

## CHANGES IN TAI DAM VOWELS

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### Abstract

This paper aims to study changes in vowels in the Tai Dam language in three countries, namely, Thailand, Laos, and Vietnam. The vowel changes include regular sound changes and vowel replacements which have occurred because of language contact with majority languages. Some original vowels in Tai Dam in Thailand and Tai Dam in Lao have developed traits of vowels in Thai and Lao respectively, but only among a small group of young generation speakers. It is, therefore, predicted that the typical features of Tai Dam vowels such as the shortening of the long vowels \*i:, \*ɛ:, \*u:, \*ɔ: before \*-k will be preserved. The vowel system of Vietnamese Tai Dam is the most conservative. Nevertheless, Vietnamese Tai Dam has been recently influenced by the Lao language because speakers of the Vietnamese Tai Dam language have been in contact with the Lao speech community more than in the past. Consequently, it is expected that phonological borrowing from Lao to Vietnamese Tai Dam will increase.

**Key words:** vowel change, vowel replacement, Tai Dam, Black Tai  
**iso 639-3:** blt

### 1. Introduction

Tai Dam, or Black Tai people<sup>1</sup>, reside in various countries of Mainland Southeast Asia, including Thailand, Lao PDR, and Vietnam. Wherever this ethnic group lives, they are strongly united and establish their ethnic communities. This cultural unity allows their speech community to share significant linguistic similarities.

The original region of Tai Dam people was *Muang Thaeng*<sup>2</sup> in northwest Vietnam, which was an important geographic and ethnic center for Tai Dam people within the twelve local administrative units called *Sip Song Chou Tai*, which borders Pongsali, Luang Prabang, and Huaphan provinces of Laos (Pitiphat 2002). A number of Tai Dam people were forced to migrate to Thailand on several occasions because of war. The first movement took place during the reign of King Taksin (1767-1782) and later migrations took place during the reigns of Rama I, Rama II, and Rama III (Baker & Phongpaichit 2005). The original settlement of the Tai Dam in Thailand was in Phetchaburi province in the western region of Thailand (Puengdet 1976). The Tai Dam at this location, and those in Laos, are classified as western Tai Dam, whereas those in Vietnam are grouped as eastern Tai Dam (L-Thongkum 2002b). Later on, a number of Tai Dam moved to other provinces in the western region of Thailand, such as Kanchanaburi, Ratchaburi, Suphanburi, Nakhon Pathom, Samut Sakhon, and Samut Songkhram; and the lower northern region, such as Nakornsawan, Pichit, Pitsanulok, Kampaengpet; as well as the southern region in such provinces as Chumporn and Suratthani. These movements took place over three generations more than 200 years ago.

Linguistically, the Tai Dam language belongs to the Southwestern Tai language group (Li 1960). However, the Tai Dam were mistaken as a Lao group due to common migration patterns and linguistic similarities between Tai Dam and other Lao groups (Chakshuraksha 2003). When the Tai Dam were first brought to Thailand, they were called the *Lao Song*. At present, the word *Lao* has been replaced by the name *Thai* or *Tai*, such as *Thai Song*, *Thai Song Dam*, and *Tai Dam*.

<sup>1</sup> This ethnic group is called 'Black Tai' because of the distinctive color of their black costumes (Pitiphat 1980).

<sup>2</sup> *Muang Thaeng* is also called *Phủ Điện Biên (Điện Biên Phủ)*, which is a well-known site of a battle between the Vietnamese and the French in 1954 (Saiphon 2011).

In addition to the western Tai Dam, a group of Tai Dam migrated voluntarily from *Muang Thaeng* to Luang Prabang province, Laos, and settled in Lopburi province, Thailand in 1880 during the reign of Rama V. Eight years later, they moved to Vientiane, Laos and later on continued their movement to Xiangkhouang near *Sip Song Chou Tai*. In 1907, to avoid French colonization, they returned to Banna Panad, Loei province, in northeast Thailand (Paisoon 2010). This group of Tai Dam are classified as eastern Tai Dam (Thavorn & Burusphat 2016).

The population of Tai Dam is concentrated in western Thailand. The Tai Dam language is used in everyday life, and the Tai Dam there still perform traditional rituals. Consequently, most previous linguistic research on the Tai Dam language has been carried out in this region. In other locations, especially in the southern region, Tai Dam has been studied somewhat less. This study aims to study the Tai Dam language spoken in Suratthani province of southern Thailand, where the majority of the Tai Dam migrated from Phetchaburi province 100 years ago. Some additional data were collected from Chumporn province to support the primary data. Another research site in Thailand includes Banna Panad, Khawkaew sub-district, Chiangkhan district in Loei province in order to compare the western Tai Dam and eastern Tai Dam languages. Western Tai Dam groups outside Thailand include Tai Dam in Luangnamtha province in Laos, and the representative of eastern Tai Dam is Tai Dam in Son La and Dien Bien Phu, Vietnam.

Previous studies of Tai Dam language focused on phonological descriptions and linguistic reconstructions. The phonological descriptions of Tai Dam in Vietnam include the works of Gedney (1964) and Fippinger & Fippinger (1974). The following are examples of relevant research conducted in Thailand: Ananthrawan (1978), Panka (1979), Daecha (1986), Wattanaprasert & Liamprawat (1988), Maneewong (1987), Unakornsawat (1993), Suesorsit (1992), and Jirananthanaporn et al. (2003). A linguistic reconstruction has been carried out by L-Thongkum (2002a, 2002b). L-Thongkum (2002a) reconstructed 1,827 Old Tai Dam (OTD) words. For each reconstructed word, the author listed two to nine Modern Tai Dam (MTD) words. The studied sites included eight locations in Vietnam (Muong Lo, Muong Mua, Muong Than, Muong Thanh, Muong Kway, Muong Muay, Muong Nam Ma, Muong La); one location in northern Laos (Muong Nam Tha, Luang Nam Tha province); and one in central Thailand (Khaw Yoy district, Phetchaburi province). MTD words given in this study also show a phonological change from OTD to MTD. Another work by L-Thongkum (2002b) focuses on tonal development of Tai Dam tones and some OTD reconstructed forms.

A number of studies have been devoted to phonological variation of the Tai Dam language (Buranasing 1988, Liamprawat & Wattanaprasert 1996, Saeng-ngam 2006, Thavorn 2013, Yooyen, 2013, Burusphat 2011, 2012, 2013a, b). These studies use age as a social variable that conditions linguistic variation. In addition to the phonological variation of the Tai Dam language by age groups, the works of Thavorn (2013) and Burusphat (2013a, b) also cover phonological change from OTD to MTD. Thavorn (2013) focuses on consonants and vowels, whereas Burusphat (2013a, b) highlight consonants and tones and downplays vowels. The research sites of both works were limited to Thailand. Some consonant changes are exemplified below (Burusphat 2013a, b).

The change of OTD initial consonants */\*b-, \*d-, \*j-, \*g-/* to voiceless plosives */p-, t-, c-, k-/* is a typical feature shared by all varieties of Tai Dam. Some Laotian Tai Dam (TDL) young generation speakers have adopted the aspirated voiceless plosives */ph-, th-, kh-/* from Lao. Some Vietnamese Tai Dam (TDV) speakers have replaced */ph-/* with the Vietnamese initial */f-/* in such words as */fom<sup>22</sup>/* ‘hair’. In northern Vietnam, the initial */z-/* is used by Vietnamese speakers, whereas in central and southern Vietnam, the initial */j-/* is used (Cheng 1991). TDV speakers do not have Vietnamese loanwords with the initial */z/*, but they have merged initial */j-/* with */z-/* because of the northern Vietnamese influence, as in the sample words in Table 1.

**Table 1:** TDV words with */z-/*

OTD > TDV	Sample TDV words	Gloss
*j > z	<i>zau<sup>55</sup></i>	‘fiber, filament’
*ʔj > z	<i>zu<sup>24</sup></i>	‘to live, to stay’

In addition to the adopted sounds mentioned above, TDV speakers also use Vietnamese loanwords. Some loanwords are a combination of TDV syllables and Vietnamese syllables, and some are a part of the loanwords, as in Table 2.

**Table 2: Vietnamese loanwords in TDV**

Original TDV	MTD	Vietnamese	Gloss
tɛ:ŋ <sup>33</sup> nam <sup>42</sup>	cɪə <sup>55</sup> haw <sup>55</sup> (cɪə <sup>55</sup> means ‘vines’.)	dưa hấu	‘watermelon’
fuan <sup>55</sup> huan <sup>55</sup>	san <sup>55</sup> huan <sup>55</sup>	sân thượng	‘platform of the house’
ka <sup>35</sup> thɛʔ <sup>44</sup>	sɛ <sup>55</sup>	xe đò	‘cart’
pian <sup>33</sup> faa <sup>42</sup>	may <sup>55</sup>	đám mây	‘cloud’

The study of tone variation reveals that the tone systems of TDL and TDV have been conserved, whereas TDT (Suratthani) and TDT (Loei) have seen changes to the phonetic characteristics of tone category A because of the influence of Thai and the northeastern Thai dialect respectively (Thavorn & Burusphat 2016).

This study describes Tai Dam phonological variation and changes studied previously by expanding the research sites to cover Laos and Vietnam. The focus is on Tai Dam vowels which are the least studied and have undergone regular sound changes and replacement due to language contact with Thai and Lao.

## 2. Methodology

This paper is an outcome of the research project “A regional variation of selected ethnic languages and cultures in Southeast Asia” funded by the Thailand Research Fund-TRF (Distinguished Professor Grant-2015-2018). The research project had the author as the principle investigator and three research assistants who helped with the preliminary survey at the research sites in 2015 and data collection in 2016. This study followed the five steps below.

### 2.1 Preliminary survey

Previous linguistic studies of Tai Dam related to this study were synthesized in order to obtain background knowledge of the phonological variation and change of Tai Dam which would be useful for this study. The research sites were explored by a preliminary survey so that Tai Dam communities and main language consultants could be selected.

### 2.2 Research Tool

A research tool was devised for data collection. A survey form of language consultants’ personnel information such as name, age, gender, and address and a list of words were prepared by adapting the Tai Dam word list to elicit vowels in the work of Thavorn (2013) and selecting additional words that had vowel variation in the work of L-Thongkum (2002a). The total number of words is fifty-four (See the appendix).

### 2.3 Research sites

Four research sites in the three countries described below were selected due to being densely populated by Tai Dam speakers, and the Tai Dam language is used frequently in everyday life there.

(1) In Thailand, the data were collected at two locations. In Suratthani Province of southern Thailand, Nasan district, Sai-ngam district, Phunphin district, and Khiansa district were chosen as research sites because the Tai Dam spoken in these areas has never been studied. Another location selected was Banna Panad, Khawkaew sub-district in Chiangkhan province where the Tai Dam phonology was studied thirty-nine years ago by Ananthrawan (1978) and thus needed to be re-examined to identify any phonological change. Thavorn (2013) also studied Tai Dam vowel variation and change in this district and identified age as a social variable influencing vowel variation. Regional variation and change of Tai Dam vowels in Tai Dam communities outside Thailand was not within the scope of her study. This paper used data from Thavorn’s work together with field data for an analysis of changes in Tai Dam vowels there. This study did not select Phetchaburi province, where many united Tai Dam communities are located because many previous researchers chose this place as their research sites, such as L-Thongkum (2002a), Maneewong (1987), Unakornsawat (1993), Saengngam (2006), and Burusphat (2013b). Therefore, unexplored Tai Dam communities, such as Suratthani

province, where most of the population migrated from Phetchaburi, should be studied for phonological comparison.

(2) In Laos, the research sites were Nam-ngaen village, Pung village, and Thongchaitai village of Luangnamtha province. The studied areas are different from those studied by L-Thongkum (2002b), who collected data at Hua Khua village.

(3) In Vietnam, data collection was carried out at Dien Bien Phu and Son La, where the Tai Dam language was studied by other researchers at different times over four decades (Gedney 1964, Fippinger & Fippinger 1974, and L-Thongkum 2002b). In addition to the field data, this current study also used data from *Old Tai Dam (Black Tai) lexicon* (L-Thongkum 2002a).

#### 2.4 Selection of language consultants

Saeng-Ngam (2006) studied lexical and tonal variation by age group and language attitude in the Tai Dam language of Phetchaburi province and found that speakers in the 35-45 group and those in the 55-65 group used the same quantity of Tai Dam lexical items, while young Tai Dam speakers used more Bangkok Thai lexical items than the middle aged and old aged groups.

The present study follows Saeng-Ngam's approach by grouping the middle aged and old aged language consultants into one group and screening the language consultants according to this expanded age group. The study focused on changes in Tai Dam vowels from OTD to MTD. Social variables such as age and gender are not included in the analysis. The middle aged and old aged groups who shared similar language use were language consultants in this study. The minimum age of middle aged group was adjusted to 45 years old because villagers above this age were more sedentary than younger people and thus had more frequent use of the Tai Dam language in everyday life. Spending more time in the villages, they were less likely to have been influenced by the majority languages of the three countries. In Thailand, the data were collected from two locations, so thirteen language consultants from each location were chosen. In Laos and Vietnam, thirteen language consultants were selected in each country. The number of language consultants by age group and gender is provided in Table 3.

**Table 3:** Total number of language consultants classified by location, age and gender

Age and gender Location	65 up		45-55	
	Male	Female	Male	Female
Suratthani	3	7	1	2
Loei	3	4	1	5
Luangnamtha	2	5	2	4
Son Lao and Dien Bien Phu	2	7	1	3
Total number of language consultants classified by gender groups	10	23	5	14
Total number of language consultants classified by age groups	33		19	
Total number of language consultants	52			

In addition to the 52 main language consultants, eight language consultants of the young group (18-35), two males and six females, were also observed for their vowel usage to identify any vowel changes in progress.

#### 2.5 Data analysis

The changes in Tai Dam vowels from OTD to MTD were studied following the work of L-Thongkum (2002a ad b). As mentioned earlier, L-Thongkum (2002a) reconstructed an OTD lexicon of 1,827 entries. Each entry consists of two reconstructed OTD forms (called OTD1 and OTD2 in this paper), Thai glosses, English glosses, cognates in MTD, and short notes on dialect variation. OTD1 has the four OTD tones, \*A, \*B, \*C, and \*D, while OTD2 has six tones which were split from the four OTD tones such as \*pa C (OTD1) > \*pa C1 (OTD2) 'aunt (parents' elder sister)'. L-Thongkum (2002b) presented the OTD phonology and focussed on tonal development and tone shapes of the Old and Modern Tai Dam tones, and on some reconstructed OTD forms which can shed light on the meanings of ambiguous words in Modern Thai elaborate expressions. L-

Thongkum’s data were collected in three countries: four provinces in northern Vietnam, namely, Son La, Lai Châu, Yên Bái, and Lào Cai; Ban Hua Khua, Luangnamtha province, Laos; and Ban Nong So, Khaw Yoy district, Petchaburi province, Thailand. L.Thongkum (2002b:2) used a word list of 3,343 items and two short additional word lists of 20 and of 153 items to investigate tones, consonants and vowels. She noted, “every item in the short vowel lists is recorded in order to check the phonetic transcription based on auditory judgement and for acoustical measurements to confirm the phonetic characteristics of tones.” It was found that Tai Dam living in Laos and Thailand still spoke Tai Dam with little influence of the Lao and Thai languages respectively. There are some differences in vocabulary between varieties of Tai Dam in the two countries which were caused by language contact with the majority languages. However, the phonetic differences are small.

This paper uses the OTD vowels reconstructed by L-Thongkum (2002 a and b) to study the changes from OTD vowels to MTD vowels which are used by language consultants living in Thailand, Laos, and Vietnam. This paper discusses the MTD vowels which vary regionally. The regional variation of MTD vowels is caused by regular sound changes and vowel replacement due to language contact with the majority languages. The regular sound changes are similar to L-Thongkum’s findings and the vowel replacement is not under the scope of her study.

### 3. Proto-Tai vowels, Old Tai Dam vowels, and Modern Tai Dam vowels

Pittayaporn (2009) reconstructed simple Proto-Tai vowels and diphthongs as in Table 4. Table 4 shows that both short and long Proto-Tai vowels were contrastive, and a vowel could be either high, mid, or low. The low vowels were only long and short \*a: and \*a. The diphthong inventory consisted of three rising diphthongs \*iə, \*uə, \*uə, treated as vowels plus glides phonologically because they do show length contrast and two falling diphthongs \*ɤw, \*aw, which do not contrast for length. Note that the final high vowel \*u is re-interpreted as post-vocalic \*-w.

**Table 4:** Proto-Tai vowels (Pittayaporn, 2009: 192)

*i, *i:	*ɯ, *ɯ:	*u, *u:
*e, *e:	*ɤ, *ɤ:	*o, *o:
	*a, *a:	
*iə,	*uə	*uə
	*ɤw	
	*aw	

L-Thongkum (2002b) reconstructed the OTD vowels as shown in Table 5. L-Thongkum’s reconstruction of OTD vowels consists of nine short vowels, six long vowels (only before \*-k), four short diphthongs, and three long diphthongs (only before \*-k). L-Thongkum (2002b) noted that MTD lost contrast of vowel length. Only long vowel \*a: is maintained in both closed and open syllables.

**Table 5:** OTD vowels (L-Thongkum 2002b:7)

*i, *i:	*ɯ, *ɯ:	*u, *u:	
*e	*ɤ	*o	
*ɛ, *ɛ:	*a, *a:	*ɔ, *ɔ:	
*iə, *i:ə	*uə, *u:ə	*uə, *u:ə	*aw

Previous studies of MTD phonology and this paper all agree that there are nine short vowels /i, e, ɛ, u, ɤ, a, u, o, ɔ/ which are present in the Proto Tai in Table 4 and OTD vowel inventory in Table 5. The vowel length of MTD in Vietnam is not contrastive except /a/ and /a:/ (Gedney 1964, Fippinger & Fippinger 1974). In Thailand and Laos, the vowel length has become distinctive because of influences from the Thai and Lao languages. Consequently, the nine short vowels have their long vowel counterparts.

The number of diphthongs is varied by the interpretation of /u, i, w/ in the final position of words. If these three vowels are interpreted as final consonants /w, y, w/, there are three diphthongs, /ia, iu, ua/ (Gedney 1964, Fippinger & Fippinger 1974). If the interpretation is reversed, there are fifteen diphthongs and three triphthongs (Panka 1979). Most studies treated /aw/ as a diphthong so there are four diphthongs, /ia, ua, ua,

au/ (Daecha 1986, Maneewong 1987, Suesorsit 1992, Unakornsawat, 1993, Wattanaprasert & Liamprawat 1988, and Jirananthanaporn et al., 2003). Following Pittayaporn (2009) and L-Thongkum (2002b), /au/ should be treated as a diphthong.

#### 4. Changes in Tai Dam vowels

As mentioned earlier, L-Thongkum (2002a) reconstructed an OTD lexicon of 1,827 entries and provided cognates in MTD, some of which show dialect variation in Vietnam, Laos, and Thailand. The data obtained from the four locations in this study also show MTD vowels which have changed from the OTD reconstructed by L-Thongkum (2002a). The changes comprise regular sound changes which are the same as found in L-Thongkum's research and vowel replacement, which was not under the scope of her work.

##### 4.1 Regular sound changes

Although the varieties of the Tai Dam language in Vietnam, Laos, and Thailand have been influenced by Vietnamese, Lao, and Thai respectively, most typical features of Tai Dam vowels remain intact, as noted by L-Thongkum (2002b). Only two changes in Tai Dam vowels from OTD to MTD have been identified as discussed below.

###### 4.1.1 The shortening of long vowels

All long vowels, with the exception of \*a:, have become short vowels. In the old stage of OTD1, the six reconstructed long vowels /\*i:, \*ε:, \*u:, \*a:, \*u:, \*ɔ:/ preceded final /\*-k/ only. In the later stage (OTD2), /\*-k/ changed to /-ʔ/. This phonological change caused a shortening of five long vowels /\*i:, \*ε:, \*u:, \*u:, \*ɔ:/, which then merged with their short vowel counterparts /\*i, \*ε, \*u, \*u, \*ɔ/. The vowel length is no longer contrastive, except for the vowels /\*a:/ and /\*a/ (L-Thongkum 2002a). Vietnamese similarly has two vowels, long 'a' /a/ [a:] or [æ:] and short 'ă' /a/. This might not have influenced Tai but is perhaps a regional tendency.

In Thailand, Thavorn (2013) found that the Tai Dam language spoken at Banna Panad in Loei province has a contrastive set of short and long vowels similar to the one in the Thai language.

###### 4.1.2 The change in the single vowel /\*ε/

The single vowel /\*ε/ changed to the diphthong /iə/ before the final /-w/ in some Tai Dam dialects in Vietnam (TDV1), the Nam Tha dialect in Laos, and the Tai Dam dialect at Banna Panad, Loei province, Thailand: /\*ε/ > iə/ before /-w/. In other dialects of Vietnamese Tai Dam (TDV2), the change did not take place. In Tai Dam in Phetchaburi province and Suratthani province, the original /ε/ is kept. A list of sample words having /iə/ and /ε/ is shown in Table 6.<sup>3</sup> In Vietnam, both vowels are present in different Tai Dam lects.<sup>4</sup>

<sup>3</sup> STD = Southern Tai Dam (Suratthani province, Thailand)

CTD = Central Tai Dam (Phetchaburi province, Thailand)

NETD = Northeast Tai Dam (Loei province, Thailand)

TDL = Laotian Tai Dam (Luangnamtha province, Laos)

TDV1 = Vietnamese Tai Dam in Muang La and Muay, Son La province (L-Thongkum 2002a)

TDV2 = Vietnamese Tai Dam in Muang Mua, Nam Ma, Son La province; Muang Kway, Thanh, Lai Châu province; Muang Than, Lao Cai province (L-Thongkum 2002a)

<sup>4</sup> Vietnamese has *mèo* /mew<sup>21</sup>/ 'cat' and *eo* /ʔew<sup>33</sup>/ 'waist'. It is impossible to state exactly what the relationship is, but it is interesting that TDV has two vowel forms, one of which is similar to that in Vietnamese.

**Table 6: Regional variation of /iə/ and /ɛ/**

OTD1	OTD2	STD	CTD	NETD	TDL	TDV1	TDV2	Gloss
*hɛwB	*hɛwB1	hɛw <sup>215</sup>	hɛw <sup>35</sup>	hɛw <sup>34</sup>	hiəw <sup>35</sup>	hiəw <sup>35</sup>	hɛw <sup>35</sup>	‘wither’
*nɛwB	*nɛwB2	nɛw <sup>33</sup>	nɛw <sup>33</sup>	ɲɛw <sup>33</sup>	niəw <sup>33</sup>	niəw <sup>44</sup>	nɛw <sup>44</sup>	‘urinate’
*khɛwC	*khɛwC1	khɛw <sup>31</sup>	khɛw <sup>31</sup>	khɛw <sup>31</sup>	khiəw <sup>31</sup>	khiəw <sup>21</sup>	khɛw <sup>21</sup>	‘tooth’
*ʔɛwA	*ʔɛwA1	ʔɛw <sup>213</sup>	ʔɛw <sup>22</sup>	ʔɛw <sup>22</sup>	ʔiəw <sup>22</sup>	ʔiəw <sup>11</sup>	ʔɛw <sup>11</sup>	‘waist’
*mɛwA	*mɛwA2	mɛw <sup>243</sup>	mɛw <sup>55</sup>	mɛw <sup>44</sup>	miəw <sup>44</sup>	miəw <sup>44</sup>	mɛw <sup>44</sup>	‘cat’

#### 4.2 Vowel replacement

A number of MTD words show vowel changes from OTD, as reconstructed by L-Thongkum (2002a), probably due to language contact with Thai and Lao. These MTD words are cognate with Thai and Lao, so the original Tai Dam vowels were apparently replaced by the Thai and Lao vowels without consonant and tonal changes as exemplified in Table 7. These vowel changes are sporadic, and they are not phonological changes but rather vowel borrowing. TDT and TDL have replaced the Tai Dam vowels /iə/ and /u/ with the Thai/Lao vowel /i/ in the first two words and the Tai Dam vowels /ɛ/ and /e/ with /e/ and /a:/ in the last two words respectively.

**Table 7: Vowel replacement due to contact**

OTD1	OTD2	MTD	Gloss
*hniəwC	> *niəwC1	> niw <sup>31</sup>	‘gallstones’
*thuB	*thuB1	thi <sup>31</sup>	‘ordinal number’
*khepD	*khepD1	khep <sup>44</sup>	‘twice-sewed seam’
*geŋB	*keŋB2	ka:ŋ <sup>33</sup>	‘to stretch out’

The analysis of Tai Dam vowel changes in this study shows that a number of Tai Dam vowels in multiple words have at least one variant borrowed from Thai or Lao. In the sample words in Table 8, the vowel /i/ has the variant [e] adopted from Thai and Lao. Some TDT speakers pronounce the word /min<sup>22</sup>/ ‘stink’ as [men<sup>22</sup>] and /nip<sup>44</sup>/ as [nep<sup>44</sup>] with the Thai vowel [e], whereas TDL has kept the original vowel /i/ because Lao speakers also use /i/ in these words. Note that the initial consonant /ɲ-/ is not replaced by the Thai consonant /j-/. Only the vowel is replaced. Some TDT and TDL speakers pronounce the word /mit<sup>44</sup>/ ‘granular’ as [met<sup>44</sup>] using the vowel [e] of Thai and Lao.

**Table 8: Words with /i/ ~ /e/**

*i > i ~ e					
OTD1	OTD2	MTD	Thai	Lao	Gloss
*hminA	*minA1	min <sup>22</sup>	men <sup>24</sup>	min <sup>22</sup>	‘stink’
*mitD	*mitD2	mit <sup>44</sup>	met <sup>44</sup>	met <sup>33</sup>	‘granular’
*nipD	*nipD2	nip <sup>44</sup>	jep <sup>44</sup>	nip <sup>33</sup>	‘to sew’

Some Tai Dam vowels have more than one variant because they correspond to various Thai or Lao vowels. The vowel /ɤ/ in the words /phɤŋ<sup>31</sup>/ ‘bee’, /lɤk<sup>44</sup>/ ‘deep’, and /ʔɤk<sup>44</sup>/ ‘chest’ below has the variants [u] and [o] in TDT most likely because of Thai influence. TDL and TDV have only the original vowel /ɤ/. Lao speakers also use the vowel /ɤ/ in these two words so there is no Lao influence in TDL. The word /nɤ<sup>31</sup>/ ‘debt’ has the variant [i:] in TDT and TDL because of the Thai and Lao influences whereas TDV speakers use only the original vowel /ɤ/. Note that Vietnamese also has the word nɔ /nɤ<sup>22</sup>/ ‘debt,’ which might have been borrowed into MTV.

**Table 9:** Words with  $\gamma \sim u \sim o \sim i$

* $\gamma > \gamma \sim u \sim o \sim i$					
OTD1	OTD2	MTD	Thai	Lao	Gloss
*phɤŋC	*phɤŋC1	phɤŋ <sup>31</sup>	phuŋ <sup>42</sup>	phɤŋ <sup>31</sup>	‘bee’
*lɤkD	*lɤkD2	lɤk <sup>44</sup>	luɤk <sup>44</sup>	lɤk <sup>35</sup>	‘deep’
*ʔɤkD	*ʔɤkD1	ʔɤk <sup>44</sup>	ʔok <sup>21</sup>	ʔɤk <sup>35</sup>	‘chest’
*nɤC	*nɤC2	nɤ <sup>31</sup>	ni. <sup>42</sup>	ni. <sup>31</sup>	‘debt’

Some instances of borrowed vowels appear only in single words. The changes in Tai Dam vowels discussed in this paper exclude sporadic vowel changes in single instances. The single vowels and diphthongs shown in Table 9 show variants found in more than one word. As the OTD1 and OTD2 vowels are the same, they are labelled OTD vowels.

4.2.1 Single vowels

Table 10 shows that TDV vowels have changed the least. Only the OTD vowel /\* $\epsilon$ / followed by /w/ has the variant [iə] in TDV due to the regular sound change mentioned earlier. In terms of changes to vowels, TDL is second to TDV. It has been somewhat influenced by Lao vowels. Most TDL language consultants use the original vowel /\* $\gamma$ / > / $\gamma$ / except for some unfamiliar words such as /mɤk<sup>44</sup>/ ‘ink’ whose vowel is substituted by the Lao vowel /u/. Note that Vietnamese has *mɤc* /muɤk<sup>22</sup>/ ‘ink’ which does not appear to have influenced the vowel in /mɤk<sup>44</sup>/ in TDV. Some TDL speakers changed the OTD vowels /\* $a$ , \* $a$ :/ to the diphthong /uə/ when preceded by the cluster /Cw/. This change could be a language internal change because of a lengthening of the /w/ glide followed by a vowel reduction in /a/ as the syllable nucleus shifted. However, the diphthongization is analyzed as a change under the influence of Lao since Tai Dam speakers in the western region of Thailand do not have much contact with Lao or northeastern Thai speakers and thus the diphthongization did not take place. On the other hand, the Tai Dam dialect spoken at Banna Panad, Loei province has undergone the same phonological process, Cwa(a) > Cuə, as TDL due to language contact with the northeastern Thai dialect.

**Table 10:** Changes in Tai Dam single vowels

OTD vowels	TDT variants	TDL variants	TDV variants	Thai vowels	Lao vowels	TD sample words	Gloss
*i	i ~ e	i	i	e	i	nip <sup>44</sup>	‘to sew’
*e	e ~ $\gamma$	e	e	o	$\gamma$	met <sup>44</sup>	‘to end’
* $\epsilon$ ( w)	$\epsilon \sim iə \sim e$	iə	$\epsilon \sim iə$	e	$\epsilon$	ʔew <sup>22</sup>	‘waist’
*u	u ~ $\gamma$	u	u	$\gamma$	$\gamma$	put <sup>45</sup>	‘to open’
* $\gamma$	$\gamma \sim u \sim o \sim i$	$\gamma \sim u$	$\gamma$	u	$\gamma \sim u \sim i$	mɤk <sup>44</sup>	‘ink’
*o	o ~ u ~ a ~ $\gamma$	o	o	u	o	boj <sup>21</sup>	‘hairy caterpillar’
(Cw_) * $a$ , * $a$ :	uə ~ a ~ a:	uə ~ a ~ a:		a:	uə	kwa:ŋ <sup>31</sup>	‘wide’

Osatananda (1997) notes that Vientiane Lao has the change Cwa(a) > Cuə, which strongly suggests that the change Cwa(a) > Cuə in Tai Dam was the result of Lao influence. Some speakers use the original vowels /a, a:/. The change of /\* $a$ , \* $a$ :/ to /uə/ is illustrated in the following sample words in Table 11.

**Table 11:** Change from /\* $a$ , \* $a$ :/ to /uə/

*gwa:jA > kwa:j <sup>44</sup> > kwa:j <sup>44</sup>	~kuəj <sup>44</sup> ‘buffalo’
*gwanA > kwan <sup>44</sup> > kwan <sup>44</sup>	~kuən <sup>44</sup> ‘smoke’
*khwaA > khwa: <sup>22</sup> > khwa: <sup>22</sup>	~khuə <sup>44</sup> ‘right (side)’

In addition to the vowel change in TDL mentioned above, some TDL speakers have replaced the short vowel /a/ followed by /-ʔ/ with long /a:/ followed by /-k/ because of the Lao influence, as seen in the example below. Some TDT speakers, especially young language consultants, also have the same change as in TDL because of Thai influence, as in Table 12.

**Table 12:** Replacement of the short vowel /a/ followed by /-ʔ/

OTD1	OTD2	MTD	variant
*VVk >	*Vʔk >	Vʔ >	VVʔk
*sa:kD >	*sakD1 >	saʔ <sup>44</sup> >	sa:k <sup>44</sup> ‘pestle’
*hmɔ:kD >	*mɔkD1 >	mɔʔ <sup>44</sup> >	mɔ:k <sup>44</sup> ‘fog, mist’
*ʔbɛ:kD >	*bɛkD1 >	bɛʔ <sup>44</sup> >	bɛ:k <sup>44</sup> ‘to carry on the shoulder’

Compared to TDV and TDL, TDT has experienced the largest number of vowel replacements because of Thai influence. As mentioned earlier, some original vowels have a variety of variants because they correspond to different Thai vowels as seen in the case of \*ɾ > ɾ ~ u ~ o ~ i discussed above and \*o > o ~ u ~ a ~ ɔ in Table 13.

**Table 13:** Replacement of the short vowel /o/

*o > o ~ u ~ a ~ ɔ:					
OTD1	OTD2	MTD	Thai	Lao	Gloss
*ʔoŋC	*ʔoŋC1	ʔoŋ <sup>21</sup> ~ ʔoŋ <sup>21</sup>	ʔuŋ <sup>42</sup>	ʔoŋ <sup>31</sup>	‘paw’
*ʔotD	*ʔotD1	ʔot <sup>45</sup>	ʔut <sup>21</sup>	ʔat <sup>35</sup>	‘to block’
*koŋB	*koŋB1	koŋ <sup>45</sup>	klɔ:ŋ <sup>33</sup>	klɔ:ŋ <sup>22</sup>	‘drum’

The Tai Dam vowel /o/ has four variants among its varieties: [o~u~a~ɔ:]. Some TDT speakers pronounce the words /ʔoŋ<sup>21</sup>/ ‘paw’ and /ʔot<sup>45</sup>/ ‘to block’ with the Thai vowel [u]. Most TDL speakers pronounce these as /ʔoŋ<sup>21</sup>/ and /ʔot<sup>45</sup>/, but some have adopted the Lao vowel /a/ and pronounce the word /ʔot<sup>45</sup>/ as /ʔat<sup>45</sup>/. Some TDV language consultants use \*o > ɔ in the word \*ʔoŋC > \*ʔoŋC1 > ʔoŋ<sup>21</sup> ~ ʔoŋ<sup>21</sup>. The vowel /\*o/ of the word \*koŋB > \*koŋB1 ‘drum’ has two variants, \*o > o ~ ɔ:. TDT and TDL use both variants. The variant /ɔ:/ was probably borrowed from either Thai or Lao. TDV is the most conservative and has only the form /o/ with no evidence of phonological variants.

TDT in Loei province has also been influenced by the northeastern Thai dialect as seen in the case of Cwa(a) > Cuə discussed above and the change of \*e > e ~ ɾ. While Southern Tai Dam keeps the original vowel \*e > e, TDT speakers in Loei province use both /e/ and /ɾ/. Older generation speakers keep the variant /e/, whereas the middle and younger generation speakers appear to have borrowed the vowel /ɾ/ from the northeastern Thai dialect such as in the word \*hmetD > \*metD1 > met<sup>35</sup> > bɾt<sup>44</sup> ‘to end, terminate, finish’ (Thavorn 2013).

#### 4.2.2 Diphthongs

The diphthongs /\*uə/ and /\*au/ have some variants mostly due to the influence of Thai as seen in the example in Table 14.

**Table 14:** Changes in Tai Dam diphthongs /\*uə/ and /\*au/

OTD vowels	TDT variants	TDL variants	TDV variants	Thai vowels	Lao vowels	TD sample words	Gloss
*uə >	uə~ɾ:	uə~ɾ:	uə	ɾ:	ɾ:	khuej <sup>44</sup>	‘used to’
>	uə~a:	uə	uə	a:	uə	fuəj <sup>44</sup>	‘straw’
*au >	au~ai~ɾ	au	au	ai	ai	cau <sup>22</sup>	‘heart’

The diphthong /uə/ corresponds to different Thai vowels /ɾ:/ and /a:/ in different words such as \*yuejA > \*khuejA2 > khuej<sup>44</sup> ‘used to’ and \*vuəj A > \*fuəj A2 > fuəj<sup>44</sup> ‘straw’. Some TDT and TDL speakers replace the diphthong /uə/ with the Thai and Lao vowel /ɾ:/ in the word /khuej<sup>44</sup>/. Some TDT speakers also replace this diphthong with the Thai vowel /a:/ in the word /fuəj<sup>44</sup>/, whereas TDL and TDV preserve the original diphthong /uə/ of this word. Note that Lao also uses the same diphthong /uə/ as TDL, and there is no change of /fuəj<sup>44</sup>/ in TDL.

The Tai Dam diphthong /au/ corresponds to the Thai vowel /ai/, which is written with the symbol <ໄ> [mâay múan] in such words as \*hnuəB > nuəB1 > naj<sup>34</sup>~nɾ:<sup>34</sup> <ໄ໑> ‘big’. The vowel /au/ is well preserved in TDT (Suratthani) and TDV, though some young Tai Dam speakers at Baanna Panad, Loei province have

adopted the Thai vowel /aj/. Thavorn (2013) found /ɾ:/ to be a variant of /au/, which is regarded as an internal change in which the diphthong /au/ has undergone a simplification process and become a single vowel.

## 5. Conclusion and Discussion

Various OTD vowels have undergone regular sound changes in various areas where it is spoken, and some vowels have been changed due to Thai and Lao influence. A regular sound change is evident in the case of vowel shortening. The OTD long vowels /\*i: \*ɛ: \*u: \*ɔ:/ before \*-k became short as final \*-k changed to \*-ʔ, and these merged with the original short vowels. Consequently, vowel length is no longer contrastive except for /\*a/ and /\*a:/, which remain distinctive in all Tai Dam dialects. TDT has been influenced by the Thai language so all short and long vowels became contrastive (Thavorn 2013). TDL and TDV have no contrastive vowel length, except /a/ and /a:/ (L-Thongkum 2002a). This study used a list of contrastive vowel pairs (Thavorn 2013) to test vowel length in TDL and TDV. It was found that, unlike L-Thongkum's claim, most Tai Dam language consultants for this study pronounce words with both long and short vowels. Some TDV pronounced words with the same short vowels such as the short vowel /u/ in the words /ɲuŋ44/ 'mosquito' and /zuŋ44/ 'peacock', which are pronounced with the short vowel /u/ and long vowel /u:/ in Thai respectively.

Another regular sound change is \*ɛ > iə followed by /-w/, which occurred in some TDV dialects and TDL in Banna Panad, Loei province, while TDT dialects did not undergo this phonological change. Since TDV has two variants \*ɛ > iə~ɛ/ before /-w/ at different locations, this regional variation may be used as evidence to support migration patterns of Tai Dam groups from their original homeland to Thailand and Laos. TDT speakers in Banna Panad pronounce the vowel /iə/ so they might be the same group as TDV at the location where this vowel is used.

Vowel replacement due to language contact with Lao and Thai has occurred. TDL vowels have been well preserved except for some which were borrowed from Lao. In contrast, TDT has been more influenced by Thai; it was found that a significant number of TDT vowels correspond to Thai vowels. Moreover, one vowel may correspond to several Thai vowels in different words, causing a number of variant pronunciations.

It is worth noting that TDT short vowels followed by -ʔ (Vʔ) were lengthened and followed by the final -k (VVk) due to a lexical replacement of Thai words. This phonological change took place among a small number of young language consultants, so the likelihood of this vowel being permanently changed in the future is questionable. The change of /au/ to the Thai diphthong /ai/ is also limited to a small group of young generation speakers, so the typical TD vowel /au/ reconstructed as Proto Tai vowel by Pittayaporn (2009) and as OTD vowel by L-Thongkum (2002b) may well be maintained.

The vowel replacement discussed so far was caused by Thai or Lao influences, with none due to Vietnamese. It should be noted that previous studies of TDV did not show Lao influence. TDV language consultants said that recently there has been more intercommunication between the populations of the two countries. Consequently, TDV has also adopted some Lao vowels.

TDT is the least conservative dialect since phonological borrowing from Thai to Tai Dam language is pervasive. All phonological features in TDT—vowels, consonants, tones—have been influenced by Thai more than the other varieties of Tai Dam. TDT at Banna Panad adopted both Thai and Lao vowel most likely because the village is surrounded by speakers of the northeastern Thai dialect, the majority dialect of that region. As noted by Labov (1963), social variables can be a significant factor in language variation and change, so it is suggested that social variables such as age and gender of Tai Dam speakers and their relation to changes in vowels due to language internal reasons or due to language contact be further studied.

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## Appendix

This is a word list for the data collection of Tai Dam vowel variation.

No.	OTD 1	OTD 2	Tai Dam words	Gloss
1	*hminA	*minA1	min <sup>22</sup>	‘stink’
2	*mitD	*mitD2	mit <sup>44</sup>	‘knife’
3	*mitD	*mitD2	mit <sup>44</sup>	‘glanular’
4	*nipD	*nipD2	nip <sup>44</sup>	‘to sew’
5	*hmetD	*metD1	met <sup>44</sup>	‘to end, terminate, finish’
6	*geŋB	*keŋB2	keŋ <sup>33</sup>	‘to spread’
7	*_khepD	*_khepD1	khep <sup>34</sup>	‘centipede’
8	*khepD	*khepD1	khep <sup>44</sup>	‘twice-sewed seam’

No.	OTD 1	OTD 2	Tai Dam words	Gloss
9	*hewA	*hewA1	hew <sup>22</sup>	‘abyss, chasm’
10	*newB	*newB2	new <sup>33</sup>	‘urine, to urinate’
11	*khewA	*khewA1	khew <sup>22</sup>	‘green’
12	*khewC	*khewC1	khew <sup>31</sup>	‘fang, tooth’
13	*hewB	*hewB1	hew <sup>34</sup>	‘withered’
14	*hlewC	*lewC2	lew <sup>42</sup>	‘finished, complete’
15	*?ewA	*?ewA1	?ew <sup>22</sup>	‘waist’
16	*mewA	*mewA2	mew <sup>22</sup>	‘cat’
17	*puutD	*puutD1	puut <sup>45</sup>	‘to open out (blanket)’
18	*tuumB	*tuumB1	tuum <sup>45</sup>	‘to add more’
19	*kuumA	*kuumA1	kuum <sup>22</sup>	‘to hold (somebody’s hand)’
20	*mɔkD	*mɔkD2	mɔk <sup>44</sup>	‘ink’
21	*phɔŋC	*phɔŋC1	phɔŋ <sup>31</sup>	‘bee’
22	*lɔkD	*lɔkD2	lɔk <sup>44</sup>	‘deep’
23	*?ɔkD	*?ɔkD1	?ɔk <sup>44</sup>	‘chest’
24	*nɔC	*nɔC2	nɔ <sup>42</sup>	‘debt’
25	*tɔnA	*tɔnA1	tɔn <sup>22</sup>	‘to warn’
26	*camC	*camC1	cam <sup>31</sup>	‘to dip into’
27	*dapD	*tapD2	tap <sup>33</sup>	‘to hit’
28	*gwanA	*kwanA2	kuən <sup>44</sup>	‘smoke’
29	*gwa:mA	*kwa:mA2	kuəm <sup>44</sup>	‘speech’
30	*mupD	*mupD2	mup <sup>44</sup>	‘to grasp’
31	*sujA	*sujA1	suj <sup>22</sup>	‘to push’
32	*khunC	*khunC1	khun <sup>31</sup>	‘thick (of liquid)’
33	*?boŋC	*boŋC1	boŋ <sup>21</sup>	‘caterpillar’
34	*thoŋA	*thoŋA1	thoŋ <sup>22</sup>	‘bag, pouch’
35	*?oŋC	*?oŋC1	?oŋ <sup>21</sup>	‘claw’
36	*doŋB	*toŋB2	toŋ <sup>33</sup>	‘field, plain’
37	*koŋB.	*koŋB1	koŋ <sup>45</sup>	‘drum’
38	*toA.	*toA1	to <sup>22</sup>	‘classifier for animals’
39	*hɔpD	*ɔpD1	ɔp <sup>44</sup>	‘to diminish in size’
40	*hlɔnC	*lɔnC1	lɔn <sup>31</sup>	‘bald’
41	*hnɔ:kD	*nɔkD1	nɔ? <sup>44</sup>	‘hump’
42	*ɣwəjA	*khwəjA2	khwəj <sup>44</sup>	‘used to’
43	*vwəŋA	*fwəŋA2	fwəŋ <sup>44</sup>	‘straw’
44	*guətD	*kuətD2	kuət <sup>33</sup>	‘to dig’
45	*zuənB	*suənB2	suən <sup>33</sup>	‘to hide’
46	*?bauA	*bauA1	bau <sup>22</sup>	‘leaf’
47	*cauA	*cauA1	cau <sup>22</sup>	‘heart’
49	*ci:kD	*cikD1	ci? <sup>44</sup>	‘to tear’
50	*te:kD	*tekD1	tɛ? <sup>44</sup>	‘broken’
51	*thu:kD	*thu:kD1	thu? <sup>44</sup>	‘to hit the target’
52	*la:kD	*lakD2	la? <sup>44</sup>	‘to drag, pull’
53	*mu:kD	*mukD2	mu? <sup>44</sup>	‘mucus’
54	*hmɔ:kD	*mɔkD1	mɔ? <sup>44</sup>	‘fog, mist’

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