká ghə̀ŋ nè kùm kə̀báyn*                    ‘you pl. don’t touch the fufu!’  
                   *ká ghə̀ŋ nè límś kə̀báyn*                    ‘you pl. don’t heat the fufu!’

- c. F3    *ká ghèŋ lù làm kəbáyn*    ‘you pl. don’t cook the fufu!’  
           *ká ghèŋ lù kùm kəbáyn*        ‘you pl. don’t touch the fufu!’  
           *ká ghèŋ lù ìmsə kəbáyn*       ‘you pl. don’t heat the fufu!’

As seen, the paradigm is exactly identical to that of the corresponding affirmatives in (24), except for the presence of *ká* occurring before the subject, here the second person plural pronoun *ghèŋ*. The hortatives in (31) differ only in the presence of the first person plural pronoun *yúwù*, from Appendix 10, and similarly the subjunctives in (32) from Appendix 12, which differ only in the presence of the complementizer *lá*:

- (31) a. F1    *ká yúwù lám kəbáyn*            ‘let’s not cook the fufu!’  
           *ká yúwù kùm kəbáyn*            ‘let’s not touch the fufu!’  
           *ká yúwù lím’sə kəbáyn*        ‘let’s not heat the fufu!’  
       b. F2    *ká yúwù nè làm kəbáyn*            ‘let’s not cook the fufu!’  
           *ká yúwù nè kùm kəbáyn*        ‘let’s not touch the fufu!’  
           *ká yúwù nè ìmsə kəbáyn*       ‘let’s not heat the fufu!’  
       c. F3    *ká yúwù lù làm kəbáyn*            ‘let’s not cook the fufu!’  
           *ká yúwù lù kùm kəbáyn*        ‘let’s not touch the fufu!’  
           *ká yúwù lù ìmsə kəbáyn*       ‘let’s not heat the fufu!’
- (32) a. F1    ... *lá ká yúwù lám kəbáyn*            ‘(Bung wants) that we not cook the fufu!’  
           ... *lá ká yúwù kùm kəbáyn*        ‘(Bung wants) that we not touch the fufu!’  
           ... *lá ká yúwù lím’sə kəbáyn*       ‘(Bung wants) that we not heat the fufu!’  
       b. F2    ... *lá ká yúwù nè làm kəbáyn*            ‘(Bung wants) that we not cook the fufu!’  
           ... *lá ká yúwù nè kùm kəbáyn*        ‘(Bung wants) that we not touch the fufu!’  
           ... *lá ká yúwù nè ìmsə kəbáyn*       ‘(Bung wants) that we not heat the fufu!’  
       c. F3    ... *lá ká yúwù lù làm kəbáyn*            ‘(Bung wants) that we not cook the fufu!’  
           ... *lá ká yúwù lù kùm kəbáyn*        ‘(Bung wants) that we not touch the fufu!’  
           ... *lá ká yúwù lù ìmsə kəbáyn*       ‘(Bung wants) that we not heat the fufu!’

It is clear that the plural imperative, hortative, and subjunctive F1 realize the same non-indicative mood which we can call subjunctive, while the F2 and F3 inflections are indistinguishable from the corresponding indicative forms. Not so with the negative conditional, which requires a more complex realization, the following from Appendix 13:

- (33) a. F1    *sətsèn Búŋ dí? ká lám kəbáyn*            ‘if Bung doesn’t cook the fufu ...’  
           *sətsèn Búŋ dí? ká kùm kəbáyn*        ‘if Bung doesn’t touch the fufu ...’  
           *sətsèn Búŋ dí? ká ìmsə kəbáyn*       ‘if Bung doesn’t heat the fufu ...’  
       b. F2    *sətsèn Búŋ nè dì? ká lám kəbáyn*            ‘if Bung doesn’t cook the fufu ...’  
           *sətsèn Búŋ nè dì? ká kùm kəbáyn*        ‘if Bung doesn’t touch the fufu ...’  
           *sətsèn Búŋ nè dì? ká ìmsə kəbáyn*       ‘if Bung doesn’t heat the fufu ...’  
       c. F3    *sətsèn Búŋ lù dì? ká lám kəbáyn*            ‘if Bung doesn’t cook the fufu ...’  
           *sətsèn Búŋ lù dì? ká kùm kəbáyn*        ‘if Bung doesn’t touch the fufu ...’  
           *sətsèn Búŋ lù dì? ká ìmsə kəbáyn*       ‘if Bung doesn’t heat the fufu ...’

While the F1 doesn't have an overt tense marker, the F2 and F3 markers *nè* and *lù* appear before another morpheme *dì?* followed by the negative morpheme *ká*. Since *dì?* is identical to the copular verb /*dì?*/ 'be', we interpret the above historically as 'if Bung will be not cook, touch, heat...'. As seen, the main verb lacks a H prefix in the F1, although the F1-F3 all have a H suffix. We have thus colored these cells yellow in Appendix 13, indicating that the tones are identical with the indicative future pattern, which is in turn the same in the affirmative and negative (see Appendices 1 and 2).

Finally, as seen in Appendices 8 and 14, the affirmative and negative past conditional forms all take the same (yellow) tone pattern. The following representative examples show that instead of the pre-subject complementizer *sátsèn*, the auxiliary form *tí* occurs after the tense marker in the past conditional:

(34) a.	P0	Búŋ tí 'lám kǎbáyŋ	'if Bung had cooked the fufu ...'
		Búŋ tí kùm kǎbáyŋ	'if Bung had touched the fufu ...'
		Búŋ tí òmsó kǎbáyŋ	'if Bung had heated the fufu ...'
b.	P1	Búŋ yì tí 'lám kǎbáyŋ	'if Bung had cooked the fufu ...'
		Búŋ yì tí kùm kǎbáyŋ	'if Bung had touched the fufu ...'
		Búŋ yì tí òmsó kǎbáyŋ	'if Bung had heated the fufu ...'
c.	P2	Búŋ tǎ tí 'lám kǎbáyŋ	'if Bung had cooked the fufu ...'
		Búŋ tǎ tí kùm kǎbáyŋ	'if Bung had touched the fufu ...'
		Búŋ tǎ tí òmsó kǎbáyŋ	'if Bung had heated the fufu ...'
d.	P3	Búŋ è ntí 'lám kǎbáyŋ	'if Bung had cooked the fufu ...'
		Búŋ è ntí kùm kǎbáyŋ	'if Bung had touched the fufu ...'
		Búŋ è ntí òmsó kǎbáyŋ	'if Bung had heated the fufu ...'

Since *tí* takes a nasal prefix in the P3, it is likely that *tí* was once a verb, although its original meaning cannot be ascertained.<sup>16</sup> The corresponding negatives are provided in (35).

(35) a.	P0	Búŋ tí òm? kǎ 'lám kǎbáyŋ	'if Bung hadn't cooked the fufu ...'
		Búŋ tí òm? kǎ kùm kǎbáyŋ	'if Bung hadn't touched the fufu ...'
		Búŋ tí òm? kǎ òmsó kǎbáyŋ	'if Bung hadn't heated the fufu ...'
b.	P1	Búŋ yì tí òm? kǎ 'lám kǎbáyŋ	'if Bung hadn't cooked the fufu ...'
		Búŋ yì tí òm? kǎ kùm kǎbáyŋ	'if Bung hadn't touched the fufu ...'
		Búŋ yì tí òm? kǎ òmsó kǎbáyŋ	'if Bung hadn't heated the fufu ...'
c.	P2	Búŋ tǎ tí òm? kǎ 'lám kǎbáyŋ	'if Bung hadn't cooked the fufu ...'
		Búŋ tǎ tí òm? kǎ kùm kǎbáyŋ	'if Bung hadn't touched the fufu ...'
		Búŋ tǎ tí òm? kǎ òmsó kǎbáyŋ	'if Bung hadn't heated the fufu ...'
d.	P3	Búŋ è ntí òm? kǎ 'lám kǎbáyŋ	'if Bung hadn't cooked the fufu ...'
		Búŋ è ntí òm? kǎ kùm kǎbáyŋ	'if Bung hadn't touched the fufu ...'
		Búŋ è ntí òm? kǎ òmsó kǎbáyŋ	'if Bung hadn't heated the fufu ...'

As seen, the same auxiliary + negative sequence *òm? kǎ* is used as in the future negative conditional.

<sup>16</sup> It is not clear if or how the past conditional auxiliary could derive from the present day Babanki verb *tí* 'make a bed (from bamboo)' or the lexicalized causative verb *tísó* 'arrange'.



This completes our survey through the different verb paradigms which we have been able to consider in our study. We conclude in §8 by outlining an integrative analysis followed by discussion.

### 8. Towards an integrated analysis

In the preceding sections we have presented the different Babanki tense, aspect, and mood distinctions, both affirmative and negative. While we have presented a subset of examples of each, a full and systematic presentation of all of the forms we have considered is found in Appendices 1-12. While we have given partial interpretations and analyses, we have yet to pull it all together into one coherent picture. This is our first goal in this section. Our second goal, however preliminary, will be to comment on what we think is the most promising conceptualization of the Babanki verb inflectional system and others like it.

We begin by recapping the preverbal “auxiliaries” in Table 5, where the different cells in the paradigm are also color-coded for tone pattern.<sup>17</sup>

	indicative.aff			indic.neg		imp.aff		imp.neg		imp.pl.aff hort.aff sbjn.aff cond.aff.		imp.pl.neg hort.neg sbjn.neg		cond.neg
	CJ	DJ	PR	PF	PR	PF	PR	PF	PR	PF	PR	PF	PR	PF, PR
	P0	ʼ	ó	ʼ	ó kó ʼ	ó kó ʼ					tí ʼ			
P1	yì	ó yî	yĩ	ó kó yì	ó kó yĩ					yì tí ʼ				yì tí dì? kó
P2	tè	ó tê	tě	ó kó tè	ó kó tě					tè tí ʼ				tè tí dì? kó
P3	è	ó	è	ó kó ʼ	ó kó					è ntí ʼ				è ntí dì? kó
F1	à	á ʼ	á	ó kó ʼ	ó kó	∅	è	ká ʼ	ká	ʼ	ó	kó...ʼ	kó...ó	dí? kó
F2	nè	ó né ʼ	ó né	ó kó ʼné ʼ	ó kó ʼné	nè	né	kó né ʼ	kó né	nè	né	kó...nè	kó...né	nè dì? kó
F3	lù	ó lú ʼ	ó lú	ó kó ʼlú ʼ	ó kó ʼlú	lù	lú	kó lú ʼ	kó lú	lù	lú	kó...lù	kó...lú	lù dì? kó

Table 5. Preverbal Segmental and Tonal Marking in the Babanki Verb Paradigm

As seen most clearly in the F2 and F3 indicative negative sequences, *ó kó ʼné ʼ* and *ó kó ʼlú ʼ* there is a maximum of three segmental slots, which we can label as FOCUS, NEGATION, and TENSE. The only filler of the focus slot is the DJ marker /ó/, which we assume is the same morpheme as the [ó] that precedes the indicative negative marker /kó/, but does not occur with the non-indicative negative marker /kó/.<sup>18</sup> This leaves the P0-P3 and F1-F3 tense markers which were presented in Table 1 above and are held constant throughout the paradigm. Except for the unassociated L tones, the intention in Table 5 is to show the output forms, including tonal variations that were discussed in earlier sections, e.g. P1 *yì*, *yî* and *yĩ*. We have proposed that the underlying forms of the tense markers are as they appear in the first (CJ) column, where they all have underlying L tone. Although the L tone does not appear in the P0 or P3 DJ (whose tone pattern is irregular),

<sup>17</sup> In Table 5, PF stands for perfective and PR for progressive. The three dots (...) in the non-indicative columns indicate the position of the subject, which follows the negative marker *kó* but precedes the tense marker. Note also that the yellow non-indicative P0-P3 cells refer exclusively to conditional clauses, which receive the same auxiliary markers in the corresponding empty green progressive cells to their right.

<sup>18</sup> Note that /ó/ is not restricted to main clause indicatives, as it can also occur in a relative clause, e.g. *kàbáyín á Búy ó kó ʼné ʼlám* ‘the fufu that Bung will not cook (F2)’.

it is only the F1 that is inconsistent in its segmental marking: /à/ appears only in the indicative affirmative and the singular imperative negative, where *ká* is the realization of /kâ/ + /à/. Otherwise the variations in tense marking are largely tonal: While the P1 and P2 markers /yî/ and /tè/ become HL falling tone [yî] and [tê] after the DJ marker /â/, the future auxiliaries /nè/ and /lù/ instead become H tone [né] and [lú] plus a delinked L tone which, except in the progressive, causes a following H to become downstepped. In the progressive H and L tone verbs begin with their base tone, hence without any interaction with what precedes. This might be attributable to the fact that, except in the P0, progressives take a nasal prefix that may effectively block any tonal interaction with what precedes.<sup>19</sup>

The progressive is in fact quite special in the paradigm. As discussed in §4, progressive forms are consistent in their tone pattern: Except in the P0, the verb takes a toneless nasal prefix, and all progressives assign a L tone -è suffix, which however assimilates to the H of a monosyllabic H tone verb: /n-lám-è/ ‘cook.PROG’ → *n-lám-é*. Outside the progressive, it is only the P3 that also takes a nasal prefix. Curiously, the P3 also assigns a schwa suffix, but only to L tone monosyllabic verbs, e.g. to /kùm/ ‘touch’ in *Búŋ è ñkùmá kábáyn* (CJ) and *Búŋ é ñkùmà lí kábáyn* (DJ), both meaning ‘Bung touched the fufu’. The same pattern is found only in one other cell, the affirmative singular imperative, which again assigns the schwa suffix only to monosyllabic L tone verbs: *kùmá* ‘touch!’.

Finally, there is the issue of assigning prefixal and suffixal tones. In accounting for the surface realizations it is necessary to control for whether the verb stem is mono- or bisyllabic. Recall that we have analyzed bisyllabic verbs as having an underlyingly toneless second syllable which will take the same tone as the tone of the root unless overridden by a suffixal tone. With this in mind, Table 6 characterizes the six color-coded stem-tone patterns in terms of their preceding and following tonal environments. (T stands for the base /H/ or /L/ of the verb root.)

	pre-verb	verb tone	suffix	tone on noun prefix kə-
Grey	L	L-T	∅	L except M after 1σ /H/ stem
Orange	é	H-T	-è only on 1σ L verbs	L throughout
Yellow	(L)	T-H	-é after L verbs in aff.imp.sg.	M throughout
Blue	L	L-H	-é after L verbs	M except after /H-∅/ stem
Gold	H	H-(T)-H	-H except after 1σ L verbs	M except after 1σ /L/ stems
Green	H except P3	T-L	-è except -é after 1σ H verbs	L throughout

Table 6. Summary of Babanki Stem-Tone Patterns in Tonal Context

As seen, only the grey pattern lacks a suffix. The two orange P3 cells are unique in requiring a non-suffixal formative /lí/ following the verb. What is striking is that four of the six rows show an agreement between the pre-verb tone and the first tone of the verb stem: grey and blue L vs. orange and gold H. In the first group L tone spreading causes a H-H verb to be realized as L-H,

<sup>19</sup> There are potentially two problems with this idea. First, as we have said, the P0 doesn't take a nasal prefix, but is tonally identical to the other progressive forms. Second, although the tone patterns are irregular, P3 non-progressives also place a nasal prefix on the verb, but do allow a tonal interaction with the preceding auxiliary: L tone spreading occurs in the P3 CJ and negative, while H tone spreading occurs in the P3 DJ, e.g. è + *nshítá* → è *nshítá* ‘collected’, é + *nshìsà* → é *nshísá* ‘removed’.

while in the second group H tone spreading causes a L-L verb to become H-L. The (L) of the yellow row indicates that a L is sometimes present, but does not interact with the verb stem other than to cause a H verb to become downstepped, e.g. *ká + à + lám + kàbáyɲ* → *ká ` lám kàbáyɲ* → *ká ʹlám kàbáyɲ* ‘don’t cook the fufu!’ Finally, concerning the last row, shaded green, we have already seen that there is no tonal interaction between the auxiliary and the verb stem in progressives.

Turning to suffixes, both the P3 (orange) and progressives (green) assign a L, while yellow, blue and gold assign a H. Except for the gold pattern a schwa suffix also appears, although with the restrictions that are indicated. The H tone schwa is only found after L verbs—and is only discernible when the verb is monosyllabic. This is because a schwa would merge with the second vowel of a CV(C)CV verb stem. In fact, among the 757 verbs in Akumbu (2008), 323 verb stems are bisyllabic. Of these all but 19 have the shape CV(C)Cə. Of these 19, all but five have the shape CV?V where the vowels are identical, and three are clearly compounds. This leaves the following two verbs: *báŋlí* ‘be ripe’, *bóbó* ‘carry (child) on back’, on which a surface schwa does not accompany the suffixal L in the progressive: *Búŋ yĩ mbóbò kàbáyɲ* ‘Bung was carrying the fufu’ (P1). While this accounts for why the schwa is visible only on monosyllabic verbs, e.g. directly on CVC roots or as an assimilated extra mora on CV roots, it does not explain why only the progressive assigns a schwa to both H and L roots. A clear generalization is that monosyllabic H tone roots never take a schwa outside the progressive. Our intuition has been that the schwa appears in contexts where a contour tone would otherwise arise. Derivations with the verb /kùm/ ‘touch’ representing the orange and blue patterns show this relation in (34).

- (34) a. *Búŋ ʹ ɲkùmə lí kàbáyɲ* ‘Bung touched the fufu’ (P3 DJ)  
           /ʹ ɲkùm/ → ʹ ɲkùm → ʹ ɲkùmə  
       b. *Búŋ ə ɲkùmə kàbáyɲ* ‘Bung touched the fufu’ (P3 CJ)  
           /ə ɲkùm ʹ/ → ə ɲkùm → ə ɲkùmə

In (34a) the H tone of the /ʹ/ DJ marker spreads onto the verb, creating an intermediate HL falling tone. Since falling tones are not allowed on roots, the “repair” is to insert a schwa to take the L part of the contour. Similarly, in (34b), when the suffixal H is assigned to the verb, this creates an intermediate LH rising tone. Again, a schwa is inserted, this time to take the H part of the LH contour.

Whether the schwa is epenthetic, as we have represented it in (34), or whether it represents a historical retention, there is a potential problem with the assumption that schwa appears as an automatic response to avoiding contours. Recall that the yellow pattern also introduces a schwa, but only in the affirmative singular imperative, exemplified in (35a).

- (35) a. *kùmə kàbáyɲ* ‘touch the fufu!’  
           /kùm ʹ/ + /kàbáyɲ/ → kùm kàbáyɲ → kùmə kàbáyɲ  
       b. *Búŋ ʹ né kùm kàbáyɲ* ‘Bung will touch the fufu’ (F2)  
           /kùm ʹ/ + /kàbáyɲ/ → kùm + kàbáyɲ → kùm kàbáyɲ

While we have given the same derivation in (35a) as was seen in (34b), the question is why we get a different result in (35b) and every other yellow cell. In this derivation the suffixal H does

not get assigned to the verb root, but rather to the following prefix *kà-*, thereby producing an intermediate HL falling tone. As shown by Hyman (1979) and Akumbu (2019), a L-HL-H sequence is simplified to L-M-H by a general contour simplification process.<sup>20</sup> What this shows is that the appearance of a schwa appears to be partly phonologically and partly morphologically conditioned. One way to accomplish this is via a “co-phonology” approach (Inkelas & Zoll 2007). In the P3 and the affirmative singular imperative, inserting a schwa is chosen as a better repair to the constraint against contours on root morphemes, while in the future (yellow) pattern, assigning the H to the prefix is the chosen resolution.

While we suspect that other morphologically conditioned responses will be needed elsewhere, perhaps to account for why H tone spreading converts the P1 and P2 markers /yì/ and /tə̀/ to *yí* and *tâ* by H tone spreading, while the F2 and F3 markers /nè/ and /lù/ instead become *né`* and *lú`*. We leave this issue for now to consider the more general question of how to assign the appropriate morphological marking to the right cells in the paradigm. Since much of the segmental marking is largely consistent (e.g. tense markers, negative markers, progressive nasal prefix and schwa suffix), we will concentrate on tone, i.e. on the six color-coded patterns. We begin by noting that we have two extremes: blue and orange cells are quite restricted, while green cells are quite general. It would seem therefore that we need to do two things. First, we need to isolate those cells for which a special statement will be needed. These can be considered the equivalent of tonal “exceptions”. Second, we can also isolate all of the green cells since their tone pattern is totally predictable. In previous work by the second author (e.g. Hyman 2016) the strategy pursued has been to first assign the general patterns, here the progressive (green), then look at the remainder to assign the next most general pattern among the non-progressives, then assign the next most general pattern, and so on. The idea is that by going from general to specific, the assignments may be simpler to state, the last assignment being the elsewhere case. The opposite strategy is also possible, where the most specific and unpredictable patterns are first assigned, leaving the more and more general ones to be accounted for next. In this approach the progressive would become the default tone pattern.<sup>21</sup>

It seems to us that the most likely approach would be to rank the tone assignments by morphosyntactic feature combinations. This too is not an easy task, but at least it is coherent: while the single feature PROG(ressive) assigns an undominated tone pattern, overriding all others, certain morphosyntactic feature combinations will be very restricted, e.g. those requiring the blue and orange tone patterns. To show how this might be done we adopt the following “marked” privative features:

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<sup>20</sup> This same process is responsible for the M tone prefix found after monosyllabic /H/ verbs in the grey pattern: /Búŋ yì lám kə̀báyɲ/ → *Búŋ yì lám kə̀báyɲ* → *Búŋ yì lám ʼ kə̀báyɲ* → *Búŋ yì lám kə̀báyɲ* → *Búŋ yì lám kə̀báyɲ* ‘Bung cooked the fufu’ (P1). We are not proposing that so many steps are needed in such a derivation, only that the H of /lám/ has to shift onto the L prefix to derive the M tone. Bisyllabic H tone verbs do not raise the L prefix to M in the grey pattern: *Búŋ yì sàŋtá kə̀báyɲ* ‘Bung sifted the fufu’.

<sup>21</sup> Babanki does not appear to lend itself to an assignment based on a layered morphological structure as Inkelas (2011: 75) proposes for Hausa. In that kind of approach, the tonal patterns would be assigned first to the innermost brackets, then to the next set of brackets, erasing the earlier assignment in case of conflict. Babanki seems rather to be more like the other cases discussed by Hyman (2016), where there is a paradigm of tone patterns dependent on combinations of features.

- (36) PROG : progressive  
 DJ : disjoint  
 NEG : negative  
 PST : past  
 FUT : future  
 SBJN : subjunctive (includes imperative plural, hortative, conditional)  
 IMP : imperative (singular)

To these we need to add the tenses: P0, P1, P2, P3, F1, F2, F3. In order to see how these features might be applied to the Babanki data, consider the following table, where we indicate which feature combinations receive which tone pattern:

Green	Orange	Blue	Gold	Yellow	Grey
PROG	P0 DJ P3 DJ	P3	SBJN F1	FUT DJ FUT NEG [-sbnj] IMP F1 IMP NEG PAST COND	PST FUT

Table 7. Tone Patterns by Features (first attempt)

In Table 7 the six patterns are ordered with the intended ranking such that green is highest ranked and grey is lowest. In fact, the intention is for grey to be the default or elsewhere case. Thus, everything to the right of the first column is non-progressive. As a result of the ranking, once orange has assigned its pattern to the P0 DJ and P3 DJ, the blue pattern can now be assigned without regard to any feature other than P3. Similarly gold has targeted only the F1 subjunctive, leaving the F2 and F3 subjunctives untouched. This leaves us with yellow and grey. Here we meet a problem that will require a choice. Since we have ranked yellow higher than grey we have to be sure that it doesn't misappropriate certain cells, particularly the negative (non-progressive) subjunctive F2 and F3. These must remain grey. In Table 7 we put a [-sbnj] place holder, which violates the privacy of the features in (36). If we had changed the rankings, as in Table 8, we run into a different problem:

Green	Orange	Blue	Gold	Grey	Yellow
PROG	P0 DJ P3 DJ	P3	SBJN F1	PST FUT CJ SBJN IMP F2, F3	FUT IMP F1 IMP NEG PAST COND

Table 8. Tone Patterns by Features (second attempt)

Since SBJN F1 has already been assigned to gold, we can designate grey for the remaining affirmative and negative F2 and F3 subjunctives. However, as seen, we now need to refer to the "unmarked" value CJ in order not to assign grey to future DJ tenses. Since DJ was needed to assign the orange tone pattern, we have the equivalence of [ $\pm$ DJ].

Both analyses thus have problems.<sup>22</sup> Two potential solutions seem possible. The first is to change the feature values. If we could refer to the DJ, indicative, and imperative negatives as having a special feature [+F], this could be required in assigning the yellow pattern to them (as well as to the conditional negative), thereby denecessitating the [-sbn] in Table 7. Similarly, if we assigned a special feature to the future CJ and the F2 and F3 imperatives affirmative and subjunctive affirmative and negative, we could use that feature in Table 8. Perhaps there are other such ad hoc moves one could consider.

A second solution is to split up one or more of the columns. Since we would like to keep grey as the default, let's try modifying Table 7 by treating the CJ-like F2 and F3 non-indicatives as receiving their grey pattern first:<sup>23</sup>

Green	Orange	Blue	Gold	Grey	Yellow	Grey
PROG	P0 DJ P3 DJ	P3	SBJN F1	IMP F2, F3 SBJN F2, F3	FUT DJ FUT NEG IMP F1 PAST COND	PST FUT

Table 8. Tone Patterns by Features (third attempt)

While perhaps not as aesthetic, splitting the grey pattern in two does allow us to simplify the yellow assignment considerably. Not only do we not need the [-sbn], but also IMP NEG: This feature combination will be taken care of by IMP F1 (which will cover affirmative and negative) and FUT NEG (which will cover the IMP F2 and F3). The one detail we haven't accounted for is the yellow pattern of the conditional negative which, recall, is a periphrastic construction whose main verb could be considered non-subjunctive.<sup>24</sup>

To conclude, we should perhaps mention still another strategy: Conflate two of the colors! As we have tried to indicate, the tonal patterns on the verb stem are very much determined by their surroundings. The yellow and gold patterns look very similar except that the latter has a preverbal H tone prefix, which is lacking in the yellow pattern. The above tables are designed only to account for the tones, not for the markers that occur before or after the verb stem. While we haven't pursued this or other conceivable approaches, we point this out for anyone who would like to try their hand at coming up with a more comprehensive account that includes these markers. Since we include all of the data we have considered in the appendices, we hope we have provided enough to work on there—but invite others to expand the coverage both in Babanki and in related languages in the future.

<sup>22</sup> We also haven't addressed the conditional negative which takes the same yellow tone pattern as the non-DJ indicative and imperative negatives.

<sup>23</sup> The reasons for favoring grey to be the default are, first, that it realizes the unmarked feature values "indicative" and "CJ", and second, that it is morphologically unmarked, being the only pattern not to involve a suffix (cf. Table 6).

<sup>24</sup> Note that the H tone of *dí?* from in the F1 suggests a H marker preceding the input verb *dí?* 'be', thus making it fall into line with the gold subjunctive cells. The F2 and F3 *nè dí?* and *lù dí?* look like they carry the grey pattern. Thus, while the auxiliary verb shows the expected subjunctive pattern, the main verb shows a different (yellow) one.

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APPENDICES

Appendix 1. Affirmative Indicative Verb Forms

	1. Perfective (CJ)	2. Perfective (DJ)	3. Progressive	Glosses
P0	Bún zhì kàbáyǎn Bún làm kàbáyǎn Bún shìtè kàbáyǎn Bún sèhǎtè kàbáyǎn Bún lè kàbáyǎn Bún kùm kàbáyǎn Bún shìsè kàbáyǎn Bún lìmsè kàbáyǎn	Bún ó zhí 'lí kàbáyǎn Bún ó lám 'lí kàbáyǎn Bún ó shítá 'lí kàbáyǎn Bún ó sǎhǎtá 'lí kàbáyǎn Bún ó léè lí kàbáyǎn Bún ó kúmà lí kàbáyǎn Bún ó shìsè lí kàbáyǎn Bún ó lìmsè lí kàbáyǎn	Bún zhíf kàbáyǎn Bún lámá kàbáyǎn Bún shítè kàbáyǎn Bún sǎhǎtè kàbáyǎn Bún lèè kàbáyǎn Bún kùmà kàbáyǎn Bún shìsè kàbáyǎn Bún lìmsè kàbáyǎn	Bung has eaten/is eating fufu ...has cooked/is cooking... ...has collected/is collecting... ...has sifted/is sifting... ...has lost/is losing... ...has touched/is touching... ...has removed/was removing... ...has heated/is heating...
P1	Bún yì zhì kàbáyǎn Bún yì làm kàbáyǎn Bún yì shìtè kàbáyǎn Bún yì sèhǎtè kàbáyǎn Bún yì lè kàbáyǎn Bún yì kùm kàbáyǎn Bún yì shìsè kàbáyǎn Bún yì lìmsè kàbáyǎn	Bún ó yì zhì kàbáyǎn Bún ó yì làm kàbáyǎn Bún ó yì shìtè kàbáyǎn Bún ó yì sèhǎtè kàbáyǎn Bún ó yì lè kàbáyǎn Bún ó yì kùm kàbáyǎn Bún ó yì shìsè kàbáyǎn Bún ó yì lìmsè kàbáyǎn	Bún yǐ nzhíf kàbáyǎn Bún yǐ nlámá kàbáyǎn Bún yǐ nshítè kàbáyǎn Bún yǐ nsǎhǎtè kàbáyǎn Bún yǐ nlèè kàbáyǎn Bún yǐ ñkùmà kàbáyǎn Bún yǐ nshìsè kàbáyǎn Bún yǐ nlimsè kàbáyǎn	Bung ate/was eating fufu ...cooked/was cooking... ...collected/was collecting... ...sifted/was sifting... ...lost/was losing... ...touched/was touching... ...removed/was removing'... ...heated/was heating...
P2	Bún tǎ zhì kàbáyǎn Bún tǎ làm kàbáyǎn Bún tǎ shìtè kàbáyǎn Bún tǎ sèhǎtè kàbáyǎn Bún tǎ lè kàbáyǎn Bún tǎ kùm kàbáyǎn Bún tǎ shìsè kàbáyǎn Bún tǎ lìmsè kàbáyǎn	Bún ó tǎ zhì kàbáyǎn Bún ó tǎ làm kàbáyǎn Bún ó tǎ shìtè kàbáyǎn Bún ó tǎ sèhǎtè kàbáyǎn Bún ó tǎ lè kàbáyǎn Bún ó tǎ kùm kàbáyǎn Bún ó tǎ shìsè kàbáyǎn Bún ó tǎ lìmsè kàbáyǎn	Bún tǎ nzhíf kàbáyǎn Bún tǎ nlámá kàbáyǎn Bún tǎ nshítè kàbáyǎn Bún tǎ nsǎhǎtè kàbáyǎn Bún tǎ nlèè kàbáyǎn Bún tǎ ñkùmà kàbáyǎn Bún tǎ nshìsè kàbáyǎn Bún tǎ nlimsè kàbáyǎn	Bung ate/was eating fufu ...cooked/was cooking... ...collected/was collecting... ...sifted/was sifting... ...lost/was losing... ...touched/was touching... ...removed/was removing'... ...heated/was heating...
P3	Bún è nzhì kàbáyǎn Bún è nlàm kàbáyǎn Bún è nshìtè kàbáyǎn Bún è nsèhǎtè kàbáyǎn Bún è nlèè kàbáyǎn Bún è ñkùmá kàbáyǎn Bún è nshìsè kàbáyǎn Bún è nlimsè kàbáyǎn	Bún ó nzhí 'lí kàbáyǎn Bún ó nlám 'lí kàbáyǎn Bún ó nshítá 'lí kàbáyǎn Bún ó nsǎhǎtá 'lí kàbáyǎn Bún ó nlèè lí kàbáyǎn Bún ó ñkùmà lí kàbáyǎn Bún ó nshìsè lí kàbáyǎn Bún ó nlimsè lí kàbáyǎn	Bún è nzhíf kàbáyǎn Bún è nlámá kàbáyǎn Bún è nshítè kàbáyǎn Bún è nsǎhǎtè kàbáyǎn Bún è nlèè kàbáyǎn Bún è ñkùmà kàbáyǎn Bún è nshìsè kàbáyǎn Bún è nlimsè kàbáyǎn	Bung ate/was eating fufu ...cooked/was cooking... ...collected/was collecting... ...sifted/was sifting... ...lost/was losing... ...touched/was touching... ...removed/was removing'... ...heated/was heating...
F1	Bún à zhì kàbáyǎn Bún à làm kàbáyǎn Bún à shìtè kàbáyǎn Bún à sèhǎtè kàbáyǎn Bún à lè kàbáyǎn Bún à kùm kàbáyǎn Bún à shìsè kàbáyǎn Bún à lìmsè kàbáyǎn	Bún á 'zhí kàbáyǎn Bún á 'lám kàbáyǎn Bún á 'shítá kàbáyǎn Bún á 'sǎhǎtá kàbáyǎn Bún á lè kàbáyǎn Bún á kùm kàbáyǎn Bún á shìsè kàbáyǎn Bún á lìmsè kàbáyǎn	Bún á nzhíf kàbáyǎn Bún á nlámá kàbáyǎn Bún á nshítè kàbáyǎn Bún á nsǎhǎtè kàbáyǎn Bún á nlèè kàbáyǎn Bún á ñkùmà kàbáyǎn Bún á nshìsè kàbáyǎn Bún á nlimsè kàbáyǎn	Bung will eat/be eating fufu ...will cook/be cooking... ...will collect/be collecting... ...will sift/be sifting... ...will lose/be losing... ...will touch/be touching... ...will remove/be removing... ... will heat/be heating...
F2	Bún nè zhì kàbáyǎn Bún nè làm kàbáyǎn Bún nè shìtè kàbáyǎn Bún nè sèhǎtè kàbáyǎn Bún nè lè kàbáyǎn Bún nè kùm kàbáyǎn Bún nè shìsè kàbáyǎn Bún nè lìmsè kàbáyǎn	Bún ó nè 'zhí kàbáyǎn Bún ó nè 'lám kàbáyǎn Bún ó nè 'shítá kàbáyǎn Bún ó nè 'sǎhǎtá kàbáyǎn Bún ó nè lè kàbáyǎn Bún ó nè kùm kàbáyǎn Bún ó nè lìmsè kàbáyǎn Bún ó nè lìmsè kàbáyǎn	Bún ó nè nzhíf kàbáyǎn Bún ó nè nlámá kàbáyǎn Bún ó nè nshítè kàbáyǎn Bún ó nè nsǎhǎtè kàbáyǎn Bún ó nè nlèè kàbáyǎn Bún ó nè ñkùmà kàbáyǎn Bún ó nè nshìsè kàbáyǎn Bún ó nè nlimsè kàbáyǎn	Bung will eat/be eating fufu ...will cook/be cooking... ...will collect/be collecting... ...will sift/be sifting... ...will lose/be losing... ...will touch/be touching... ...will remove/be removing... ... will heat/be heating...
	Bún lù zhì kàbáyǎn	Bún ó lù 'zhí kàbáyǎn	Bún ó lù nzhíf kàbáyǎn	B Bung will eat/be eating fufu



F3	Búŋ lù lām kǎbáyŋ	Búŋ é lú 'lám kǎbáyŋ	Búŋ é lú nlámé kǎbáyŋ	...will cook/be cooking...
	Búŋ lù shíté kǎbáyŋ	Búŋ é lú 'shíté kǎbáyŋ	Búŋ é lú nséŋtè kǎbáyŋ	...will collect/be collecting...
	Búŋ lù sèŋtè kǎbáyŋ	Búŋ é lú 'sèŋtè kǎbáyŋ	Búŋ é lú nshítè kǎbáyŋ	...will sift/be sifting...
	Búŋ lù lè kǎbáyŋ	Búŋ é lú lè kǎbáyŋ	Búŋ é lú nlèè kǎbáyŋ	...will lose/be losing...
	Búŋ lù kùm kǎbáyŋ	Búŋ é lú kùm kǎbáyŋ	Búŋ é lú ŋkùmè kǎbáyŋ	...will touch/be touching...
	Búŋ lù shìsè kǎbáyŋ	Búŋ é lú shìsè kǎbáyŋ	Búŋ é lú nshìsè kǎbáyŋ	...will remove/be removing...
	Búŋ lù lìmsè kǎbáyŋ	Búŋ é lú lìmsé kǎbáyŋ	Búŋ é lú nlìmsè kǎbáyŋ	... will heat/be heating...

Appendix 2. Negative Indicative Verb Forms

	Perfective NEG	Progressive NEG	Glosses
P0	Búŋ á kó zhì kǎbáyŋ	Búŋ á kó 'zhíf kǎbáyŋ	Bung has not eaten/is not eating fufu
	Búŋ á kó lám kǎbáyŋ	Búŋ á kó 'lámá kǎbáyŋ	Bung has not cooked/is not cooking fufu
	Búŋ á kó shítà kǎbáyŋ	Búŋ á kó 'shítà kǎbáyŋ	Bung has not collected/is not collecting fufu
	Búŋ á kó sǎŋtá kǎbáyŋ	Búŋ á kó 'sǎŋtè kǎbáyŋ	Bung has not sifted/is not sifting fufu
	Búŋ á kó lè kǎbáyŋ	Búŋ á kó lèè kǎbáyŋ	Bung has not lost/is not losing fufu
	Búŋ á kó kùm kǎbáyŋ	Búŋ á kó kùmè kǎbáyŋ	Bung has not touched/is not touching fufu
	Búŋ á kó shìsà kǎbáyŋ	Búŋ á kó shìsè kǎbáyŋ	Bung has not remove/is not removing fufu
	Búŋ á kó lìmsà kǎbáyŋ	Búŋ á kó lìmsè kǎbáyŋ	Bung has not heated/is not heating fufu
P1	Búŋ á kó yì zhì kǎbáyŋ	Búŋ á kó yì nzhíf kǎbáyŋ	BBung did not eat/was not eating fufu
	Búŋ á kó yì lám kǎbáyŋ	Búŋ á kó yì nlámá kǎbáyŋ	Bung did not cook/was not cooking fufu
	Búŋ á kó yì shítà kǎbáyŋ	Búŋ á kó yì nshítà kǎbáyŋ	Bung did not collect/was not collecting fufu
	Búŋ á kó yì sǎŋtá kǎbáyŋ	Búŋ á kó yì nsǎŋtè kǎbáyŋ	Bung did not sift/was not sifting fufu
	Búŋ á kó yì lè kǎbáyŋ	Búŋ á kó yì nlèè kǎbáyŋ	Bung did not lose/was not losing fufu
	Búŋ á kó yì kùm kǎbáyŋ	Búŋ á kó yì ñkùmè kǎbáyŋ	Bung did not touch/was not touching fufu
	Búŋ á kó yì shìsà òbáyŋ	Búŋ á kó yì nshìsè kǎbáyŋ	Bung did not remove/was not removing fufu
	Búŋ á kó yì lìmsà kǎbáyŋ	Búŋ á kó yì nlìmsè kǎbáyŋ	Bung did not heat/was not heating fufu
P2	Búŋ á kó tǎ zhì kǎbáyŋ	Búŋ á kó tǎ nzhíf kǎbáyŋ	Bung did not eat/was not eating fufu
	Búŋ á kó tǎ lám kǎbáyŋ	Búŋ á kó tǎ nlámá kǎbáyŋ	Bung did not cook/was not cooking fufu
	Búŋ á kó tǎ shítà kǎbáyŋ	Búŋ á kó tǎ nshítà kǎbáyŋ	Bung did not collect/was not collecting fufu
	Búŋ á kó tǎ sǎŋtá kǎbáyŋ	Búŋ á kó tǎ nsǎŋtè kǎbáyŋ	Bung did not sift/was not sifting fufu
	Búŋ á kó tǎ lè kǎbáyŋ	Búŋ á kó tǎ nlèè kǎbáyŋ	Bung did not lose/was not losing fufu
	Búŋ á kó tǎ kùm kǎbáyŋ	Búŋ á kó tǎ ñkùmè kǎbáyŋ	Bung did not touch/was not touching fufu
	Búŋ á kó tǎ shìsà kǎbáyŋ	Búŋ á kó tǎ nshìsè kǎbáyŋ	Bung did not remove/was not removing fufu
	Búŋ á kó tǎ lìmsà kǎbáyŋ	Búŋ á kó tǎ nlìmsè kǎbáyŋ	Bung did not heat/was not heating fufu
P3	Búŋ á kó nzhì kǎbáyŋ	Búŋ á kó nzhíf kǎbáyŋ	Bung did not eat/was not eating fufu
	Búŋ á kó nlám kǎbáyŋ	Búŋ á kó nlámá kǎbáyŋ	Bung did not cook/was not cooking fufu
	Búŋ á kó nshítà kǎbáyŋ	Búŋ á kó nshítà kǎbáyŋ	Bung did not collect/was not collecting fufu
	Búŋ á kó nsǎŋtá kǎbáyŋ	Búŋ á kó nsǎŋtè kǎbáyŋ	Bung did not sift/was not sifting fufu
	Búŋ á kó nlèè kǎbáyŋ	Búŋ á kó nlèè kǎbáyŋ	Bung did not lose/was not losing fufu
	Búŋ á kó ñkùmá kǎbáyŋ	Búŋ á kó ñkùmè kǎbáyŋ	Bung did not touch/was not touching fufu
	Búŋ á kó nshìsá kǎbáyŋ	Búŋ á kó nshìsè kǎbáyŋ	ung did not remove/was not removing fufu
	Búŋ á kó nlìmsá kǎbáyŋ	Búŋ á kó nlìmsè kǎbáyŋ	Bung did not heat/was not heating fufu
F1	Búŋ á kó 'zhí kǎbáyŋ	Búŋ á kó nzhíf kǎbáyŋ	Bung will not eat/be eating fufu
	Búŋ á kó 'lám kǎbáyŋ	Búŋ á kó nlámá kǎbáyŋ	Bung will not cook/be cooking fufu
	Búŋ á kó 'shítá kǎbáyŋ	Búŋ á kó nshítà kǎbáyŋ	Bung will not collect/be collecting fufu
	Búŋ á kó 'sǎŋtá kǎbáyŋ	Búŋ á kó nsǎŋtè kǎbáyŋ	Bung will not sift/be sifting fufu
	Búŋ á kó lè kǎbáyŋ	Búŋ á kó nlèè kǎbáyŋ	Bung will not lose/be losing fufu
	Búŋ á kó kùm kǎbáyŋ	Búŋ á kó ñkùmè kǎbáyŋ	Bung will not touch/be touching fufu
	Búŋ á kó shìsá kǎbáyŋ	Búŋ á kó nshìsè kǎbáyŋ	Bung will not remove/be removing fufu
	Búŋ á kó lìmsá kǎbáyŋ	Búŋ á kó nlìmsè kǎbáyŋ	Bung will not heat/be heating fufu
F2	Búŋ á kó 'né 'zhí kǎbáyŋ	Búŋ á kó 'né nzhíf kǎbáyŋ	Bung will not eat/be eating fufu
	Búŋ á kó 'né 'lám kǎbáyŋ	Búŋ á kó 'né nlámá kǎbáyŋ	Bung will not cook/be cooking fufu
	Búŋ á kó 'né 'shítá kǎbáyŋ	Búŋ á kó 'né nshítà kǎbáyŋ	Bung will not collect/be collecting fufu
	Búŋ á kó 'né 'sǎŋtá kǎbáyŋ	Búŋ á kó 'né nsǎŋtè kǎbáyŋ	Bung will not sift/be sifting fufu
	Búŋ á kó 'né lè kǎbáyŋ	Búŋ á kó 'né nlèè kǎbáyŋ	Bung will not lose/be losing fufu
	Búŋ á kó 'né kùm kǎbáyŋ	Búŋ á kó 'né ñkùmè kǎbáyŋ	Bung will not touch/be touching fufu
	Búŋ á kó 'né shìsá kǎbáyŋ	Búŋ á kó 'né nshìsè kǎbáyŋ	ung will not remove/be removing fufu
	Búŋ á kó 'né lìmsá kǎbáyŋ	Búŋ á kó 'né nlìmsè kǎbáyŋ	Bung will not heat/be heating fufu
	Búŋ á kó 'lú 'zhí kǎbáyŋ	Búŋ á kó 'lú nzhíf kǎbáyŋ	Bung will not eat/be eating fufu
Búŋ á kó 'lú 'lám kǎbáyŋ	Búŋ á kó 'lú nlámá kǎbáyŋ	Bung will not cook/be cooking fufu	

F3

Búŋ á kó 'lú 'shítá kəbáyŋ	Búŋ á kó 'lú nshítə kəbáyŋ	Bung will not collect/be collecting fufu
Búŋ á kó 'lú 'səŋtá kəbáyŋ	Búŋ á kó 'lú nsəŋtə kəbáyŋ	Bung will not sift/be sifting fufu
Búŋ á kó 'lú lè kəbáyŋ	Búŋ á kó 'lú nlèè kəbáyŋ	Bung will not lose/be losing fufu
Búŋ á kó 'lú kùm kəbáyŋ	Búŋ á kó 'lú ŋkùmə kəbáyŋ	Bung will not touch/be touching fufu
Búŋ á kó 'lú shìsə kəbáyŋ	Búŋ á kó 'lú nshìsə kəbáyŋ	ung will not remove/be removing fufu
Búŋ á kó 'lú lìmsə kəbáyŋ	Búŋ á kó 'lú nlimsə kəbáyŋ	Bung will not heat/be heating fufu

### Appendix 3. Affirmative Imperative Sg. Verb Forms

	Perfective	Progressive	Gloss
F1	zhí kəbáyŋ	á nzhíí kəbáyŋ	eat/be eating fufu!
	lám kəbáyŋ	á nlámó kəbáyŋ	cook/be cooking fufu!
	shítá kəbáyŋ	á nshítə kəbáyŋ	collect/be collecting fufu!
	səŋtá kəbáyŋ	á nsəŋtə kəbáyŋ	sift/be sifting fufu!
	lèè kəbáyŋ	á nlèè kəbáyŋ	lose/be losing fufu!
	kùm kəbáyŋ	á ŋkùmə kəbáyŋ	touch/be touching fufu!
	shìsə kəbáyŋ	á nshìsə kəbáyŋ	remove/be removing fufu!
	lìmsə kəbáyŋ	á nlimsə kəbáyŋ	heat/be heating fufu!
F2	nè zhì kəbáyŋ	né nzhíí kəbáyŋ	eat/be eating fufu!
	nè lám kəbáyŋ	né nlámó kəbáyŋ	cook/be cooking fufu!
	nè shítá kəbáyŋ	né nshítə kəbáyŋ	collect/be collecting fufu!
	nè səŋtá kəbáyŋ	né nsəŋtə kəbáyŋ	sift/be sifting fufu!
	nè lè kəbáyŋ	né nlèè kəbáyŋ	lose/be losing fufu!
	nè kùm kəbáyŋ	né ŋkùmə kəbáyŋ	touch/be touching fufu!
	nè shìsə kəbáyŋ	né nshìsə kəbáyŋ	remove/be removing fufu!
	nè lìmsə kəbáyŋ	né nlimsə kəbáyŋ	heat/be heating fufu!
F3	lù zhì kəbáyŋ	lú nzhíí kəbáyŋ	eat/be eating fufu!
	lù lám kəbáyŋ	lú nlámó kəbáyŋ	cook/be cooking fufu!
	lù shítá kəbáyŋ	lú nshítə kəbáyŋ	collect/be collecting fufu!
	lù səŋtá kəbáyŋ	lú nsəŋtə kəbáyŋ	sift/be sifting fufu!
	lù lè kəbáyŋ	lú nlèè kəbáyŋ	lose/be losing fufu!
	lù kùm kəbáyŋ	lú ŋkùmə kəbáyŋ	touch/be touching fufu!
	lù shìsə kəbáyŋ	lú nshìsə kəbáyŋ	remove/be removing fufu!
	lù lìmsə kəbáyŋ	lú nlimsə kəbáyŋ	heat/be heating fufu!

### Appendix 4. Affirmative Imperative Pl. Verb Forms

	Perfective AFF	Progressive AFF	Gloss
F1	ghəŋ zhí kəbáyŋ	ghəŋ á nzhíí kəbáyŋ	eat/be eating fufu!
	ghəŋ lám kəbáyŋ	ghəŋ á nlámó kəbáyŋ	cook/be cooking fufu!
	ghəŋ shítá kəbáyŋ	ghəŋ á nshítə kəbáyŋ	collect/be collecting fufu!
	ghəŋ səŋtá kəbáyŋ	ghəŋ á nsəŋtə kəbáyŋ	sift/be sifting fufu!
	ghəŋ lé kəbáyŋ	ghəŋ á nlèè kəbáyŋ	lose/be losing fufu!
	ghəŋ kùm kəbáyŋ	ghəŋ á ŋkùmə kəbáyŋ	touch/be touching fufu!
	ghəŋ shí'sə kəbáyŋ	ghəŋ á nshìsə kəbáyŋ	remove/be removing fufu!
	ghəŋ lím'sə kəbáyŋ	ghəŋ á nlimsə kəbáyŋ	heat/be heating fufu!
F2	ghəŋ nè zhì kəbáyŋ	ghəŋ né nzhíí kəbáyŋ	eat/be eating fufu!
	ghəŋ nè lám kəbáyŋ	ghəŋ né nlámó kəbáyŋ	cook/be cooking fufu!
	ghəŋ nè shítá kəbáyŋ	ghəŋ né nshítə kəbáyŋ	collect/be collecting fufu!
	ghəŋ nè səŋtá kəbáyŋ	ghəŋ né nsəŋtə kəbáyŋ	sift/be sifting fufu!
	ghəŋ nè lè kəbáyŋ	ghəŋ né nlèè kəbáyŋ	lose/be losing fufu!

	ghèŋ nè kùm kəbáyŋ ghèŋ nè shìsə kəbáyŋ ghèŋ nè òimsə kəbáyŋ	ghèŋ né ŋkùmə kəbáyŋ ghèŋ né nshìsə kəbáyŋ ghèŋ né òìmsə kəbáyŋ	touch/be touching fufu! remove/be removing fufu! heat/be heating fufu!
F3	ghèŋ lù zhì kəbáyŋ ghèŋ lù lám kəbáyŋ ghèŋ lù shítə kəbáyŋ ghèŋ lù səŋtə kəbáyŋ ghèŋ lù lè kəbáyŋ ghèŋ lù kùm kəbáyŋ ghèŋ lù shìsə kəbáyŋ ká ghèŋ lù òimsə kəbáyŋ	ghèŋ lù nzhíf kəbáyŋ ghèŋ lù òlámə kəbáyŋ ghèŋ lù nshítə kəbáyŋ ghèŋ lù nsəŋtə kəbáyŋ ghèŋ lù òlèè kəbáyŋ ghèŋ lù ŋkùmə kəbáyŋ ghèŋ lù nshìsə kəbáyŋ ghèŋ lù òìmsə kəbáyŋ	eat/be eating fufu! cook/be cooking fufu! collect/be collecting fufu! sift/be sifting fufu! lose/be losing fufu! touch/be touching fufu! remove/be removing fufu! heat/be heating fufu!

### Appendix 5. Affirmative Hortative Verb Forms

	Perfective AFF	Progressive AFF	Gloss
F1	yúwù zhí kəbáyŋ yúwù lám kəbáyŋ yúwù shítə kəbáyŋ yúwù səŋtə kəbáyŋ yúwù lé kəbáyŋ yúwù kùm kəbáyŋ yúwù shí'sə kəbáyŋ yúwù òim'sə kəbáyŋ	yúwù ə nzhíf kəbáyŋ yúwù ə òlámə kəbáyŋ yúwù ə nshítə kəbáyŋ yúwù ə nsəŋtə kəbáyŋ yúwù ə òlèè kəbáyŋ yúwù ə ŋkùmə kəbáyŋ yúwù ə nshìsə kəbáyŋ yúwù ə òìmsə kəbáyŋ	let's eat/be eating fufu! let's cook/be cooking fufu! let's collect/be collecting fufu! let's sift/be sifting fufu! let's lose/be losing fufu! let's touch/be touching fufu! let's remove/be removing fufu! let's heat/be heating fufu!
F2	yúwù nè zhì kəbáyŋ yúwù nè lám kəbáyŋ yúwù nè shítə kəbáyŋ yúwù nè səŋtə kəbáyŋ yúwù nè lè kəbáyŋ yúwù nè kùm kəbáyŋ yúwù nè shìsə kəbáyŋ yúwù nè òimsə kəbáyŋ	yúwù né nzhíf kəbáyŋ yúwù né òlámə kəbáyŋ yúwù né nshítə kəbáyŋ yúwù né nsəŋtə kəbáyŋ yúwù né òlèè kəbáyŋ yúwù né ŋkùmə kəbáyŋ yúwù né nshìsə kəbáyŋ yúwù né òìmsə kəbáyŋ	let's eat/be eating fufu! let's cook/be cooking fufu! let's collect/be collecting fufu! let's sift/be sifting fufu! let's lose/be losing fufu! let's touch/be touching fufu! let's remove/be removing fufu! let's heat/be heating fufu!
F3	yúwù lù zhì kəbáyŋ yúwù lù lám kəbáyŋ yúwù lù shítə kəbáyŋ yúwù lù səŋtə kəbáyŋ yúwù lù lè kəbáyŋ yúwù lù kùm kəbáyŋ yúwù lù shìsə kəbáyŋ ká yúwù lù òimsə kəbáyŋ	yúwù lù nzhíf kəbáyŋ yúwù lù òlámə kəbáyŋ yúwù lù nshítə kəbáyŋ yúwù lù nsəŋtə kəbáyŋ yúwù lù òlèè kəbáyŋ yúwù lù ŋkùmə kəbáyŋ yúwù lù nshìsə kəbáyŋ yúwù lù òìmsə kəbáyŋ	let's eat/be eating fufu! let's cook/be cooking fufu! let's collect/be collecting fufu! let's sift/be sifting fufu! let's lose/be losing fufu! let's touch/be touching fufu! let's remove/be removing fufu! let's heat/be heating fufu!

**Appendix 6. Affirmative Subjunctive Verb Forms**

	Perfective AFF	Progressive AFF	Gloss
F1	...lá yúwù zhí kəbáyɲ	...lá yúwù ɔ nzhíí kəbáyɲ	... that we eat fufu!
	...lá yúwù lám kəbáyɲ	...lá yúwù ɔ nlámó kəbáyɲ	... that we cook fufu!
	...lá yúwù shító kəbáyɲ	...lá yúwù ɔ nshítə kəbáyɲ	... that we collect fufu!
	...lá yúwù səŋtə kəbáyɲ	...lá yúwù ɔ nsəŋtə kəbáyɲ	... that we sift fufu!
	...lá yúwù lé kəbáyɲ	...lá yúwù ɔ nlèè kəbáyɲ	... that we lose fufu!
	...lá yúwù kúm kəbáyɲ	...lá yúwù ɔ ŋkùmə kəbáyɲ	... that we touch fufu!
	...lá yúwù shí'só kəbáyɲ	...lá yúwù ɔ nshìsə kəbáyɲ	... that we remove fufu!
	...lá yúwù lím'só kəbáyɲ	...lá yúwù ɔ nlimsə kəbáyɲ	... that we heat fufu!
F2	...lá yúwù nè zhì kəbáyɲ	...lá yúwù né nzhíí kəbáyɲ	... that we eat fufu!
	...lá yúwù nè lám kəbáyɲ	...lá yúwù né nlámó kəbáyɲ	... that we cook fufu!
	...lá yúwù nè shító kəbáyɲ	...lá yúwù né nshítə kəbáyɲ	... that we collect fufu!
	...lá yúwù nè səŋtə kəbáyɲ	...lá yúwù né nsəŋtə kəbáyɲ	... that we sift fufu!
	...lá yúwù nè lè kəbáyɲ	...lá yúwù né nlèè kəbáyɲ	... that we lose fufu!
	...lá yúwù nè kùm kəbáyɲ	...lá yúwù né ŋkùmə kəbáyɲ	... that we touch fufu!
	...lá yúwù nè shìsə kəbáyɲ	...lá yúwù né nshìsə kəbáyɲ	... that we remove fufu!
	...lá yúwù nè limsə kəbáyɲ	...lá yúwù né nlimsə kəbáyɲ	... that we heat fufu!
F3	...lá yúwù lù zhì kəbáyɲ	...lá yúwù lú nzhíí kəbáyɲ	... that we eat fufu!
	...lá yúwù lù lám kəbáyɲ	...lá yúwù lú nlámó kəbáyɲ	... that we cook fufu!
	...lá yúwù lù shító kəbáyɲ	...lá yúwù lú nshítə kəbáyɲ	... that we collect fufu!
	...lá yúwù lù səŋtə kəbáyɲ	...lá yúwù lú nsəŋtə kəbáyɲ	... that we sift fufu!
	...lá yúwù lù lè kəbáyɲ	...lá yúwù lú nlèè kəbáyɲ	... that we lose fufu!
	...lá yúwù lù kùm kəbáyɲ	...lá yúwù lú ŋkùmə kəbáyɲ	... that we touch fufu!
	...lá yúwù lù shìsə kəbáyɲ	...lá yúwù lú nshìsə kəbáyɲ	... that we remove fufu!
	...lá yúwù lù limsə kəbáyɲ	...lá yúwù lú nlimsə kəbáyɲ	... that we heat fufu!

**Appendix 7. Affirmative Conditional Verb Forms**

	Perfective AFF	Progressive AFF	Gloss
F1	sátsɛn Búŋ zhí kəbáyɲ ...	sátsɛn Búŋ ɔ nzhíí kəbáyɲ ...	If Bung eats fufu ...!
	sátsɛn Búŋ lám kəbáyɲ ...	sátsɛn Búŋ ɔ nlámó kəbáyɲ ...	If Bung cooks fufu ...!
	sátsɛn Búŋ shító kəbáyɲ ...	sátsɛn Búŋ ɔ nshítə kəbáyɲ ...	If Bung collects fufu ...!
	sátsɛn Búŋ səŋtə kəbáyɲ ...	sátsɛn Búŋ ɔ nsəŋtə kəbáyɲ ...	If Bung sifts fufu ...!
	sátsɛn Búŋ lé kəbáyɲ ...	sátsɛn Búŋ ɔ nlèè kəbáyɲ ...	If Bung loses fufu ...!
	sátsɛn Búŋ kúm kəbáyɲ ...	sátsɛn Búŋ ɔ ŋkùmə kəbáyɲ ...	If Bung touches fufu ...!
	sátsɛn Búŋ shí'só kəbáyɲ ...	sátsɛn Búŋ ɔ nshìsə kəbáyɲ ...	If Bung removes fufu ...!
	sátsɛn Búŋ lím'só kəbáyɲ ...	sátsɛn Búŋ ɔ nlimsə kəbáyɲ ...	If Bung heats fufu ...!
F2	sátsɛn Búŋ nè zhì kəbáyɲ ...	sátsɛn Búŋ né nzhíí kəbáyɲ ...	If Bung eats fufu ...!
	sátsɛn Búŋ nè lám kəbáyɲ ...	sátsɛn Búŋ né nlámó kəbáyɲ ...	If Bung cooks fufu ...!
	sátsɛn Búŋ nè shító kəbáyɲ ...	sátsɛn Búŋ né nshítə kəbáyɲ ...	If Bung collects fufu ...!
	sátsɛn Búŋ nè səŋtə kəbáyɲ ...	sátsɛn Búŋ né nsəŋtə kəbáyɲ ...	If Bung sifts fufu ...!
	sátsɛn Búŋ nè lè kəbáyɲ ...	sátsɛn Búŋ né nlèè kəbáyɲ ...	If Bung loses fufu ...!
	sátsɛn Búŋ nè kùm kəbáyɲ ...	sátsɛn Búŋ né ŋkùmə kəbáyɲ ...	If Bung touches fufu ...!
	sátsɛn Búŋ nè shìsə kəbáyɲ ...	sátsɛn Búŋ né nshìsə kəbáyɲ ...	If Bung removes fufu ...!
	sátsɛn Búŋ nè limsə kəbáyɲ ...	sátsɛn Búŋ né nlimsə kəbáyɲ ...	If Bung heats fufu ...!
F3	sátsɛn Búŋ lù zhì kəbáyɲ ...	sátsɛn Búŋ lú nzhíí kəbáyɲ ...	If Bung eats fufu ...!
	sátsɛn Búŋ lù lám kəbáyɲ ...	sátsɛn Búŋ lú nlámó kəbáyɲ ...	If Bung cooks fufu ...!
	sátsɛn Búŋ lù shító kəbáyɲ ...	sátsɛn Búŋ lú nshítə kəbáyɲ ...	If Bung collects fufu ...!
	sátsɛn Búŋ lù səŋtə kəbáyɲ ...	sátsɛn Búŋ lú nsəŋtə kəbáyɲ ...	If Bung sifts fufu ...!



sátsèn Búŋ lù kùm kəbáyn ...	sátsèn Búŋ lú ŋkùmə kəbáyn ...	If Bung touches fufu ...!
sátsèn Búŋ lù shìsə kəbáyn ...	sátsèn Búŋ lú nshìsə kəbáyn ...	If Bung removes fufu ...!
sátsèn Búŋ lù lìmsə kəbáyn ...	sátsèn Búŋ lú ǹlìmsə kəbáyn ...	If Bung heats fufu ...!

### Appendix 8. Affirmative Past Conditional Verb Forms

	Perfective AFF	Progressive AFF	Gloss
P0	Búŋ tí 'zhí kəbáyn ...	Búŋ tí nzhí kəbáyn ...	If Bung had eaten fufu ...!
	Búŋ tí 'lám kəbáyn ...	Búŋ tí nlámə kəbáyn ...	If Bung had cooked fufu ...!
	Búŋ tí 'shítə kəbáyn ...	Búŋ tí nshítə kəbáyn ...	If Bung had collected fufu ...!
	Búŋ tí 'səŋtə kəbáyn ...	Búŋ tí nsəŋtə kəbáyn ...	If Bung had sifted fufu ...!
	Búŋ tí lè kəbáyn ...	Búŋ tí nlèə kəbáyn ...	If Bung had lost fufu ...!
	Búŋ tí kùm kəbáyn ...	Búŋ tí ŋkùmə kəbáyn ...	If Bung had touched fufu ...!
	Búŋ tí shìsə kəbáyn ...	Búŋ tí nshìsə kəbáyn ...	If Bung had removed fufu ...!
	Búŋ tí lìmsə kəbáyn ...	Búŋ tí ǹlìmsə kəbáyn ...	If Bung had heated fufu ...!
P1	Búŋ yì tí 'zhí kəbáyn ...	Búŋ yì tí nzhí kəbáyn ...	If Bung had eaten fufu ...!
	Búŋ yì tí 'lám kəbáyn ...	Búŋ yì tí nlámə kəbáyn ...	If Bung had cooked fufu ...!
	Búŋ yì tí 'shítə kəbáyn ...	Búŋ yì tí nshítə kəbáyn ...	If Bung had collected fufu ...!
	Búŋ yì tí 'səŋtə kəbáyn ...	Búŋ yì tí nsəŋtə kəbáyn ...	If Bung had sifted fufu ...!
	Búŋ yì tí lè kəbáyn ...	Búŋ yì tí nlèə kəbáyn ...	If Bung had lost fufu ...!
	Búŋ yì tí kùm kəbáyn ...	Búŋ yì tí ŋkùmə kəbáyn ...	If Bung had touched fufu ...!
	Búŋ yì tí shìsə kəbáyn ...	Búŋ yì tí nshìsə kəbáyn ...	If Bung had removed fufu ...!
	Búŋ yì tí lìmsə kəbáyn ...	Búŋ yì tí ǹlìmsə kəbáyn ...	If Bung had heated fufu ...!
P2	Búŋ tə tí 'zhí kəbáyn ...	Búŋ tə tí nzhí kəbáyn ...	If Bung had eaten fufu ...!
	Búŋ tə tí 'lám kəbáyn ...	Búŋ tə tí nlámə kəbáyn ...	If Bung had cooked fufu ...!
	Búŋ tə tí 'shítə kəbáyn ...	Búŋ tə tí nshítə kəbáyn ...	If Bung had collected fufu ...!
	Búŋ tə tí 'səŋtə kəbáyn ...	Búŋ tə tí nsəŋtə kəbáyn ...	If Bung had sifted fufu ...!
	Búŋ tə tí lè kəbáyn ...	Búŋ tə tí nlèə kəbáyn ...	If Bung had lost fufu ...!
	Búŋ tə tí kùm kəbáyn ...	Búŋ tə tí ŋkùmə kəbáyn ...	If Bung had touched fufu ...!
	Búŋ tə tí shìsə kəbáyn ...	Búŋ tə tí nshìsə kəbáyn ...	If Bung had removed fufu ...!
	Búŋ tə tí lìmsə kəbáyn ...	Búŋ tə tí ǹlìmsə kəbáyn ...	If Bung had heated fufu ...!
P3	Búŋ ə ntí 'zhí kəbáyn ...	Búŋ ə ntí nzhí kəbáyn ...	If Bung had eaten fufu ...!
	Búŋ ə ntí 'lám kəbáyn ...	Búŋ ə ntí nlámə kəbáyn ...	If Bung had cooked fufu ...!
	Búŋ ə ntí 'shítə kəbáyn ...	Búŋ ə ntí nshítə kəbáyn ...	If Bung had collected fufu ...!
	Búŋ ə ntí 'səŋtə kəbáyn ...	Búŋ ə ntí nsəŋtə kəbáyn ...	If Bung had sifted fufu ...!
	Búŋ ə ntí lè kəbáyn ...	Búŋ ə ntí nlèə kəbáyn ...	If Bung had lost fufu ...!
	Búŋ ə ntí kùm kəbáyn ...	Búŋ ə ntí ŋkùmə kəbáyn ...	If Bung had touched fufu ...!
	Búŋ ə ntí shìsə kəbáyn ...	Búŋ ə ntí nshìsə kəbáyn ...	If Bung had removed fufu ...!
	Búŋ ə ntí lìmsə kəbáyn ...	Búŋ ə ntí ǹlìmsə kəbáyn ...	If Bung had heated fufu ...!

### Appendix 9. Negative Imperative Sg. Verb Forms

	Perfective	Progressive	Gloss
F1	ká 'zhí kəbáyn	ká nzhí kəbáyn	don't eat/be eating fufu!
	ká 'lám kəbáyn	ká nlámə kəbáyn	don't cook/be cooking fufu!
	ká 'shítə kəbáyn	ká nshítə kəbáyn	don't collect/be collecting fufu!
	ká 'səŋtə kəbáyn	ká nsəŋtə kəbáyn	don't sift/be sifting fufu!
	ká lè kəbáyn	ká nlèə kəbáyn	don't lose/be losing fufu!
	ká kùm kəbáyn	ká ŋkùmə kəbáyn	don't touch/be touching fufu!

	ká shìsə kəbáyɲ ká lím̩sə kəbáyɲ	ká nshìsə kəbáyɲ ká n lím̩sə kəbáyɲ	don't remove/be removing fufu! don't heat/be heating fufu!
F2	kə né 'zhí kəbáyɲ kə né 'lám kəbáyɲ kə né 'shítə kəbáyɲ kə né 'səŋtə kəbáyɲ kə né lè kəbáyɲ kə né kùm kəbáyɲ kə né shìsə kəbáyɲ kə né lím̩sə kəbáyɲ	kə né nzhíf kəbáyɲ kə né nlámə kəbáyɲ kə né nshítə kəbáyɲ kə né nsəŋtə kəbáyɲ kə né nlèè kəbáyɲ kə né ŋkùmə kəbáyɲ kə né nshìsə kəbáyɲ kə né n lím̩sə kəbáyɲ	don't eat/be eating fufu! don't cook/be cooking fufu! don't collect/be collecting fufu! don't sift/be sifting fufu! don't lose/be losing fufu! don't touch/be touching fufu! don't remove/be removing fufu! don't heat/be heating fufu!
F3	kə lú 'zhí kəbáyɲ kə lú 'lám kəbáyɲ kə lú 'shítə kəbáyɲ kə lú 'səŋtə kəbáyɲ kə lú lè kəbáyɲ kə lú kùm kəbáyɲ kə lú shìsə kəbáyɲ kə lú lím̩sə kəbáyɲ	kə lú nzhíf kəbáyɲ kə lú nlámə kəbáyɲ kə lú nshítə kəbáyɲ kə lú nsəŋtə kəbáyɲ kə lú nlèè kəbáyɲ kə lú ŋkùmə kəbáyɲ kə lú nshìsə kəbáyɲ kə lú n lím̩sə kəbáyɲ	don't eat/be eating fufu! don't cook/be cooking fufu! don't collect/be collecting fufu! don't sift/be sifting fufu! don't lose/be losing fufu! don't touch/be touching fufu! don't remove/be removing fufu! don't heat/be heating fufu!

#### Appendix 10. Negative Imperative Pl. Verb Forms

	Perfective AFF	Progressive AFF	Gloss
F1	kə ghəŋ zhí kəbáyɲ kə ghəŋ lám kəbáyɲ kə ghəŋ shítə kəbáyɲ kə ghəŋ səŋtə kəbáyɲ kə ghəŋ lé kəbáyɲ kə ghəŋ kùm kəbáyɲ kə ghəŋ shí'sə kəbáyɲ kə ghəŋ lím'sə kəbáyɲ	kə ghəŋ ə nzhíf kəbáyɲ kə ghəŋ ə nlámə kəbáyɲ kə ghəŋ ə nshítə kəbáyɲ kə ghəŋ ə nsəŋtə kəbáyɲ kə ghəŋ ə nlèè kəbáyɲ kə ghəŋ ə ŋkùmə kəbáyɲ kə ghəŋ ə nshìsə kəbáyɲ kə ghəŋ ə n lím̩sə kəbáyɲ	don't eat/be eating fufu! don't cook/be cooking fufu! don't collect/be collecting fufu! don't sift/be sifting fufu! don't lose/be losing fufu! don't touch/be touching fufu! don't remove/be removing fufu! don't heat/be heating fufu!
F2	kə ghəŋ nè zhì kəbáyɲ kə ghəŋ nè lám kəbáyɲ kə ghəŋ nè shítə kəbáyɲ kə ghəŋ nè səŋtə kəbáyɲ kə ghəŋ nè lè kəbáyɲ kə ghəŋ nè kùm kəbáyɲ kə ghəŋ nè shìsə kəbáyɲ kə ghəŋ nè lím̩sə kəbáyɲ	kə ghəŋ né nzhíf kəbáyɲ kə ghəŋ né nlámə kəbáyɲ kə ghəŋ né nshítə kəbáyɲ kə ghəŋ né nsəŋtə kəbáyɲ kə ghəŋ né nlèè kəbáyɲ kə ghəŋ né ŋkùmə kəbáyɲ kə ghəŋ né nshìsə kəbáyɲ kə ghəŋ né n lím̩sə kəbáyɲ	don't eat/be eating fufu! don't cook/be cooking fufu! don't collect/be collecting fufu! don't sift/be sifting fufu! don't lose/be losing fufu! don't touch/be touching fufu! don't remove/be removing fufu! don't heat/be heating fufu!
F3	kə ghəŋ lù zhì kəbáyɲ kə ghəŋ lù lám kəbáyɲ kə ghəŋ lù shítə kəbáyɲ kə ghəŋ lù səŋtə kəbáyɲ kə ghəŋ lù lè kəbáyɲ kə ghəŋ lù kùm kəbáyɲ kə ghəŋ lù shìsə kəbáyɲ kə ghəŋ lù lím̩sə kəbáyɲ	kə ghəŋ lú nzhíf kəbáyɲ kə ghəŋ lú nlámə kəbáyɲ kə ghəŋ lú nshítə kəbáyɲ kə ghəŋ lú nsəŋtə kəbáyɲ kə ghəŋ lú nlèè kəbáyɲ kə ghəŋ lú ŋkùmə kəbáyɲ kə ghəŋ lú nshìsə kəbáyɲ kə ghəŋ lú n lím̩sə kəbáyɲ	don't eat/be eating fufu! don't cook/be cooking fufu! don't collect/be collecting fufu! don't sift/be sifting fufu! don't lose/be losing fufu! don't touch/be touching fufu! don't remove/be removing fufu! don't heat/be heating fufu!

Appendix 11. Negative Hortative Verb Forms

	Perfective AFF	Progressive AFF	Gloss
F1	kó yúwù zhí kəbáyɲ	kó yúwù ɔ̄ nzhíí kəbáyɲ	let's not eat/be eating fufu!
	kó yúwù lám kəbáyɲ	kó yúwù ɔ̄ nlámá kəbáyɲ	let's not cook/be cooking fufu!
	kó yúwù shítá kəbáyɲ	kó yúwù ɔ̄ nshítə kəbáyɲ	let's not collect/be collecting fufu!
	kó yúwù səŋtá kəbáyɲ	kó yúwù ɔ̄ nsəŋtə kəbáyɲ	let's not sift/be sifting fufu!
	kó yúwù lé kəbáyɲ	kó yúwù ɔ̄ nlèè kəbáyɲ	let's not lose/be losing fufu!
	kó yúwù kúm kəbáyɲ	kó yúwù ɔ̄ ŋkùmə kəbáyɲ	let's not touch/be touching fufu!
	kó yúwù shí'sá kəbáyɲ	kó yúwù ɔ̄ nshisə kəbáyɲ	let's not remove/be removing fufu!
	kó yúwù lím'sá kəbáyɲ	kó yúwù ɔ̄ nlimsə kəbáyɲ	let's not heat/be heating fufu!
F2	kó yúwù nè zhí kəbáyɲ	kó yúwù né nzhíí kəbáyɲ	let's not eat/be eating fufu!
	kó yúwù nè lám kəbáyɲ	kó yúwù né nlámá kəbáyɲ	let's not cook/be cooking fufu!
	kó yúwù nè shítá kəbáyɲ	kó yúwù né nshítə kəbáyɲ	let's not collect/be collecting fufu!
	kó yúwù nè səŋtá kəbáyɲ	kó yúwù né nsəŋtə kəbáyɲ	let's not sift/be sifting fufu!
	kó yúwù nè lè kəbáyɲ	kó yúwù né nlèè kəbáyɲ	let's not lose/be losing fufu!
	kó yúwù nè kúm kəbáyɲ	kó yúwù né ŋkùmə kəbáyɲ	let's not touch/be touching fufu!
	kó yúwù nè shisə kəbáyɲ	kó yúwù né nshisə kəbáyɲ	let's not remove/be removing fufu!
	kó yúwù nè limsə kəbáyɲ	kó yúwù né nlimsə kəbáyɲ	let's not heat/be heating fufu!
F3	kó yúwù lù zhí kəbáyɲ	kó yúwù lú nzhíí kəbáyɲ	let's not eat/be eating fufu!
	kó yúwù lù lám kəbáyɲ	kó yúwù lú nlámá kəbáyɲ	let's not cook/be cooking fufu!
	kó yúwù lù shítá kəbáyɲ	kó yúwù lú nshítə kəbáyɲ	let's not collect/be collecting fufu!
	kó yúwù lù səŋtá kəbáyɲ	kó yúwù lú nsəŋtə kəbáyɲ	let's not sift/be sifting fufu!
	kó yúwù lù lè kəbáyɲ	kó yúwù lú nlèè kəbáyɲ	let's not lose/be losing fufu!
	kó yúwù lù kúm kəbáyɲ	kó yúwù lú ŋkùmə kəbáyɲ	let's not touch/be touching fufu!
	kó yúwù lù shisə kəbáyɲ	kó yúwù lú nshisə kəbáyɲ	let's not remove/be removing fufu!
	kó yúwù lù limsə kəbáyɲ	kó ghəŋ lú nlimsə kəbáyɲ	let's not heat/be heating fufu!

Appendix 12. Negative Subjunctive Verb Forms

	Perfective AFF	Progressive AFF	Gloss
F1	...lá kó yúwù zhí kəbáyɲ	...lá kó yúwù ɔ̄ nzhíí kəbáyɲ	... that we not eat fufu!
	...lá kó yúwù lám kəbáyɲ	...lá kó yúwù ɔ̄ nlámá kəbáyɲ	... that we not cook...
	...lá kó yúwù shítá kəbáyɲ	...lá kó yúwù ɔ̄ nshítə kəbáyɲ	... that we not collect...
	...lá kó yúwù səŋtá kəbáyɲ	...lá kó yúwù ɔ̄ nsəŋtə kəbáyɲ	... that we not sift...
	...lá kó yúwù lé kəbáyɲ	...lá kó yúwù ɔ̄ nlèè kəbáyɲ	... that we not lose...
	...lá kó yúwù kúm kəbáyɲ	...lá kó yúwù ɔ̄ ŋkùmə kəbáyɲ	... that we not touch...
	...lá kó yúwù shí'sá kəbáyɲ	...lá kó yúwù ɔ̄ nshisə kəbáyɲ	... that we not remove...
	...lá kó yúwù lím'sá kəbáyɲ	...lá kó yúwù ɔ̄ nlimsə kəbáyɲ	... that we not heat...
F2	...lá kó yúwù nè zhí kəbáyɲ	...lá kó yúwù né nzhíí kəbáyɲ	... that we not eat fufu!
	...lá kó yúwù nè lám kəbáyɲ	...lá kó yúwù né nlámá kəbáyɲ	... that we not cook...
	...lá kó yúwù nè shítá kəbáyɲ	...lá kó yúwù né nshítə kəbáyɲ	... that we not collect...
	...lá kó yúwù nè səŋtá kəbáyɲ	...lá kó yúwù né nsəŋtə kəbáyɲ	... that we not sift...
	...lá kó yúwù nè lè kəbáyɲ	...lá kó yúwù né nlèè kəbáyɲ	... that we not lose...
	...lá kó yúwù nè kúm kəbáyɲ	...lá kó yúwù né ŋkùmə kəbáyɲ	... that we not touch...
	...lá kó yúwù nè shisə kəbáyɲ	...lá kó yúwù né nshisə kəbáyɲ	... that we not remove...
	...lá kó yúwù nè limsə kəbáyɲ	...lá kó yúwù né nlimsə kəbáyɲ	... that we not heat...
F3	...lá kó yúwù lù zhí kəbáyɲ	...lá kó yúwù lú nzhíí kəbáyɲ	... that we not eat fufu!
	...lá kó yúwù lù lám kəbáyɲ	...lá kó yúwù lú nlámá kəbáyɲ	... that we not cook...
	...lá kó yúwù lù shítá kəbáyɲ	...lá kó yúwù lú nshítə kəbáyɲ	... that we not collect...
	...lá kó yúwù lù səŋtá kəbáyɲ	...lá kó yúwù lú nsəŋtə kəbáyɲ	... that we not sift...
	...lá kó yúwù lù lè kəbáyɲ	...lá kó yúwù lú nlèè kəbáyɲ	... that we not lose...
	...lá kó yúwù lù kúm kəbáyɲ	...lá kó yúwù lú ŋkùmə kəbáyɲ	... that we not touch...



...lá ká yúwù lù shìsè kàbáyǎn	...lá ká yúwù lù nshìsè kàbáyǎn	... that we not remove...
...lá ká yúwù lù lìmsè kàbáyǎn	...lá ká yúwù lù nìmsè kàbáyǎn	... that we not heat...

**Appendix 13. Negative Future Conditional Verb Forms**

	Perfective AFF	Progressive AFF	Gloss
F1	sótsèn Búǎ dí? ká zhí kàbáyǎn	sótsèn Búǎ dí? ká nzhíí kàbáyǎn	If Bung doesn't eat fufu ...
	sótsèn Búǎ dí? ká lám kàbáyǎn	sótsèn Búǎ dí? ká n lámá kàbáyǎn	If Bung doesn't cook fufu ...
	sótsèn Búǎ dí? ká shítá kàbáyǎn	sótsèn Búǎ dí? ká nshítè kàbáyǎn	If Bung doesn't collect fufu ...
	sótsèn Búǎ dí? ká sǎǎtá kàbáyǎn	sótsèn Búǎ dí? ká nsǎǎtè kàbáyǎn	If Bung doesn't sift fufu ...
	sótsèn Búǎ dí? ká lè kàbáyǎn	sótsèn Búǎ dí? ká n lèè kàbáyǎn	If Bung doesn't lose fufu ...
	sótsèn Búǎ dí? ká kùm kàbáyǎn	sótsèn Búǎ dí? ká ñkùmè kàbáyǎn	If Bung doesn't touch fufu ...
	sótsèn Búǎ dí? ká shìsá kàbáyǎn	sótsèn Búǎ dí? ká nshìsè kàbáyǎn	If Bung doesn't remove fufu ...
	sótsèn Búǎ dí? ká lìmsá kàbáyǎn	sótsèn Búǎ dí? ká n lìmsè kàbáyǎn	If Bung doesn't heat fufu ...
F2	sótsèn Búǎ nè òì? ká zhí kàbáyǎn	sótsèn Búǎ nè òì? ká nzhíí kàbáyǎn	If Bung doesn't eat fufu ...
	sótsèn Búǎ nè òì? ká lám kàbáyǎn	sótsèn Búǎ nè òì? ká n lámá kàbáyǎn	If Bung doesn't cook fufu ...
	sótsèn Búǎ nè òì? ká shítá kàbáyǎn	sótsèn Búǎ nè òì? ká nshítè kàbáyǎn	If Bung doesn't collect fufu ...
	sótsèn Búǎ nè òì? ká sǎǎtá kàbáyǎn	sótsèn Búǎ nè òì? ká nsǎǎtè kàbáyǎn	If Bung doesn't sift fufu ...
	sótsèn Búǎ nè òì? ká lè kàbáyǎn	sótsèn Búǎ nè òì? ká n lèè kàbáyǎn	If Bung doesn't lose fufu ...
	sótsèn Búǎ nè òì? ká kùm kàbáyǎn	sótsèn Búǎ nè òì? ká ñkùmè kàbáyǎn	If Bung doesn't touch fufu ...
	sótsèn Búǎ nè òì? ká shìsá kàbáyǎn	sótsèn Búǎ nè òì? ká nshìsè kàbáyǎn	If Bung doesn't remove fufu ...
	sótsèn Búǎ nè òì? ká lìmsá kàbáyǎn	sótsèn Búǎ nè òì? ká n lìmsè kàbáyǎn	If Bung doesn't heat fufu ...
F3	sótsèn Búǎ lù òì? ká zhí kàbáyǎn	sótsèn Búǎ lù òì? ká nzhíí kàbáyǎn	If Bung doesn't eat fufu ...
	sótsèn Búǎ lù òì? ká lám kàbáyǎn	sótsèn Búǎ lù òì? ká n lámá kàbáyǎn	If Bung doesn't cook fufu ...
	sótsèn Búǎ lù òì? ká shítá kàbáyǎn	sótsèn Búǎ lù òì? ká nshítè kàbáyǎn	If Bung doesn't collect fufu ...
	sótsèn Búǎ lù òì? ká sǎǎtá kàbáyǎn	sótsèn Búǎ lù òì? ká nsǎǎtè kàbáyǎn	If Bung doesn't sift fufu ...
	sótsèn Búǎ lù òì? ká lè kàbáyǎn	sótsèn Búǎ lù òì? ká n lèè kàbáyǎn	If Bung doesn't lose fufu ...
	sótsèn Búǎ lù òì? ká kùm kàbáyǎn	sótsèn Búǎ lù òì? ká ñkùmè kàbáyǎn	If Bung doesn't touch fufu ...
	sótsèn Búǎ lù òì? ká shìsá kàbáyǎn	sótsèn Búǎ lù òì? ká nshìsè kàbáyǎn	If Bung doesn't remove fufu ...
	sótsèn Búǎ lù òì? ká lìmsá kàbáyǎn	sótsèn Búǎ lù òì? ká n lìmsè kàbáyǎn	If Bung doesn't heat fufu ...!

Appendix 14. Negative Past Conditional Verb Forms

	Perfective AFF	Progressive AFF	Gloss
P0	Búŋ tí dì? kó 'zhí kəbáyn ...	Búŋ tí dì? kó nzhíí kəbáyn ...	If Bung hadn't eaten fufu ...!
	Búŋ tí dì? kó 'lám kəbáyn ...	Búŋ tí dì? kó nlámá kəbáyn ...	If Bung hadn't cooked fufu ...!
	Búŋ tí dì? kó 'shítá kəbáyn ...	Búŋ tí dì? kó nshítə kəbáyn ...	If Bung hadn't collected fufu ...!
	Búŋ tí dì? kó 'səŋtá kəbáyn ...	Búŋ tí dì? kó nsəŋtə kəbáyn ...	If Bung hadn't sifted fufu ...!
	Búŋ tí dì? kó lè kəbáyn ...	Búŋ tí dì? kó nlèè kəbáyn ...	If Bung hadn't lost fufu ...!
	Búŋ tí dì? kó kùm kəbáyn ...	Búŋ tí dì? kó ŋkùmə kəbáyn ...	If Bung hadn't touched fufu ...!
	Búŋ tí dì? kó shìsá kəbáyn ...	Búŋ tí dì? kó nshìsə kəbáyn ...	If Bung hadn't removed fufu ...!
	Búŋ tí dì? kó lìmsá kəbáyn ...	Búŋ tí dì? kó nlìmsə kəbáyn ...	If Bung hadn't heated fufu ...!
P1	Búŋ yì tí dì? kó 'zhí kəbáyn ...	Búŋ yì tí dì? kó nzhíí kəbáyn ...	If Bung hadn't eaten fufu ...!
	Búŋ yì tí dì? kó 'lám kəbáyn ...	Búŋ yì tí dì? kó nlámá kəbáyn ...	If Bung hadn't cooked fufu ...!
	Búŋ yì tí dì? kó 'shítá kəbáyn ...	Búŋ yì tí dì? kó nshítə kəbáyn ...	If Bung hadn't collected fufu ...!
	Búŋ yì tí dì? kó 'səŋtá kəbáyn ...	Búŋ yì tí dì? kó nsəŋtə kəbáyn ...	If Bung hadn't sifted fufu ...!
	Búŋ yì tí dì? kó lè kəbáyn ...	Búŋ yì tí dì? kó nlèè kəbáyn ...	If Bung hadn't lost fufu ...!
	Búŋ yì tí dì? kó kùm kəbáyn ...	Búŋ yì tí dì? kó ŋkùmə kəbáyn ...	If Bung hadn't touched fufu ...!
	Búŋ yì tí dì? kó shìsá kəbáyn ...	Búŋ yì tí dì? kó nshìsə kəbáyn ...	If Bung hadn't removed fufu ...!
	Búŋ yì tí dì? kó lìmsá kəbáyn ...	Búŋ yì tí dì? kó nlìmsə kəbáyn ...	If Bung hadn't heated fufu ...!
P2	Búŋ tə tí dì? kó 'zhí kəbáyn ...	Búŋ tə tí dì? kó nzhíí kəbáyn ...	If Bung hadn't eaten fufu ...!
	Búŋ tə tí dì? kó 'lám kəbáyn ...	Búŋ tə tí dì? kó nlámá kəbáyn ...	If Bung hadn't cooked fufu ...!
	Búŋ tə tí dì? kó 'shítá kəbáyn ...	Búŋ tə tí dì? kó nshítə kəbáyn ...	If Bung hadn't collected fufu ...!
	Búŋ tə tí dì? kó 'səŋtá kəbáyn ...	Búŋ tə tí dì? kó nsəŋtə kəbáyn ...	If Bung hadn't sifted fufu ...!
	Búŋ tə tí dì? kó lè kəbáyn ...	Búŋ tə tí dì? kó nlèè kəbáyn ...	If Bung hadn't lost fufu ...!
	Búŋ tə tí dì? kó kùm kəbáyn ...	Búŋ tə tí dì? kó ŋkùmə kəbáyn ...	If Bung hadn't touched fufu ...!
	Búŋ tə tí dì? kó shìsá kəbáyn ...	Búŋ tə tí dì? kó nshìsə kəbáyn ...	If Bung hadn't removed fufu ...!
	Búŋ tə tí dì? kó lìmsá kəbáyn ...	Búŋ tə tí dì? kó nlìmsə kəbáyn ...	If Bung hadn't heated fufu ...!
P3	Búŋ ə ntí dì? kó 'zhí kəbáyn ...	Búŋ ə ntí dì? kó nzhíí kəbáyn ...	If Bung hadn't eaten fufu ...!
	Búŋ ə ntí dì? kó 'lám kəbáyn ...	Búŋ ə ntí dì? kó nlámá kəbáyn ...	If Bung hadn't cooked fufu ...!
	Búŋ ə ntí dì? kó 'shítá kəbáyn ...	Búŋ ə ntí dì? kó nshítə kəbáyn ...	If Bung hadn't collected fufu ...!
	Búŋ ə ntí dì? kó 'səŋtá kəbáyn ...	Búŋ ə ntí dì? kó nsəŋtə kəbáyn ...	If Bung hadn't sifted fufu ...!
	Búŋ ə ntí dì? kó lè kəbáyn ...	Búŋ ə ntí dì? kó nlèè kəbáyn ...	If Bung hadn't lost fufu ...!
	Búŋ ə ntí dì? kó kùm kəbáyn ...	Búŋ ə ntí dì? kó ŋkùmə kəbáyn ...	If Bung hadn't touched fufu ...!
	Búŋ ə ntí dì? kó shìsá kəbáyn ...	Búŋ ə ntí dì? kó nshìsə kəbáyn ...	If Bung hadn't removed fufu ...!
	Búŋ ə ntí dì? kó lìmsá kəbáyn ...	Búŋ ə ntí dì? kó nlìmsə kəbáyn ...	If Bung hadn't heated fufu ...!