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A PHONETIC AND PHONOLOGICAL RECONSTRUCTION OF PROTO KURTÖP.

A thesis submitted to fulfil requirements for the degree of Doctor
of Philosophy



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Statement of Originality

This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted for any degree or other purposes.

I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

Kuenga Lhendup

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Kuenga Lhendup

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1. INTRODUCTION

My thesis, *A Phonetic and Phonological Reconstruction of Proto-Kurtöp*, investigates the historical development and internal relationships of Kurtöp, an endangered language spoken in Bhutan that belongs to the East Bodish subgroup of the larger Tibeto-Burman language family. This research proposes an internal phylogeny of Kurtöp based on phonological, morphological, and lexical comparisons, identifying systematic patterns and shared innovations within its dialects. Using these findings, I reconstruct Proto-Kurtöp terms, with a particular focus on plants and crops, including vegetables and fruits. This reconstruction not only sheds light on the linguistic history of Kurtöp but also offers valuable insights into the agricultural and cultural practices of its speakers in the past.

Historical reconstruction plays a crucial role in documenting and preserving endangered languages like Kurtöp, which has approximately 4,500 speakers. The shift among younger generations toward Dzongkha and other dominant languages as their first language, coupled with the decline of Kurtöp as a medium of communication in home settings, places the language at high risk of extinction. This reconstruction of Proto-Kurtöp words help to preserve linguistic data that would otherwise be lost, contributing to a more comprehensive understanding of the East Bodish subgroup and the wider Tibeto-Burman language family. Furthermore, this research safeguards cultural heritage by uncovering connections between language, traditional knowledge, and the way of life of the Kurtöp people. By documenting the language's historical development, I try to contribute to ensuring that future generations have access to this vital part of Bhutan's linguistic and cultural diversity.

In this chapter, I provide a background to Bhutan and its languages, situating Kurtöp within the broader linguistic and cultural context. This is followed by an overview of the Tibeto-Burman language family and the methodologies used for historical reconstruction, with a focus on East Bodish languages and prior reconstructions in the subgroup. I then introduce Kurtöp, offering a description of the communities where the language is spoken and their socio-cultural environment. Additionally, I summarize the findings of a Kurtöp vitality and endangerment study, which assesses the current state of the language and highlights the urgent need for documentation and revitalization efforts.

1.1 BHUTAN AND LANGUAGES

Bhutan is a small landlocked country in the Himalayas, strategically located between China to the North and India to the East, West and South. The country has never been colonized, despite several wars with the Tibetan and Mongolian forces in the early 17th century, and a few battles with the then British India in the early 19th century. This is thanks in much measure to the geography of the country, the malaria infested jungles in the South and the year-round snow-clad mountains in the North, as much as it is about the ingenuity, adaptability, and resilience of its people. Its inaccessibility also meant that different communities had their own languages and distinct cultures and traditions. It is therefore not surprising that a country of just over 700,000 people, with an area approximately the size of Switzerland, has over nineteen different languages, and diverse culture and traditions in every community.



Map 1: Location of the Bhutan (Country)

Bhutan is a linguistically diverse nation with a complex language ecology. Dzongkha, the national language, holds a prominent position as the sole local language with a standardized written form. Its orthography derives from Classical Tibetan, reflecting Bhutan's deep historical and cultural connections with Tibet. Dzongkha serves as one of the two mediums of instruction in schools, alongside English, and is a crucial component of Bhutan's cultural identity and governance (van Driem, 1993). The influence of Classical Tibetan is profound, as much of the Buddhist texts used in Bhutan are written in this language. Additionally, numerous Tibetan Buddhist masters visited Bhutan during the 20th century, and many Bhutanese scholars travelled to Tibet for advanced Buddhist education, further solidifying Classical Tibetan's influence on Bhutanese language and culture (van Driem, 2001).



Map 2: Linguistic Map of Bhutan

Of the nineteen languages, six including Dzongkha belong to the Central Bodish group (van Driem, 1998). The others are *Chocangaca* spoken in Lhuentse and Trashi Yangtse, *Brokpa* in Merak Sakteng, *Lakha* in Wangdue Phodrang, *Brokkat*, also known as *Drokha*,

exclusively in the village of Dhur in Bumthang and *Bökha* (Tibetan) among the Tibetan community.

East Bodish is the other group with most languages and is comprised of *Bumthap* (*Bumthabikha*) spoken in Bumthang, *Khengpa* (*Khengkha*) in Zhemgang and in some parts of Mongar and Trongsa, *Upper Mangdip* (*Mangdüp*) also called ‘*Nyenkha*’ in Trongsa and Wangdue Phodrang, *Chalip* (*Chalibikha*) again exclusive to Chali *gewog* in Mongar, *Dzala* (*Dzalakha*) in Lhuentse and Trashi Yangtse, *Dakpa* in Merak Sakteng and *Kurtöp* (*Kurtöbikha*).

Tshangla spoken in various districts across eastern Bhutan is the most spoken after Dzongkha. It is the *lingua franca* of the East and also called *Sharchop* (*Sharchobikha*) ‘language of the east’. It is spoken in the districts of Tashigang, Pema Gatshel, Mongar, Samdrup Jongkhar, Tashi Yangtse as well as certain pockets of Lhuentse.

In southern Bhutan, communities of Nepali descent predominantly speak *Nepali*, reflecting historical migration patterns. Additionally, *Lepcha*, spoken by communities in Samtse, contributes to Bhutan’s linguistic diversity.

The nation is also home to three notable language isolates: *Gongdüp*, spoken in Zhemgang’s Gongdue area, *Monpa/Olep*, used by the Monpa communities in Trongsa and Sarpang and the Oleps in Wangdue Phodrang, and *Lhokpu*, spoken by the Doyaps in Samtse. These three languages are linguistically unique within the context of Tibeto-Burman, highlighting Bhutan’s linguistic distinctiveness (van Driem, 1993).

Until the early 1960s, Bhutan was in a self-imposed isolation, secluded and indifferent to the happenings around the world. The first road in the country was built in 1961, followed by the introduction of modern English medium schools (where Hindi was also officially taught as one of the second languages) and hospitals. She became a member of the United Nations in September 1971. However, with these modern developments, children started going to school, often moving away from their villages. People started moving for jobs and in search of better economic opportunities and perhaps the greatest casualty of these developments has been on the rich culture and traditions of the communities as well as the diverse languages and dialects. Schools now teach Dzongkha and English as official languages, and the other languages are confined to the communities or within the family settings. With inter-marriage among different communities many of these languages are not spoken in the home settings and thus face the

risk of total extinction within a generation or two. Kurtöp is one of many such languages. As a native Kurtöp speaker, I spoke this language at home with my parents, relatives, and siblings. However, I have now settled in Thimphu, married to a Dzongkha speaker, and no longer speak the language at home and my children do not speak the language. This is a common scene across many families and communities today.

During the course of my research, I was exposed in great detail to how vulnerable these local languages are including Kurtöp and to empirically study the situation I conducted a survey among the Kurtöp speakers mainly based outside of their village settings to understand the vitality and endangerment of the Kurtöp language. A summary of the findings is presented here under 1.3.

1.2 KURTÖ AND KURTÖP SPEAKING COMMUNITIES.



Map 3: Location of Lhuentse Dzongkhag (District)

Kurtö, officially written as Kurtöe is a *gewog* (block) under Lhuentse *dzongkhag* (district) in north-eastern Bhutan, bordered by the districts of Bumthang to the West, Trashiyangtse to the East, Mongar to the South and by the Tibetan Autonomous Region of China to the North. It also refers to the community of people who speak the language Kurtöp or

Kurtöbikha (as referred to by Dzongkha speakers) or *Kurtotpikha* (as referred to by native Kurtöp speakers). While the people there are generally referred to as Kurtöps, there are a few languages that are spoken in this region and each unique on its own. One is Kurtöp (also called *Zhake*, and the focus of this thesis) spoken in all the villages under Kurtö *gewog* and some villages under Gangzur *gewog* such as Nê, Shawa, Gangzur and Jang and also in some villages of Tangmachu under Menbi *gewog*. It is generally called Kurtöp but technically Kurtöp refers to the people in Kurtö region or those who speak Kurtöp and the language itself is called *Kurtöbikha* or *Kurtotpikha*. The suffix *-kha* literally refers to ‘mouth’ and when affixed with the name of a region it refers to the language spoken in that region. For example, *Mangdübikha*- language spoken by people in the Mangdue region; *Gongdübikha*- language spoken by the Gongdueps; and *Lhotshambikha*- the language spoken by people in the south (southern districts of Bhutan). As evident in *Kurtöbikha* and *Kurtotpikha*, the voiced bilabial /b/ in Dzongkha corresponds to voiceless bilabial /p/ in Kurtöp. So, *Mangdübikha* is *Mangdipikha*, *Gongdübikha* is *Gongdupikha* and *Lhotshambikha* is *Lhotshampikha*.

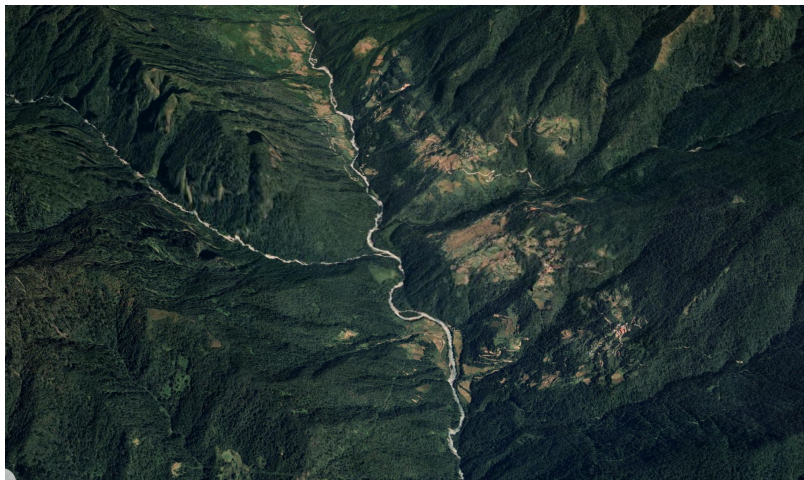
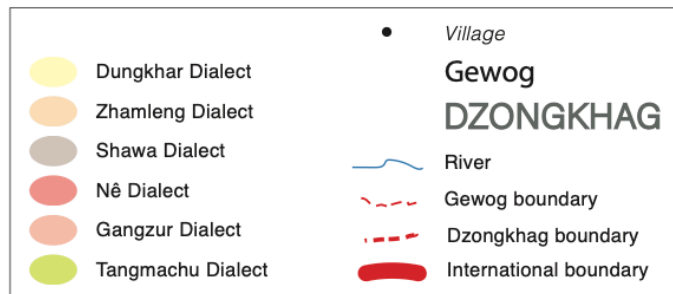
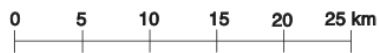


Image I: Google Earth view of Dungkhar



Image II: Google Earth view of Tangmachu



Source: Map based on Topographic map 1: 250.000
 Department of Survey & Land Records, Ministry of Agriculture, 2006
 Since 2007: National Land Commission Secretariat

Map 4: Map of Kurtöp speaking villages

The other languages in the Kurtö region are *Chocangaca*, a Central Bodish language spoken in lower regions of Lhuentse, and *Dzalakha*, a separate East Bodish language spoken in Khoma *gewog* (also spoken in the neighbouring district of Trashi Yangtse). All these languages are collectively also referred to as Kurtöp locally, and thus all the people who speak the above languages call themselves Kurtöps as well. Lexically '*Kurtö*' means upstream of the *Kuri* river (known as *Kurichu* where '*chu*' means water in Dzongkha) and '*Kurtotpa*' thus means those residing upstream of the '*Kurkhwe*'. In Kurtöp, *Kurichu* is *Kurikhwe* or often shortened as *Kurkhwe*, where *khwe* refers to 'water' in Kurtöp. Those residing downstream are called '*matpas*' literally meaning "those from downstream" and Kurtöps refer to the languages spoken downstream as '*matpikha*' meaning 'language spoken by those residing downstream', though as mentioned earlier, all speakers of the three languages prefer to call themselves Kurtöps.

The Kurtöp speakers are spread across several villages in three *gewogs* of Kurtö, Gangzur and Menbi. According to statistics maintained by the district administration of Lhuentse, there are 6,380 people registered in these villages. All the villages under Kurtö *gewog* speak Kurtöp while there are four villages under Gangzur and two villages under Menbi *gewogs* who speak this language. However, for reasons mentioned above, not all of these inhabitants (which also includes Kurtöps residing in other places) can speak Kurtöp. It would not be an exaggeration to assume that only about 70-80% or approximately 4500-5000 can actually speak Kurtöp today. This assumption is drawn on the fact that about 20-25% of the people registered there are children, including ones like mine, who can barely speak or understand any Kurtöp. van Driem (1998) had suggested 10,000 speakers while Hyslop (2013) has estimated an even higher number of speakers, putting it at 15,000.



Image 1: Lhuentse Dzong- Fortress in the District of Lhuentse
(Dzongs serve as the Headquarters of the District as well as the home to the monk body)



Image 2: Dungkhar Choeje Naktshang- the ancestral home of the Bhutanese Monarchy

The table below shows the demographic distribution of Kurtöp speakers across the three *gewogs*:

Sl. No	Name of the Village	Gewog	Total Households	Empty Households	Population
1	Chaksom-Chusa	Kurtö	43	3	501
2	Dungkhar		70	8	647
3	Jasabi-Ugyenpho		26	-	247
4	Tabi		35	6	300
5	Tanglung-Wawe		61	4	517
	<i>Sub-Total</i>		235	21	2,212
6	Jang-Ngar	Gangzur	87	10	1,210
7	Nê		97	24	1,050
8	Shawa-Zhamleng		82	1	921
	<i>Sub-Total</i>		266	35	3,181
9	Nyebi-Zhungkhar	Menbi	142	21	411
10	Tangmachu-Gorgan		51	1	576
	<i>Sub-Total</i>		193	22	987
10	Total	3	694	78	6,380

Table 1: Population of Kurtöp Communities. Source: www.lhuentse.gov.bt

The empty households reflected above are those whose census is still registered in their villages, but the entire members of the family have now moved to some other place in the country. Even among the 694 remaining households, it is generally a trend across almost all villages that children have mostly moved out for education or jobs, and it is mostly the elderly people who are left behind. In my own case, from the 20 people who are registered in the

household, only two (my parents) reside in the village. According to the Population and Housing Census of Bhutan, 2017 (*Census Report – National Statistics Bureau, 2017.*), which is the latest census record in the country, 10,664 persons have migrated out of Lhuentse to other *dzongkhags* ‘districts’.

The people living in these communities are mostly subsistence farmers, cultivating predominantly paddy and maize and seasonal vegetables. Fruits such as oranges, bananas, mangoes, apples and peaches are also grown. People also raise cattle for dairy products and poultry farming is practiced mainly for egg. Located between 1500-2200 meters above sea level, these villages are located between the temperate to sub-alpine zone and a wide variety grains, fruits and vegetables grow there. However, due to challenges related to transportation and marketing, neither agriculture nor dairy farming is practiced on a commercial scale. The region is also rich in flora and fauna.

Kurtö *gewog*, located on the northern most tip of the district bordering with the Tibetan Autonomous Region of China, is geographically the largest in terms of size but the least populated of the three *gewogs* under consideration. All the inhabitants in this *gewog* speak the Kurtöp language. Kurtö, also commonly and interchangeably referred to as *Dungkhar*, is historically significant as it is the ancestral home of Jigme Namgyel, the father of the first King of Bhutan. The name ‘*Dungkhar*’, according to village elders, was coined based on the shape of the land on which ‘*Dungkhar Naktshang*’ the ancestral home of Jigme Namgyel was built, where *Dungkhar* is presumably derived from Tibetan *dungkar*, meaning ‘conch’.



Image 3: View of Dungkhar from Tabi village



Image 4: Jasabi village, Dungkhar

The *gewog* centre is approximately 45 kilometres northwards from Lhuentse Dzongkhag Administration. It has five *ciwogs* and consists of 226 households of which 86 are *gungtongs* ‘empty households’ and a total population of 2,212, of which 740 reside in the *gewog* according to the Population and Housing Census of Bhutan, 2017, the latest census record in the country (*Census Report – National Statistics Bureau, 2017*). According to the same report, of the total population, 379 are male and 361 are female.

The *gewog* covers an area of approximately 1076 sq kms and the villages/settlements are located at altitudes ranging from 1200 to 2800 meters above sea level. It consists of five *ciwogs* namely Cagzom-Chusa, Dungkhar, Jasabi-Ugyenphu, Tabi and Tangroong-Wawe.

Neighbouring Kurtöp towards the south is the *gewog* of Gangzur. The *gewog* covers an area of approximately 536 sq kms. It is the most populated *gewog* (*Lhuentse Dzongkhag Official Website, n.d.*). Three of the five *ciwogs* under the *gewog* namely Shawa-Zhamleng, Shawa, Nê and Jang-Ngar speak the Kurtöp language. The rest speak Chocangaca and also Tshangla.

The *gewog* centre is approximately 7 kilometres northwards from Lhuentse district administration. It has five *ciwogs* namely Jang-Ngar, Nê, Kyidloong-Somshing, Nimshong-Tongling and Shawa-Zhamling, and consists of 477 households of which 189 are *gungtongs* ‘empty households’ and a total population of 5,067 individuals. Of the total population, 2,262 persons reside in the village of which 1,141 are male and 1,121 are female (*Census Report – National Statistics Bureau, 2017*).



Image 5: Zhamleng village



Image 6: Gangzur village

Further south, about 25 kilometres from the Lhuentse *Dzong* ‘fortress’ is the *gewog* centre of Menbi. Inhabitants of Menbi *gewog* mostly speak the Chocangaca language, except for the people in the villages of Tangmachu and Kusumphe.

The *gewog* has five *ciwogs* namely Kamder-Murmo, Nyebi-Zhungkhar, ‘Manjabhi-Yomey, Tangmachu-Gorgan and Phagidoong, and consists of 440 households of which 40 are *gungtongs* ‘empty households’ and a total population of 4,052 persons. 2,341 persons reside in

the villages of which 1,191 are males and 1,150 are females (*Census Report – National Statistics Bureau, 2017*).

While Kurtöp-speaking villages under Kurtö and Gangzur *gewogs* share a border, Tangmachu is separated geographically by a few villages in between who speak predominantly the Chocangaca language, as well as Tshangla¹ in a small pocket, and Dzalakha in Khoma *gewog*.



Image 7: *Tshokchang*, traditional welcome to guests



Image 8: Bedroom/workplace in Zhamleng



¹ A small village called Rotpa in Thimyung, about 20 kilometers toward Kurtö from Gangzur, speaks the Tshangla language. All the neighbouring villages speak the Kurtöp. How this village came to speak the Tshangla is of interest and should be explored.

Image 9: Bedroom in the altar room, Tangmachu



Image 10: An archery match while in Dungkhar

1.3 KURTÖP VITALITY AND ENDANGERMENT STUDY- SUMMARY.

Language vitality is a critical issue for many minority languages worldwide, including those of the Tibeto-Burman family. In Bhutan, linguistic diversity is under threat with emphasis on promoting Dzongkha, the national language and English, over regional languages like Kurtöp. This study builds on the framework of previous linguistic vitality research, particularly in the context of Tibeto-Burman languages, such as Tournadre’s work on Himalayan languages (2017) and Hyslop’s studies on Bhutanese languages (2014). We explore Kurtöp language usage and attitudes toward its preservation, focusing on key variables such as age, gender, geographic location, and marital status, with an emphasis on intergenerational transmission.

The survey was designed to assess language vitality using quantitative and qualitative methods. Data was collected from 174 individuals, 9 of whom were excluded as non-Kurtöp speakers, yielding a final sample size of 165. Participants were selected through a combination of random sampling and snowball sampling via social media platforms like WhatsApp, Messenger, and Telegram. The survey included questions about language use at home, with

parents, children, and in social contexts, as well as attitudes toward language preservation and the importance of teaching children Kurtöp.

Participants represented three *gewogs* ‘administrative blocks’ where Kurtöp is spoken: Kurtö, Gangzur, and Menbi. I also captured the present location of the participants, including those residing abroad, with particular attention to respondents in Australia and Canada, where large diasporic communities exist.

Of the 165 respondents, 62.1% were male and 37.9% were female. The majority (44.8%) were aged between 26 and 35, reflecting the young adult population’s dominance in the sample. Participants came primarily from Kurtö (43.7%), followed by Gangzur (33.3%) and Menbi (23%). Additionally, 36% of respondents were currently living abroad, with Australia and Canada being prominent locations.

Fluency in Kurtöp remains high among respondents, with 84.5% reporting that they speak the language fluently. However, intergenerational transmission is a significant concern. Only 7.5% of respondents stated that their children speak Kurtöp, compared to 53% who reported raising their children in Dzongkha, the national language. This reflects a trend toward language shift, especially among younger generations.

Analysis by gender shows that male participants were slightly more likely than females to report fluency in Kurtöp (85.7% vs. 82.3%), but there was no significant difference in their language use with children. Both male and female respondents overwhelmingly reported using Kurtöp with their parents (96.4% and 91.2%, respectively), but very few (6.4% of males and 8.2% of females) use the language with their children.

An important variable in my analysis was the origin of the respondent's spouse, specifically whether they were from Lhuentse district or not. Among respondents whose spouses were from Lhuentse, 62.7% reported using Kurtöp at home, compared to only 29.1% of those whose spouses were from outside the district. This suggests that spousal origin has a significant impact on the language spoken at home, especially in raising children.

Participants residing abroad, particularly in Australia and Canada, reported significantly lower usage of Kurtöp with their children (only 3.2%), compared to those residing in Bhutan. The dominance of English and Dzongkha in diasporic communities, coupled with fewer opportunities to use Kurtöp in daily interactions, exacerbates the challenge of language

transmission abroad. However, the use of Kurtöp with parents remains robust, even among those living abroad, indicating that language retention is stronger with the older generation.

A strong majority (94.3%) of respondents agreed on the importance of preserving local languages like Kurtöp. However, this attitude does not seem to translate into active efforts to teach the language to children. Only 27.5% of respondents believe it is essential for their children to learn Kurtöp, with many citing the need for proficiency in Dzongkha or English for economic and educational opportunities. This dissonance between the desire for language preservation and actual language use with children mirrors findings from other studies on endangered Tibeto-Burman languages, such as Sunwar and Newar (Turin, 2007), where similar trends of language shift have been observed.

The patterns observed in Kurtöp mirror those found in other endangered Tibeto-Burman languages in the region. For instance, the Lhokpu and Black Mountain Mönpa languages, as documented by Hyslop (2014), also show high levels of fluency among adults but weak transmission to younger generations. Tournadre's (2017) research on Himalayan languages similarly highlights the tension between maintaining traditional languages and adapting to broader socio-economic changes. The shift toward Dzongkha and English among younger generations is a common theme in many of these studies, as national policies and globalization exert pressure on smaller language communities.

The findings of this study indicate that while fluency in Kurtöp remains high among adults, intergenerational transmission is in steep decline. This is particularly pronounced among families where one spouse is from outside Lhuentse and among those residing abroad. The reluctance to teach children Kurtöp, despite positive attitudes toward its preservation, underscores the need for targeted language revitalization efforts.

The vitality of the Kurtöp language is at a critical juncture, with a clear need for intergenerational transmission to be prioritized. This study contributes to the growing body of research on endangered Tibeto-Burman languages and underscores the importance of both local and diasporic efforts in preserving linguistic heritage. Further research is needed to explore the potential of digital tools and community-based initiatives in reversing the current trends.

1.4 AGRICULTURE IN BHUTAN

In this section I briefly write about agriculture practices in Bhutan since my thesis focuses on plants and crops cultivated and consumed in the Kurtöp region and thus some background will be relevant.

Bhutan is an agrarian culture and according to Chogyel and Kumar (2018) around 57% of Bhutanese are farmers or are dependent on agriculture for livelihood. Most of these 57% are subsistence farmers producing food for their sustenance and little surplus sold in local markets for some cash income. However, there are certain communities such as Phobjikha, Gangtey in Wangdue as well as farmers in the Bumthang valley engaging in commercial cultivation of potatoes. Zhamling, among the six Kurtöp speaking communities also engages in commercial production of potatoes though the value of production is much less in comparison. Apart from that the practice of agriculture and production of crops is mainly for sustenance. In most of the six communities, like across most parts of Bhutan, farming is also constrained by the geographical terrain or topography in addition to other factors such as climate change, human-wildlife conflict and environmental variabilities and access to market. Paddy cultivation is one of the main agricultural practices in the region but this production is water intensive and most communities depend on rain. Lack of timely rain hampers the production of this crop, every year. Additionally, in 2023, paddy crops in Kurtöp were attacked by rodents and villagers lost more than 50% of their crops thus causing distress and concerns of food sufficiency. According to the Population and Housing Census of Bhutan, 2017 (*Census Report – National Statistics Bureau, 2017*), about 8.4% of households in the district reported to that they experienced food insufficiency, that they didn't have enough food to feed all household members, during the past 12 months prior to the census. This 8.4% constituted 261 households of which Gangzur had 60 households.



Image 11: Potato cultivation in Zhamleng

Bhutan is renowned for its commitment to environmental conservation and sustainable development and agricultural practices are done in tandem with traditional farming methods that are in harmony with nature. The farmers practice incorporating crop rotation (*saleng*) and organic farming techniques to maintain the fertility of the soil. This sustainable approach not only ensures a healthy ecosystem but also preserves the traditional wisdom passed down through generations.

These crops are also not just a means of food and sustenance, but they also hold immense cultural significance with the whole process of its production being done in consultation with local astrologers to ensure the cultivation starts on an “auspicious day”. The Bhutanese lunar calendar points to specific dates which are good to “sow seeds”. The first harvest of crops is also offered to the deities as a mark of thanksgiving.

While cereal crops have been a source of prosperity, farmers in the Kurtö region, like farmers across Bhutan, face challenges such as changing weather patterns and more commonly the human-wildlife conflict resulting in pests like wild boars, monkeys, rodents destroying crops and thus turning the hard labour of the farmers to waste. Kuensel, the national newspaper reports of residents of Kurtö losing their crops, chicken, dogs and cattle to wild predators such as common leopard and wild dogs (Kuensel, 2022). While the government, in collaboration with local communities, is actively promoting sustainable agricultural practices and providing

support for modern farming techniques such as supply of power tillers at subsidized rates, providing electric fencing, better quality seeds and supply of fertilizers, farming is still a back breaking work with minimal return on investment at the end of the day.

1.4.1 LÊMI, DRANGLÉN AND SUMDRANG PRACTICES

In Kurtöp, farming has always been a community effort where people help each other on different days to get the work done. Those who are hired to work in the fields are called *lêmi* ‘reciprocal labour’. Families organize their farming tasks on specific days and then seek *lêmi* (*s*) to assist them. If schedules clash between households, they adjust between themselves mutually. In the past, people didn't pay *lêmi* with money, instead, they helped each other without cash exchanges. Nowadays, some are paid in cash, especially if a household doesn't have someone available for reciprocal labour.

One constant observation throughout the Kurtöp communities is the increasing amount of fallow land due to lack of farm labour or hands to work in the field. This is a common observation throughout the country. In the past, there were enough young people to work, and all the fields were cultivated. Additionally, families would clear forest land to create new fields for growing crops like maize and millet—a process called *tseri* ‘shifting cultivation’ to create *saleng* ‘dry land’. However, as families began to move away from the village, their fields became available for others to cultivate. This led to the practice of *dranglen* where a household farms someone else's land, and the harvest is shared equally between the landowner and the farmer.

Over time, as more families left the village, more land became available for cultivation. With an increasing number of empty fields, the practice of *dranglen* evolved into *sumdrang* where the farmer receives two-thirds of the harvest, and the landowner gets one-third. However, nowadays, people are not even willing to cultivate land for free as much of the land are available for cultivation contributed by growing number of *gungtong* ‘empty households’ and this has resulted in many more fields remaining uncultivated and fallow.

1.5 THESIS OUTLINE

The aim in this thesis will be to advance our understanding of the Kurtöp language and the history of its speakers, through internal reconstruction. Specifically, I plan to focus on plant terms as a way to get particular insight into the cultural history of the speech community.

Chapter One looks at an introduction to Bhutan, to its languages and to the Kurtöp region where the Kurtöp language is spoken. The chapter also includes a summary of the Kurtöp vitality and endangerment study. Chapter two provides background information and literature review of existing data on historical linguistics, Lyle Campbell's comparative method and reconstructions in Tibeto-Burman and East Bodish languages. Chapter 3 looks at the methodology employed for this research viz a viz data collection, ethical considerations, translation, transcription and limitations of the project.

Chapter four looks at the Internal Phylogeny of the Kurtöp language looking at its phonology, morphology, allomorphs, lexicon and then proposing an internal phylogeny based on the above examinations. Chapter five looks at reconstructed phonology, cognate sets and comparison of terms between the six dialects and proposing the Proto Kurtöp forms. Chapter six presents conclusions and a collection of compiled data which includes the names of the cereals/plants/crops in English, in Dzongkha and their corresponding scientific names where possible, the proposed Proto Kurtöp form and the Proto Kurtöp form in IPA.

The conclusion is followed by appendices containing sample transcription of Elan files, list of maps, figures and tables and the final component includes the references.

2. BACKGROUND

2.1 HISTORICAL LINGUISTICS

Historical linguistics is the study of language change, over time. Change is inevitable; so is the case in language. Historical linguistics is also called diachronic linguistics (Campbell, 2020) where diachronic comes from the Greek word *dia-khronos* meaning ‘through time’. In contrast, synchronic linguistics deals with a language at a single point in time. Historical linguistics not only looks at language change in one particular language but also draws comparison between related languages as a way to reconstruct a proposal for how a language in the past was spoken. The primary concern of historical linguists is to understand the kind of change a specific word, language, or languages have undergone, and the techniques and methods we have at hand to recreate the path of change and go back in time (Campbell, 2020). The proto state of a language is arrived at through reconstruction of sounds and words through the comparative method, which engages systematic processes that identify cognates, find sound correspondence sets, and then reconstructing proto sounds. Factors such as directionality, economy, majority and features held in common are factored into the process.

Findings and information from historical linguistics is used to draw ‘cultural and historical inferences’ of the past (Campbell, 2020:380) through a field called linguistic prehistory. Linguistic prehistory also correlates information from archaeology, ethnohistory, ethnographic analogy, human biology etc. and therefore linguistic prehistory is also known by synonyms such as linguistic palaeontology, linguistic archaeology etc. Kern (1889) used a technique called ‘linguistic palaeontology’ to analyse lexical data and that reconstructed data can help draw inferences on the Proto speech communities through his seminal study in historical linguistics and ethnolinguistics determining the homeland of the Malay-Polynesian peoples. It investigates the origins and dispersal of the Austronesian (or Malayo-Polynesian) peoples using linguistic evidence. In the mid 1800s, scholars such as Kuhn (1845), Pictet (1859-63) and Schrader (1883) had made hypothetical inferences on the culture and social structure of the Proto-Indo-European speech community and also determined their homeland based solely on their linguistic findings.

More recently, Blust (1995) looked at the geographical expanse of the Austronesian language family before the European colonial expansions. He looked at how the Austronesian speaking people displayed a diverse range of ‘physical types, material cultures and the type of

social and political organisations' (Blust, 1995:453). He examined how comparisons can be drawn through linguistics to find answers to queries such as finding the homeland of Austronesian language, the lifestyle of the people, the crops they cultivated, the animals they raised, their worldview etc. Blust (1995) draws on Sapir's (1968) concept of a linguistic centre of gravity and Dyen's (1956) principle of least moves to conclude that the homeland of the Austronesian languages is the island of Taiwan. Blust (1995) reconstructed several Proto-Austronesian terms that provide insight into the Austronesian homeland. For example, terms for rice plant and rice in the field (**pajay*), millet (**beCej*), and domestic animals such as pigs (**babuy*) and dogs (**asu/wasu*) appear in Proto-Austronesian and correspond to archaeological evidence of rice and millet cultivation, as well as animal domestication in Taiwan during the Neolithic period. These reconstructions suggest that the speakers of Proto-Austronesian were agriculturalists, a lifestyle supported by the material culture in early Taiwan. A similar work to reconstruct features of the Proto-Oceanic culture history has been done thoroughly by Pawley and Green (1984)² From within the 400 or so oceanic languages, almost 2000 lexical items were reconstructed to Proto Oceanic (POC) by Pawley and Green (1984) such as **wanʔkaŋ* for 'boat/vessel', **layaR* for 'sail', **kawil* for 'fishhook', **topa* for 'cultivated land', **quma* to 'make a garden', **talun* for 'fallow and inferred that the Proto Oceanic speaker engaged in fishing and gardening/cultivation for livelihood.

² Further, in most recent years, Sagart (1993) shared his findings that the Chinese and the Austronesian have a common origin which he further expanded in Sagart (1994) to even include Tibeto-Burman in the family.

2.2 COMPARATIVE METHOD

In this section I summarize Chapter 5 on “Comparative Method and Linguistic Reconstruction” from (Campbell, 2020). This chapter focuses on the comparative method, a cornerstone of historical linguistics that allows researchers to trace linguistic evolution and reconstruct Proto languages. The comparative method is based on systematically identifying and analysing the regularities in sound correspondences, lexical forms, and grammatical structures across related languages. These shared features provide insights into a common ancestral language from which the languages in question have descended. Campbell’s chapter presents a thorough explanation of how this method can reveal the connections between languages that may not be immediately obvious, using Indo-European languages as a case study.

To begin with, the comparative method involves the gathering of data from a group of related languages. Linguists then search for consistent phonological correspondences, such as the transformation of a particular sound in one language compared to its counterpart in another. For example, the shift of Proto-Indo-European /p/ to /f/ in Germanic languages, seen in the contrast between Latin *pater* and English *father*, is a key example. These systematic correspondences help linguists reconstruct proto-forms and establish rules for sound changes that occurred over time. This process is not without challenges, however, as reconstructions must be evaluated for their plausibility based on sound principles, such as typological naturalness and established sound change rules. Campbell emphasizes the need for caution when proposing reconstructions, as the historical linguist must avoid speculative or unsupported claims.

A core principle of the comparative method is the regularity of sound change, which Campbell discusses in detail through the lens of Grimm’s Law. This law describes a set of predictable phonological shifts within the Germanic languages, providing strong evidence that linguistic change follows identifiable patterns. The predictability of sound change is fundamental to the method’s scientific rigor, as it allows linguists to reconstruct not just individual words but also broader phonological systems, grammatical structures, and even aspects of the culture of ancient speech communities. This regularity is crucial for the reliability and replicability of historical linguistic research, ensuring that reconstructions are grounded in well-established linguistic norms.

Campbell also illustrates the practical application of the comparative method through various case studies from language families like Indo-European and Uto-Aztecan. These examples show how linguists can use systematic correspondences to reconstruct ancient languages and trace historical linguistic relationships. But beyond reconstructing words and sounds, the comparative method provides insights into the social and cultural context of ancient communities. By examining proto-languages, linguists can infer details about past societies, including their environments, technologies, and migration patterns. This interdisciplinary utility highlights the comparative method's broader significance in understanding both language and history.

Despite its strengths, Campbell acknowledges that the comparative method has limitations. It relies heavily on regular sound changes and genealogical relationships, which restricts its applicability to language isolates, creoles, or languages heavily influenced by contact with other languages. Furthermore, as temporal distances increase, linguistic evidence becomes increasingly sparse and ambiguous, which can make it harder to apply the comparative method effectively. To address these issues, Campbell suggests the integration of internal reconstruction, a technique that focuses on variations within a single language to infer historical changes. This combination of methods strengthens the comparative approach, enabling it to tackle more complex linguistic problems.

Additionally, Campbell discusses recent advancements in the comparative method, particularly the use of computational tools. These technologies help to improve the accuracy and efficiency of linguistic analysis, making it easier for linguists to examine large amounts of data and refine their reconstructions. The application of computational methods also extends the comparative method's reach to lesser-studied language families, ensuring its continued relevance in contemporary linguistics. Furthermore, Campbell emphasizes the growing collaboration across disciplines, which enriches the comparative method by providing new perspectives on the relationship between language, culture, and history.

In summary, Chapter 5 of Campbell, 2020 outlines the critical role of the comparative method in historical linguistics. It provides a structured approach to language reconstruction, emphasizing the importance of sound correspondences and regular patterns in linguistic change. While acknowledging the method's limitations, Campbell underscores its lasting value in understanding language history and evolution. Through its detailed exposition, this chapter

not only serves as a practical guide for linguists but also offers a theoretical framework for understanding the connections between languages and the cultures they represent.

2.3 CLASSIFICATION OF TIBETO BURMAN

Sino-Tibetan (also called Tibeto-Burman) is one of the most prominent language families in the world and is spoken by nearly 1.4 billion people, the largest family being Indo-European spoken by over 3.2 billion speakers. The Sino-Tibetan language family includes over 400 to 500 languages (LaPolla & Thurgood, 2016) spoken in the world across diverse geographic conditions, from the Pacific Ocean to the two most populated countries in the world, China and India, and to neighbouring Bangladesh and Pakistan and the Himalayan countries of Nepal and Bhutan (Hammarstrom & Haspelmath, 2018).

The classification of Tibeto-Burman languages is still debated by scholars, in part because of their complex relationships and uneven documentation. Traditionally, Tibeto-Burman is seen as a sibling branch to Sinitic within the Sino-Tibetan family. James Matisoff, in his influential work, particularly Matisoff (2003), proposes that the Sinitic languages (including Chinese) could be better understood as a distinct bifurcated group, on the same level as Tibeto-Burman and under a larger family called ‘Sino-Tibetan’. Other perspectives include those of George van Driem, who presents his (van Driem 2001) model of language classification, which challenges traditional tree-like models of the Sino-Tibetan family. This model emphasizes the interconnectedness of languages within the family and suggests that Sinitic may not be as distinct from Tibeto-Burman as traditionally thought.

On the origin and timing of the Sino-Tibetan³ languages, Zhang et. al. (2019) puts forth two hypotheses: the northern-origin and the southwestern-origin. While the former argues that the homeland of Sino-Tibetan is around the upper/middle of the Yellow River basin, the latter, argues that it is somewhere around the southwest region of East Asia. However, almost all linguists have linked the Sino-Tibetan language family to the Yangshao and Majiayao cultures (Zhang et. al., 2019), thus leaning towards the northern-origin theory. However, Zhang et. al. (2019) cautions that the study of the Sino-Tibetan language family is still at a nascent

³ While I understand ‘Sino-Tibetan’ and ‘Tibeto-Burman’ terms to refer to the same set of languages (Sinitic and all other Tibeto-Burman languages), I repeat whatever term a particular study used, when reporting on their findings. For my own use, I am use ‘Tibeto-Burman’.

stage and comprehensive archaeological surveys/data and ample evidence from studies of ancient DNA will be required to draw confident conclusions.

Sagart et. al. (2019) acknowledges that while the Sino-Tibetan languages have been studied for a long time, not many inferences have been drawn on the history of this family, as it is one of the most structurally diverse families and that ‘there is a long-running debate about its phylogeny and the time depth of its original divergence’ (Sagart et. al., 2019:112). But given the geographical spread of the language and the number of speakers, it is important to research and understand the language to gauge a better understanding of the prehistory of East Asia, and of the language families in the area (Sagart et. al., 2019).

Geographically, Tibeto-Burman languages are distributed over a wide area, including the Tibetan Plateau, the Himalayan belt, parts of northeastern India, Myanmar, and northern Southeast Asia. Languages such as Tibetan and Dzongkha are spoken in high-altitude regions, while others like Burmese dominate lowland and riverine areas. Smaller languages, including those of the Naga and Kuki-Chin groups, are often confined to mountainous and less accessible regions. These geographic contexts have contributed to significant linguistic and cultural variation across the family.

Linguistically, Tibeto-Burman languages exhibit considerable diversity in phonology, morphology, and syntax. While many languages in the family are tonal, especially those influenced by the Sinitic branch or spoken in Southeast Asia, others, such as Tibetan and Dzongkha, are non-tonal (Bradley, 1997). Morphologically, agglutinative structures are common, though some languages demonstrate isolating tendencies. Syntax is similarly varied, with Subject-Object-Verb (SOV) order predominating in most languages, although some, particularly those in Southeast Asia, have shifted toward Subject-Verb-Object (SVO) order under contact influences.

Despite their historical and cultural importance, many Tibeto-Burman languages are endangered, with declining numbers of speakers due to the dominance of national languages like Mandarin Chinese, Burmese, and Hindi. Linguists have prioritized the documentation and preservation of these languages, recognizing their value for reconstructing historical linguistic relationships and understanding regional human history (Matisoff, 1991).

The Tibeto-Burman language family therefore represents a rich tapestry of linguistic diversity and historical significance. Ongoing research, particularly in under-documented and

endangered languages, is critical to deepening our understanding of this family and preserving its linguistic heritage.

2.4 RECONSTRUCTIONS IN TIBETO BURMAN

Reconstructing Proto-Tibeto-Burman, the supposed ancestor of these languages, has been difficult due to the variety of languages and the lack of historical records, except for the well-documented Chinese branch (Matisoff, 2003). Efforts to reconstruct a Proto Tibeto Burman language have been challenging due to the significant typological differences and a lack of well-preserved early written records outside of the Chinese branch. Zhang et. al., (2019) delves into three main concerns researchers have faced for confirming the reconstruction of the Tibeto-Burman language family.

Bradley (1997) attempts to reconstruct words for several grain crops within the Burmic subgroup of the Sino-Tibetan or Tibeto Burman family. Bradley (1997) looked at nine different varieties of grain in six different communities of the Burmic group. One important inference is if a cognate is lost from a certain community it is likely that that particular grain has not been cultivated/consumed in that community for a long period of time and if there is a change in semantic shift it could indicate the use of more than one grain. He therefore suggests that the distribution of cognates and semantic shifts can give us historical evidence of migration and its direction. Lesser important grains are likely not spread widely so it is difficult to find cognates in all the languages. Bradley (1997) gives the example of ‘corn/maize’ which is today a major crop in the Burmic region but only introduced in the East and Southeast Asia in the sixteenth century by the Portuguese.

Two completely different terms for ‘Job’s tears’ have been observed, and the terms for ‘wheat’ and ‘barley’ have been entirely replaced in the Akha and Hani languages. Bradley (1997) takes this as evidence that these were not staple crops for the Hani/Akha and hence the present terminologies are influenced by neighbouring languages from where these crops were introduced or reintroduced. The author notes that tremendous semantic shifts are noted even between communities that have been separated only for a few centuries. For example, the cognate form for ‘millet’ in Akha is now ‘barley’ and ‘millet’ is now known by a new name.

Similarly, the core etymon for ‘wheat’ no longer means the grain itself but it is a grammaticalized prefix for two other grains. Lahu, given its migration from the north has lost

most of its cognates whereas Lisu and Sani have retained the cognates for almost all the types of grains. Another group that has migrated long ago and lost its cognates for the grain terms are the Burmans. Bradley (1997) points that this is due to the symbiotic relationship this group shared with their newfound neighbours Jinghpaw and Tai and it is not surprising that almost none of the Burmans could identify the cognates for grains mentioned earlier.

Bradley (1997) concludes that it is likely the Burmic group cultivated all of the eight grains and the homeland for the Burmic groups could be present day Yunnan in China, where all these crops still exist. He also infers that given the similarity in etymology for the newly introduced ‘maize/corn’ crop in Hani/Akha groups, it is likely that they were still unified when this crop was introduced. The fact that the people in this region cultivated buckwheat, barley, millet etc., which were typically highland crops, also throws light on the type of geographical location of the people who inhabited these places.

Sagart et. al. (2019) identified six domesticates forming cognate sets with regular sound correspondences in at least two of the six languages and concludes that speakers of the Sino-Tibetan grew foxtail millet and rice plant and raised pigs, sheep, cattle and horses. Archaeologically, all of the above were recorded to have existed in northern China, which was also supported by root data collected by Sagart et. al. (2019). Based on these findings Sagart et. al. (2019) infers that the homeland of Sino-Tibetan is most likely the north-eastern part of the Sino-Tibetan domain. Other researchers such as van Driem (1997), Blench & Post (2014) and Matisoff (2015), proposed Sichuan, eastern India and the Tibetan plateau, respectively, to be the homeland of Sino-Tibetan language speakers but they are neither supported archaeologically or demographically (Sagart et. Al., 2019). The Sino-Tibetan homeland recommended by Sagart et. Al. (2019) was located in the eastern half of the north Chinese loess plateau during the transition of the Cishan and Yangshao cultures. According to Dodson et. Al. (2014), for both Cishan and Yangshao, broomcorn and foxtail millet were their principle crops and they raised pigs and sheep. However, rice, horses, cattle, wheat or barley, referred to as ‘secondary domesticates’, were absent archaeologically. Sagart et. Al. (2019) infers that these ‘secondary domesticates’ were introduced as a result of contact with neighbouring languages. Rice was a well-established crop in Xishanping, a neighbouring group (Zhang et. Al., 2010) who also grew the two millets as well as raised pigs.

A criticism of the above recent studies is that they make sweeping claims with high level analysis, missing many data points from a rich set of lower-level branches in the family.

Hyslop & Guedes (2021) aim to address through careful linguistic and archaeological work in one low-level family: East Bodish. They find that while modern day East Bodish speakers predominantly cultivate rice, maize and millet, the ancestors of the present-day East Bodish speakers cultivated buckwheat and barley prior to the introduction of millet, rice or maize in their current geographic domain.

2.5 EAST BODISH LANGUAGES

East Bodish is a Tibeto-Burman subfamily found predominantly in Bhutan with sparse presence in parts of Arunachal Pradesh (NE India) and Tibet. The term East Bodish was first propounded by Shafer (1954) which was further reinforced by Michailovsky and Mazaudon (1994) with new data and lexical evidence. van Driem (1998) presented eight East Bodish languages; and subsequently research has corroborated the existence of the small family as distinct, if not closely related to and/or highly influenced by Tibetan (Hyslop 2013, 2014). Hyslop (2015) also overviews the family, providing geographical locations, numbers of speakers as well highlighting some of the observations she has made on the phonology of the East Bodish languages.

Hyslop (2013) argues that the East Bodish languages in Bhutan have been under considerable influence from Choke (Classical Tibetan language in which Buddhism, the predominant religion in Bhutan, is taught and practiced) and Dzongkha, the national language which has many similarities to Tibetan and also use the same alphabet system. Dzongkha is also taught in schools and is the only language in Bhutan with a written form. For this reason, Hyslop (2013) argues that given the lack of ample research and data on the languages, it is difficult to confidently place the East Bodish languages with regard to Tibetan and within the Tibeto-Burman languages. She nonetheless provides lexical evidence to show the similarity between the languages as well as the evidence of distinctions between them. For better understanding of this, she suggests reconstructing the languages within the sub-family which could then be compared with the Tibetan as well as languages within the Tibeto-Burman family.

Hyslop (2013) also makes new data available and proposes a tentative internal phylogeny of East Bodish. She identifies Dakpa, Dzala, Chali, Phobjip, Kurtöp, Bumthap and Khengkha as belonging to the group. Except for Dakpa which is predominantly spoken in North Eastern India and a small minority in Tibet and North Eastern Bhutan, the rest of the

languages are distinct to Bhutan. Kurtöp, Dzala and Chali speakers are located in eastern Bhutan whereas Bumthap is spoken in north-central, Khengkha predominantly in south-central (and also small communities in the east-central) and Phobjip in west-central Bhutan.

Hyslop (2013) observes that all East Bodish languages have a three-way voicing (voiceless unaspirated, voiceless aspirated and voiced) contrast and they contrast at the labial, dental and velar places of articulation. She also observes palatal and retroflex stops in some languages. Dental fricatives, dental affricates and palatal fricatives are also found while Bumthap is unique in the family for having a retroflex fricative.

The phylogeny shows that Dakpa and Dzala can be separate subgroups from the other East Bodish languages while the placement of Chali and Phobjip cannot be ascertained at this stage (Hyslop 2013). Highlighting the lexical difference in how the words ‘sun’, ‘water’ and ‘3.SG’ are said in Dakpa and Dzala as compared to the other languages, she justifies that these two languages form one sub-group. Analysing how the words for ‘horse’, ‘five’, ‘waist’, ‘four’ and ‘ten’ form a perfect cognate set, she argues that they form a part of the larger East Bodish family and the minor difference is because the vowels have raised in Dakpa and Dzala; from /a/ > /e/ and /e/ > /i/. This is also evidenced by the word /ta/ for all other languages as compared to /te/ in Dzala and Dakpa. Similarly, the word for four in the other languages is /bre/ and /ble/ whereas in Dakpa and Dzala it is /bri/ and /bli/ respectively. She further makes the observation of velar initials in some languages converting to a retroflex in others. In the word for ‘waist’ for instance, Dzala, Kurtöp, and Khengkha have it as t^het, t^hat and t^hat respectively with the retroflex /t^h/ but Dzala, Bumthap and Chali have it as k^hret, k^hrat and ketpa, with the velar /k/. According to Matisoff (2002), retroflexes have innovated from velar-rhotic onsets and are fairly recent. It would however be interesting to crosscheck this with other such cognates in the languages.

Hyslop (2013) groups Bumthap, Kurtöp and Khengkha under the Bumthang group and puts forth the similarities and differences between the three. Using examples of words such as ‘3.SG’, ‘nose’, and ‘do’, she distinguishes Kurtöp from Bumthap and Khengkha. One principal observation is that the velar-rhotic onsets in Bumthap and Khengkha have been simplified into retroflex consonants in Kurtöp. This is evidenced by the examples in the words for climb (*k^hraŋ* in Bumthap and Khengkha), arrive (*k^hrak* in Bumthap and Khengkha, six (*grok/gro* in Bumthap and Khengkha respectively) and village (*k^hroŋ* in Bumthap and Khengkha) which in Kurtöp are t^haŋ, t^ha, do and toŋ respectively. As evident in the examples above, the velar-rhotic *k^hr/gr*

is simplified to retroflexes t^h/d . However, the same cannot be said about the word for hair, which is *kra* in Bumthap and Khengkha and by above logic should have had a retroflex onset but is simply *rá* with a high tone. Hyslop (2013) propounds that this is perhaps an influence from Tibetan by deleting the initial consonants in complex onsets as a result of tonogenesis, while also confirming the need for further correspondence to corroborate and strengthen this claim.

On the vowels, Hyslop (2013) notes that generally all the languages across this family has the common five cardinal vowel system /i,e,ɛ,o,u/ whereas Phobjib has the richest set, including also /y, ø, ɔ, æ/. She also notes that some languages have contrastive vowel length and while some also have nasalisation. Contrastive tone is observed in all the languages following sonorant consonants. However, on the aspects of grammar, the author admits that a conclusion cannot be drawn accurately owing to inadequate data.

On the sound change in the East Bodish, Hyslop (2015) presents an updated data to Hyslop (2013) to highlight prevalent and common sound changes within the East Bodish languages such as $l > j$; $a > e$; $e > i$; $k^hr, gr > t, t^h, d$ etc. List of sound changes in East Bodish from Hyslop (2015) is reproduced below:

Sound change	Conditioning environment	Dak-pa	Dza-la	Kur-töp	Bum-thap	Kheng-kha	Cha-li	Heng-ke
$l > j$	all/unknown			X	X	X		
$a > e$	unknown	X	X					
$e > i$	unknown	X	X					
$e > i$	preceding coronals							X
$a > \text{æ}$	preceding coronals							X
$o > \text{ø}$	preceding coronals							X
$u > y$	preceding coronals							X
$k^hw > \phi$	syllable onset					X		

kr, k ^h r, gr > t, t ^h , d	syllable onset / unknown		X	X				
gj > j	syllable onset/unknown	X	X					
kjV, k ^h jV, gjV > kjV+front, k ^h jV+fron t, gjV+front	syllable onset			X	X	X		
u > o	unknown	X	X					

Table 2: Sound change in East Bodish (Source: Hyslop, 2015)

While more research is needed to confirm the conditioning environment for many of these changes, some have been proposed such as e>i; a > æ; o > ø; u>y etc preceding coronals and velar place of articulation to a retroflex at syllable onset position. However, there are exceptions to many of the conditions and additional data will be helpful to draw more solid inferences.

The most updated phylogeny of East Bodish is with Bosch (2016:27) as shown in the image reproduced below:

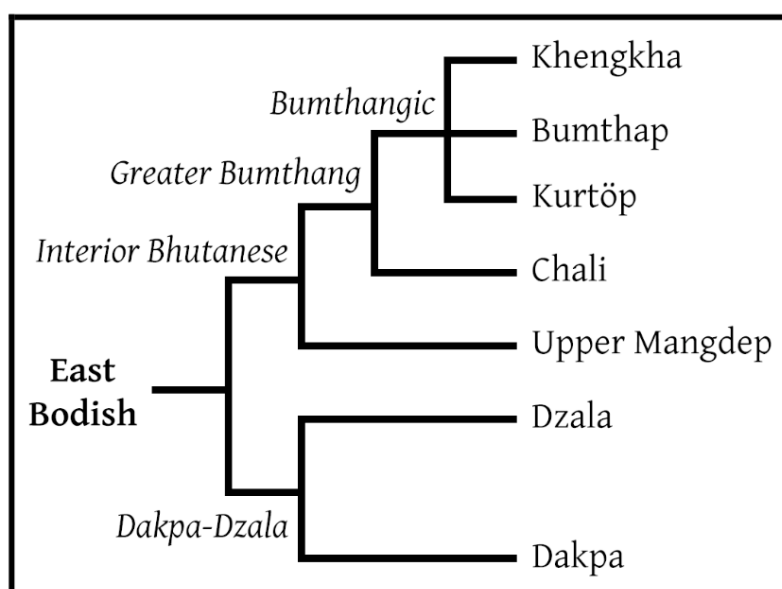


Figure 1: East Bodish Phylogeny. Source: Bosch (2016:27)

2.6 RECONSTRUCTIONS IN THE EAST BODISH LANGUAGES

Hyslop (2015) makes the first pass at attempting to reconstruct agricultural economy terminology to Proto East Bodish. She analyses how various terms for grains and terms related to dairy farming are said in the different East Bodish languages in Bhutan and proposes reconstruction of Proto words for ‘barley’, ‘bitter buckwheat’, ‘sweet buckwheat’, ‘milk’, ‘cheese’ and ‘butter milk’. However, based on the analysed data, she highlights that the same conclusion could not be drawn for ‘paddy’, ‘maize’ and ‘millet’ or for ‘whey’. Maize is a surprise as generally the east of Bhutan is associated with maize production and is also a staple diet. Taking cue from this conclusion, she infers that the proto speech community of the East Bodish cultivated ‘barley’ and ‘buckwheat’ and were dairy farmers.

Hyslop (2015) goes on to reconstruct some of the grain terms and dairy related terms and examines eight grain/grain related terms in the seven East Bodish languages to see if any of the terms can be reconstructed to Proto East Bodish. In doing so, based on the data available she concludes that words for ‘barley’, ‘bitter buckwheat’ and ‘sweet buckwheat’ can be reconstructed to **nas*, **brasma*⁴ and **kjabrasma* respectively. This proposition is based on the reasoning that for *nas*, the sound change from $a > e$ in Hengke/Phobjib, $s > t$ in coda position in Bumthap and some varieties of Kurtöp are visible. Similarly, for **bramma*, while it remains as *bramma* in Bumthap, coda /n/ is dropped in Kurtöp while final vowel is lost in Hengke. In Dakpa and Dzala we see the following $a > e$. Finally, for sweet buckwheat, the author proposes **kjabrasma* as the Proto word with *kj*-palatalising in all the other languages. *gere* in Hengke that stands out is probably from the influence of Dzongkha, she concludes.

However, it has not been possible to infer the Proto words for maize, paddy, cooked rice, husked rice or varieties of millet. This is either because these crops have not been cultivated during the time of Proto East Bodish speakers or they have been heavily influenced by neighbouring languages. These need to be further analysed. The *bac^hukpa* for maize in Kurtöp is a strange entry. If not for this, the term for maize could have possibly been reconstructed, knowing that *geza* in Hengke is clearly a borrowing from neighbouring

⁴ Hyslop *et al.* (in press) updated the reconstructions from **brasma* and **kjabrasma*, for ‘bitter buckwheat’ and ‘sweet buckwheat’, respectively, based on new data from Bumthang.

Dzongkha. This will be discussed in greater detail in chapter 5 when proposing reconstruction of Proto words for grains and pseudo cereal crops.

In the second data set, the author examines the terms for dairy related products namely ‘milk’, ‘buttermilk’, ‘cheese’ and ‘whey’ and successfully reconstructs for the first three. ‘milk’ is **gju* with loss of initial consonant in Dzala and Dakpa followed by lowering of the vowel and palatisation of the initial consonant in all the rest except Hengke which retains the initial velar consonant and fronts the following vowel. The word for ‘cheese’ has a close resemblance throughout the family and thus reconstructed as **phrum* with vowel lowering in Dzala. Similarly, ‘buttermilk’ is reconstructed to **tarpa* changing to *tarba* and *tarwa* in other languages and ‘whey’ to **c^hurk^hu* for which the Bumthap word with the retroflex is a unique finding that needs to be further studied.

2.7 KURTÖP PHONOLOGY

Kurtöp phonology was first described by Michailovsky & Mazaudon (1994) and subsequently in greater detail in the most recent years by Hyslop (2006, 2008, 2009, 2017). The following discussion is drawn from Hyslop (2017), though there has been little change in the analysis since Michailovsky & Mazaudon (1994). The Kurtöp phonemic inventory contains fifteen stops, three fricatives, two affricates, four nasals, two laterals, one rhotic, two glides and a glottal aspirate. She also indicates the presence of a glottal stop but no phonemic contrast was observed except that it occurs before vocalic high-toned initials and sometimes in place of coda /k/. There is a three-way voicing contrast made among stops (voiceless unaspirated, voiceless aspirated and voiced) and two-way voicing in affricates and dental fricatives.

	Labial	Dental	Retroflex	Palatal	Velar	Glottal
stops	p, p^h, b	t, t^h, d	ʈ, ʈ^h, ɖ	c, c^h, ɟ	k, k^h, g	(ʔ)
affricates		ts, ts^h				
fricatives		s, z		ç		h
nasals	m	n		ɲ	ŋ	
laterals		l, l̥				
rhotics		r				
glides	w			j		

Figure 2: Kurtöp phonemic inventory (Source: Hyslop, 2013)

Tone in Kurtöp is contrasted phonemically on the initial syllables following sonorant onsets. On a similar vein, she also notes that following obstruents, except in the case of palatal fricatives, high pitch is noted if the onset is voiceless and low pitch if the onset consonant is voiced. Hyslop (2017) also confirms that phonemes such as labial, dental and stops have always been present in East Bodish, with palatal stops being later innovations. However, she notes that retroflex stops in Kurtöp are the most recent innovation, as it is not observed in other East Bodish languages and infers that it is perhaps an influence of the written Tibetan/Dzongkha where the Kurtöp retroflex is a reconstruction of the complex onset cluster in Tibetan involving a stop followed by a rhotic. Another interesting and significant observation that Hyslop (2017) makes is that palatal stops, unlike labials, dentals and velars, only occur in onset position in Kurtöp. She attributes this to diachronic reasons and suggests further study to confirm that palatals are an innovation from a series of velars plus palatal glides in onset position, this would make sense as clusters are only found in onset positions.

The two dental affricates in Kurtöp contrast as voiceless unaspirated /ts/ and voiceless aspirated /ts^h/. Fricatives are found at two places of articulation, dental (/s/,/z/) and palatal /ç/. All the fricatives and affricates occur in onset position and do not form complex onsets; only -s can sometimes occur in coda position. Among the obstruents, it is only this palatal voiceless fricative that shows a tonal contrast on the following vowel (high versus low) and proposes that the absence of a voiced palatal fricative and the presence of a tonal contrast can be a step in tonogenesis (Hyslop 2009).

Kurtöp has nasals at four places of articulation: labial, dental, palatal, velar. Together with the nasals, there are one rhotic, two laterals (voiceless and voiced), one palatal glide and one labiovelar glide. The voiceless lateral // is the rarest of all the sonorant consonants and also only occurs preceding high tone.

Hyslop (2017) notes that from among the East Bodish languages for which we have ample data, Kurtöp allows the fewest number of complex onsets (*pr-*, *pj-*, *pl-*, *phr-*, *phj-*, *br-*, *bj-*, *bl-*, *mr-*, *mj-*, *kw-*, *khw-*, *gw-*) and correspondingly there are not many words with complex onsets. She highlights simplification processes, such as palatisation, which happen significantly among the younger generation as the labial is dropped off. For example, *p^hja* → *pç* → *c* (as in *p^hja* the bon festival) or *mj* → *n* (as in *mja*, ‘arrow’ or ‘archery’). This simplification of onsets is a trend that has developed after the diversification of the East Bodish languages and Hyslop (2011) suggests more detailed comparative work to support the hypothesis. For comparison, van Driem (1995) records 15 complex onsets in Bumthap while Dzala has 22 (Genetti 2009).

Common codas are *-p*, *-t*, *-m*, *-n*, *-ŋ*, *-r* while *-k*, *-s* and *-l* are found with a much smaller frequency. For example, coda *-k* is generally deleted in word final position, as in:

- (1) *phak-shang* ‘divide-pfv.ego’ vs. *pha:* ‘divide’
 (2) *brek-shang* ‘keep-pfv.ego’ vs. *bre:* ‘keep’

Coda *-s* is only found in some varieties of Kurtöp (*mras* for ‘paddy’ in Gangzur as compared to *mrâ* in Kurtö or *kas* vs *kâ* for ladder), while coda *-l* is normally observed only in borrowed words from Chöke (Classical Tibetan).

Five vowel contrasts /i,e,v,o,u/ and four diphthongs /*vu*, *iu*, *ui*, *oi*/ have been observed in Kurtöp. In addition, as a result of influence from Dzongkha, especially those who are educated through a formal education system where Dzongkha is taught as an official language, Kurtöp also have front rounded vowels /*ø*,*y*/. For example, Kurtöp has *c^ho* for ‘religion’ while in Dzongkha it is *c^hø* ‘religion’, and Kurtöp *p^húi* ‘offer’ is *p^hy* ‘offer’ in Dzongkha. However, we also find educated Kurtöp speakers who will produce the Dzongkha pronunciations for

these words and others. This was also observed by Bosch (2016) in Dzongkha loanwords in Upper Mangdep where speakers either fronted or rounded vowels.

3. METHODOLOGY

In this chapter I present a detailed account of the methodological framework employed in my research project aimed at phonetic and phonological reconstruction of Proto Kurtöp. The chapter encompasses various facets of the research design, data collection procedures, participant demographics, dialectal distinctions, transcription and translation methodologies, data analysis techniques, ethical considerations, limitations, and concludes with a comprehensive synthesis of the methodology employed.

I adopted a multifaceted approach, combining qualitative and quantitative methodologies to elucidate the phonetic and phonological evolution of the Kurtöp language family through a comparative analysis facilitating the identification of shared phonetic and phonological traits across dialectal variations. This approach enabled the reconstruction of Proto Kurtöp inventory in this project focusing on cereals, plants and crops, while also trying to shed a light on the historical trajectory of the language.

The data collection was done through three field visits, strategically spaced to facilitate the accumulation of comprehensive datasets and the validation of previously acquired information. The initial field visit was conducted in June 2021 laying the groundwork for subsequent data collection endeavours. Subsequent visits in April 2022 and March 2023 provided opportunities for in-depth interviews and the consolidation of research findings. I am a member of the speech community from Dungkhar and can fluently speak the language so all the data collection was done in Kurtöp.



Image 12: Elicitation with Aiya Meto Dema, 82, Zhamleng

Oral interviews and elicitation constitute the primary mode of data collection, offering insights into the phonetic and phonological nuances of each dialectal community. A purposive sampling strategy was employed for proper representation from each of the six dialect-speaking communities within the Kurtöp region. A total of 42 respondents, comprising 7 individuals from each community, participated in the interviews, thereby ensuring a diverse array of perspectives. The participant cohort also embodies the demographic diversity inherent within the Kurtöp region, spanning a wide range of age groups and gender identities. Of the 42 respondents, 20 are male and 22 are female, ensuring gender parity within the sample. The age range of participants extends from 35 to 82 years, encompassing multiple generations and facilitating a longitudinal analysis of linguistic trends. Younger cohort were not considered since their language use is likely influenced more by Dzongkha and other languages that they have been exposed to.

The Kurtöp region is characterized by linguistic heterogeneity, with six primary dialectal variations delineating the linguistic landscape. Dungkhar, Zhamleng, Shawa, Nê, Gangzur and Tangmachu dialects. The dialects exhibit some distinct phonetic and phonological features, reflecting the unique socio-cultural dynamics and historical trajectories of the respective communities.

Detailed demographic profiles of each dialectal community are documented, encompassing population size, geographical distribution, and sociolinguistic dynamics. For instance, the Dungkhar dialect encompasses five *ciwogs* ‘administrative blocks’, namely Tabi,

Dungkhar, Jasabi-Ugyenpho, Caksom-Chusa, and Tanglung-Wawe. Similarly, Zhamleng and Shawa dialects are spoken under the Shawa-Zhamleng *ciwog*, which also includes the village of Thrima. The Gangzur dialect is spoken in the village of Gangzur as well as in the villages of Jang and Ngar. The Nê dialect is spoken in the village of Nê and the Tangmachu dialect in the villages of Tangmachu, Nyebi and parts of Zhungkhar.

The recorded interviews were transcribed and translated using the ELAN Software.

Ethical considerations were kept in mind throughout the research process, underscoring the importance of informed consent, confidentiality, and cultural sensitivity, in line with the Ethics Approval and guidelines of the University of Sydney. Informed verbal consent was obtained from all participants prior to data collection, elucidating the nature and purpose of the research endeavour. Cultural sensitivities were also meticulously respected throughout the research process, with due diligence exercised to uphold the dignity and autonomy of participants.

In summary, the methodological framework outlined in this chapter portrays a systematic approach to phonetic and phonological reconstruction of Proto Kurtöp. By leveraging a multidisciplinary methodology encompassing qualitative interviews, linguistic analysis, and comparative phonological reconstructions, the study endeavours to illuminate the rich tapestry of linguistic diversity encapsulated within the Kurtöp language family. Through rigorous data collection, transcription, translation, and analysis efforts, the research aims to contribute to our understanding of the historical evolution and linguistic dynamics of the Kurtöp language and the East Bodish language family at large.



Image 13: In a makeshift camp in the forest collecting names of wild vegetables, fruits and trees.

4. RECONSTRUCTION AND INTERNAL PHYLOGENY

4.1 INTRODUCTION

In this section I look at the consonant and vowel inventory and corroborate their presence in the Kurtöp language varieties using Hyslop (2017) as the basis. I then make phonological comparisons among the dialects, followed by a look at the morphology and allomorphs. Then I look at a lexical comparison looking at words that are commonly used across the varieties to ensure that the comparison is fair and consistent. I look at the words for body parts, household items, kinship terms, domesticated animals, wild animals etc. Based on phonological, morphological and lexical comparisons I propose the internal phylogeny of the Kurtöp language.

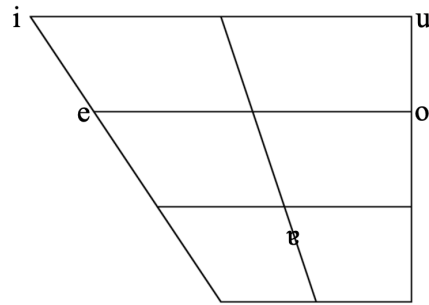
4.2 PHONOLOGY

As described by Michailovsky & Mazaudon (1994) and elaborated further in the recent decade and a half by Hyslop (2006, 2008, 2009, 2017), the Kurtöp phonemic inventory contains fifteen stops, three fricatives, two affricates, four nasals, two laterals, one rhotic, two glides and a glottal aspirate as illustrated below:

	Labial	Dental	Retroflex	Palatal	Velar	Glottal
stops	p, p^h, b	t, t^h, d	ʈ, ʈ^h, ɖ	c, c^h, ɟ	k, k^h, g	(ʔ)
affricates		ts, ts^h				
fricatives		s, z		ç		h
nasals	m	n		ɲ	ŋ	
laterals		l, ɭ				
rhotics		r				
glides	w			j		

Figure 2: Kurtöp phonemic inventory (Source: Hyslop, 2013)

All the five vowels (front closed /i/; close-mid front /e/; open, low /ɛ/; back, close-mid rounded /o/; and back close rounded /u/) are observed in all the dialects, as illustrated below. Four diphthongs /ɛu/, /iu/, /ui/ and /oi/ have been observed too.



Diphthongs: /*eu, iu, ui, oi*/

Figure 3: Kurtöp vowel inventory

Data was collected from across the Kurtöp speaking communities across three *gewogs* to corroborate the phonemic inventory in all the dialects as well as characterise their presence such as in onset position, coda position or within a word/morpheme.

4.2.1 CONSONANTS

Data collected for this thesis support's Hyslop's (2017) previous analysis, with all dialects demonstrating all consonants. The phonemic inventory of Kurtöp includes fifteen stops (three way voicing in bilabial, dental, retroflex, palatal and velar), three fricatives (two way voicing in dental and a palatal), two affricates (two way voicing in dental), four nasals (One way voicing in bilabial, dental, palatal and velar), two laterals (two way voicing in dental), one rhotic (dental), two glides (bilabial and palatal) and a glottal aspirate stop.

4.2.1.1 BILABIAL STOPS

As evident from the data presented below the presence of bilabial stops were confirmed in all the six dialects. Three-way voicing contrast has also been observed as pointed out by Hyslop (2017), voiceless, voiceless aspirated and voiced.

Bilabial voiceless stop /p/

The bilabial voiceless stop /p/ occurs in onset /pon/ (King) /par/ ‘photograph’; coda /phap/ ‘to bring sth down’, /tap/ (to fold), /bjop/ ‘animal feed’; as well as medially, within a word or morpheme. Word initially it is always followed by a vowel (-V) except where it forms a complex onset /pr/.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
poor	prangca	prangca	prangca	prangca	prangca	prangpo
king	pon	pon	pon	pon	kushu	pon/jepo
picture	par	par	par	par	par	par
skin	pakpa	pakpa	pakpa	pakpa	pakpa	pakpa
shoulder	pongma	pongma	pongma	pongma	pongma	pongma

Table 3: /p/ in word initial position.

Word medially /p/ occurs intervocalically (V-V) as in /chupa/ (Bhutanese men’s traditional attire), V-C as in /napsang/ ‘cleaning rag’, or C-V as in /pakpa/ ‘skin, usually of an animal’ but no occurrence inter consonantly. When occurring word finally it is always preceded by a vowel (V-). The data set below illustrates this.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
cloth for new baby	dukpu	dukpu	dukpu	dukpu	tukpun	tukpu
men's dress	chupa	chupa	chupa	chupa	chupa	chupa
village folk	trongpa	trongpa	trongpa	trongpa	trongpa	trongpa
cooked rice/food	ipa	ipa	ipa	ipa	ipa	ipa
rag (for holding hot pots)	napsang	napsang	napsang	napsang	napsang	napsang

Table 4: /p/ in word medial position.

When occurring word finally it is always preceded by a vowel (V-) as shown in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
bring down	phap	phap	phap	phap	phap	phap
get/come down	bap	bap	bap	bap	bap	bap
fold	tap	tap	tap	tap	tap	tap
prick	thup	thup	thup	thup	thup	thup/sop
cattle feed	jop	jop	jop	jop	jop/to	jop

Table 5: /p/ in word final position.

Complex onset /pr/

The bilabial voiceless stop /p/ forms one complex onset where it is followed by the rhotic /r/ to form the complex onset /pr/. This onset is always followed by a vowel as illustrated in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
taste/flavour	prowa	prowa	prowa	prowa	prowa	drobja
monkey	pra	pra	pra	pra	pra	pra
take off (clothing)	prot	prot	prot	prot	prot	prot
scary	prettoka	prettoka	prettoka	prettoka	prettoka	prettoka
finger	primang	primang	primang	primang	primang	primang
thin/slim	pratmi	pratmi	pratmi	pratmi	pratmin	pratmi
poor	prangca	prangca	prangca	prangca	prangca	prangca

Table 6: /pr/ complex onset.

Bilabial aspirated stop /p^h/

In comparison, the bilabial aspirated stop /p^h/ only occurs in word onset position and word medial position and never in word final position. In the word initial position it is always followed by a vowel (-V) except where it forms a complex onset (/p^{hr}/) which is discussed separately.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
earthen pot	pheng	pheng	pheng	pheng	pheng	pheng
good/beneficial	phan	phan	phan	phan	phan	phan
piglet	phauya	phauya	phauya	phauya	phauya	phauya
pig	phâ	phâ	phâ	phâ	phâ	phâ
broom	phiksang	phiksang	phiksang	phiksang	phiksang	phiksang
traditional woven bag	phatsa	phatsa	phatsa	phatsa	phatsa	phatsa

Table 7: /p^h/ in word initial position.

In the word medial position, /p^h/ it most commonly occurs intervocally (V-V) but also can also be preceded by a consonant (C-V, only velar nasal recorded for now) as in /thangpher/ ‘woollen blanket’ /gongphel/ ‘development’ (this is a Dzongkha borrowing though) as in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
have had enough alcohol to make dizzy	ziphaka	ziphaka	ziphaka	ziphaka	zichaka	ziphaka
type of wooden cup	gaphor	gaphor	gaphor	gaphor	gabur	gaphor
not beneficial	maphan	maphan	maphan	maphan	maphan	maphan
didnt work	maphat	maphat	maphat	maphat	maphat	maphat

female pig	mophâ	mophâ	mophâ	mophâ	mophâ	mophâ
development	gongphel	gongphel	gongphel	gongphel	gongphel	gongphel
criticize/demean	'maphap	'maphap	'maphap	'maphap	'maphap	'maphap

Table 8: /p^h/ in word medial position.***Complex onset /p^{hr}/***

The bilabial voiceless aspirated stop /p^h/ forms one complex onset where it is followed by the rhotic /r/ to form the complex onset /p^{hr}/. This onset is always followed by a vowel as illustrated in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
cheese	phrum	phrum	phrum	phrum	phrum	phrum
lick	phrin	phrin	phrin	phrin	phrin	phrin
rosary	phrengma	phrengma	phrengma	phrengma	phrengma	phrengma
rip	phret	phret	phret	phret	phret	phret
left over	phro	phro	phro	phro	phro ('nekpa)	phro
snatch	phruk	phruk	phruk	phruk	phruk	phruk

Table 9: /p^{hr}/ complex onset.***Bilabial voiced stop /b/***

Like the aspirated stop /p^h/, the voiced bilabial stop /b/ also only occurs word initially and word medially and not in the coda of word final position. It is observed in word onset or syllable onset position as in /bauya/ (calf), /bari/ (ox), /bang/ (soak), and word medially or in the second syllable as in /zhimbula/ (cat), /bagop/ (crawl) and /tsimba/ (nails). When occurring word initially it is commonly followed by a vowel unless forming a complex onset of which the possible combinations observed in Kurtöp are /bl/, /br/ and /bj/ which are discussed separately.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
calf	bauya	bauya	bauya	bauya	bauya	bauya
laddle 1	bangyup	bangyup	bangyup	bangyup	bangyup	bangyup
ox 1 (Jatsham)	bari	bari	bari	bari	bari	bari
khwe bang	bang	bang	bang	bang	bang	bang
crawl	bagop	bagop	bagop	bagop	bagop	bagop

Table 10: /b/ in word initial position.

When occurring word medially also it is always followed by a vowel unless the root word contains one of the above complex onset words as in /cheble/ ‘fourteen’ or /ngerbri/ ‘smell of burn’. However, it can either be preceded by vowels or consonants (C-V, V-V).

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
cat	zhimbula	zhimbula	zhimbula	zhumbula	zhumbula	zhumbula
delicious	lembu	lembu	lembu	lembu	lembu	lembu
bigger (comparative)	cheba	cheba	cheba	cheba	cheba	cheba
only one	thêbe	thêbe	pucang	thêbe	thêbe	cangba
result	drebu	drebu	drebu	drebu	drebu	drebu
nail	tsimba	tsimba	tsimba	tsimba	tsimba	tsimba

Table 11: /b/ in word medial position.

Complex onsets / b^l /, / b^r /, and / b^j /

The bilabial voiced stop /b/ forms three complex onsets, / b^l /, / b^r / and / b^j /. In the language, all the onsets always follow a vowel as illustrated in the data sets below.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
one	bleng	bleng	bleng	bleng	bleng	breng
leave	blek	blek	blek	brek	blek	blek
four	ble	ble	ble	ble	ble	ble

Table 12: / b^l / complex onset.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
scold	brong	brong	brong	brong	brong	brang
thick? tokti	brauki	brauki	brauki, tokti	braku	tokti	tokti
torn	bret/phret	bret/phret	bret/phret	bret/phret	phret	phret
measuring cup	bre	bre	bre	bre	bre	bre
smell/odor	bri	bri	bri	bri	bri	Shengma
(I/we/they) kept	brewala	brewala	brewala	brewala	brewala	brekpala

Table 13: / b^r / complex onset.

While all the dialects have preserved the complex onsets /bl/ and /br/ as evidenced by the data sets above, the complex onset /bj/ is only observed in the dialect of Dungkhar as in the table below. Zhamling and Shawa have preserved in their word for ‘sand’ but apart from that none of the dialects have preserved the /bj/ that are still preserved in Dungkhar.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
sand	bjasa	bjyasa	bjyasa	bêsa	bêsa/bêma	bêma

taro	bjo	bjo	jo	bjo	jo	jo
unnecessary indulgence	bjewa	jewa	jewa	jewa	jewa	jewa
bird	bjauya	jauya	jauya	jauya	jauya	jauya
call	bja	ja	ja	ja	ja	ja

Table 14: / b^j / complex onset.

4.2.1.2 DENTAL STOPS

Kurtöp phonemic inventory consists of three-way voicing among the dental stops, voiceless, voiceless aspirated and voiced.

Dental voiceless stop / t /

The dental voiceless stop / t / is present word initially as in /tiya/ or /tanglup/, medially as in /tapti/ or /chitpu/ and finally as in /dot/ or /zat/, in all the dialects. Examples of occurrences in all the dialects is presented in the table below. When occurring word initially it is always followed by a vowel (-V) and never by a consonant.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
fodder grass	tiya	tiya	tiya	tiya	tiwa	tiwa
bamboo plate	tanglup	tanglup	tanglup	tanglup	tanglup	tanglu
empty stomach/hungry	towa	towa	towa	tokpa	tokpa	tokpa
mat	tan	tan	tan	tan	tan	tan
leg	tawa	tawa	tawa	tawa	tawa	tawa
together	tapti	tapti	tapti	tapti	thênang	tapti

Table 15: / t / in word initial position.

When occurring word medially, /t/ can either be preceded or followed by a consonant but not observed to occur intervocalically or inter-consonantly as shown in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
filthy	tsoktaka	tsoktaka	tsoktaka	tsoktaka	tsoktaka	tsoktaka
delicious	lemtoka	lemtoka	lemtoka	lemtoka	lemtoka	lemtoka
big/important	chitpu	chitpu	chitpu	chitpu	chitpu	chitpu
dont have	mutle	mutle	mutle	mutle	mutle	mutle

Table 16: / t / in word medial position.

When occurring in the word final position, /t/ is always preceded by a vowel and never by a consonant. The data set below illustrates this in the dialects.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
baby whining talk	ceskat	ceskat	ceskat	ceskat	ceska	ceskat
sleep	dot	dot	dot	dot	dot	dot
farm manure	yot	yot	yot	yot	yot	yot
tear/torn	bret	bret	bret	bret	bret	bret
finish/complete	zat	zat	zat	zat	zat	zat
fight	prat	prat	prat	prat	prat	prat
waist	thrat	thrat	thrat	thrat	thrat	thrat

Table 17: / t / in word final position.

Dental voiceless aspirated stop /tʰ/

Like the voiceless aspirated stop /ph/, the voiceless aspirated dental stop /tʰ/ also only occurs in the syllable onset position or word initially as in /thowa/ or /thap/ and word medially as in /pangtha/ or /zhutha/. In the word initial position it is always followed by a vowel (-V). However there is one occurrence in the word final position as in /oth/ ‘bring’ which seems to be the only case.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
lap	thowa	thowa	zema, thowa	thowa	thowa	thawa
weaving	thâ	thâ	thâ	thâ	thâ	thâ
weave	thû	thû	thû	thû	thû	thû
wait	them	them	them	them	them	them
one	thê	thê	thê	thê	thê	thê
oven	thap	thap	thap	thap	thap	thap

Table 18: /tʰ/ in word initial position.

In the word medial position, it occurs intervocalically (V-V) or can be preceded by a consonant (C-V). This is evident in the following data set from all the dialects.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
weave (on backstrap loom)	pangtha	pangtha	pangtha	pangtha	pangtha	pangtha
sth to benefit or cure	drakthap	drakthap	drakthap	drakthap	drakthap	drakthap
capable	tshathanga	tshathanga	tshathanga	tshathanga	thsathanga	tshathanga
bow string	zhutha	zhutha	zhutha	zhutha	zhutha	zhutha
stone mill	rangtha	rangtha	rangtha	rangtha	rangtha	rangtha

Table 19: /tʰ/ in word medial position.

Dental voiced stop /d/

The dental voiced stop /d/ also occurs word initially as in /dispung/ or /durma/ and word medially as in /chidung/ or /tidaling/. When occurring word initially it is always followed by a vowel.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
two days after tomorrow	dispung	dispung	dispung	dispung	diskum	diskum
garden	durma	durma	durma	durma	dumbara	dumra
yesterday	dangnin	dangnin	dangnin	dangnin	dangma	dangma
free/idle	dewa	dewa	dewa	dewa	deba	deba
nine	dogo	dogo	dogo	dogo	dogo	dogo

Table 20: /d/ in word initial position.

When it occurs word medially it only occurs in C-V as in /nordui/ (cow herder), /jinda/ (owner/landlord), and V-V as in /tidaling/ (umbilical cord), /chidung/ (blow pipe for fire) or /chêda/ (war/battle) but never in C-C or V-C environments.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
blow pipe (fire)	chidung	chidung	chidung	chidung	chidung	chidung
cow herder	nordui	nordui	nordui	nordui	nordi	nordui
umbilical chord	tidaling	tidaling	tidaling	tidaling	tipaling	tidaling
patron	jinda	jinda	jinda	jinda	jinda	jinda
war	chêda	chêda	chêda	chêda	chêda	chêda

Table 21: /d/ in word medial position.

4.2.1.3 RETROFLEX STOPS

Kurtöp phonemic inventory consists of three-way voicing among the retroflex stops, voiceless, voiceless aspirated and voiced.

Retroflex voiceless stop /ʈ/

The voiceless retroflex stop /ʈ/ mostly occurs word initially as in the cognate set presented below and is always followed by a vowel (-V) as in the data set below from the six dialects:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
recollect	tran	tran	tran	tran	tran	tran
village	trong	trong	trong	trong	trong	trong
entertainment/fun	trowa	trowa	trowa	trowa	trowa	trowa
spread out/distribute	tram	tram	tram	tram	tram	tram
scratch	trek	trek	trek	trek	trek	trek
dirt	trekpa	trekpa	trekpa	trekpa	trekpa	trekpa
give/handover	troi	troi	troi	troi	troi	troi
reincarnate person	truiku	truiku	truiku	truiku	tiku	truiku

Table 22: /ʈ/ in word medial position.

It also occurs word medially, though not common) in which it is preceded by a consonant and followed by a vowel (C-V) as in /laktroi/. It should however be noted that /laktroi/ is a combination of two words /lak/ ‘hand’ (in Dzongkha) and /troi/ meaning ‘to give’ and when combined as /laktroi/ it means something that is ‘handed over personally’ by the carrier. It is also interesting however to note that Kurtöp word for hand is /yâ/ and it doesn’t combine with /troi/ for this purpose but chooses to combine a Dzongkha with a Kurtöp word. /ʈ/ doesn’t occur word finally.

Retroflex voiceless aspirated stop /tʰr/

The voiceless aspirated stop /tʰr/ also occurs in the word initial and word medial positions only like its voiced counterpart. In the word initial position, the stop is also always followed by a vowel (-V). The data set below illustrates this.

English gloss	Dungkar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
arrive	thrâ	thrâ	thrâ	thrâ	thrâ	thrâ
tax	thrê	thrê	thrê	thrê	thrê	thrê
law	thrim	thrim	thrim	thrim	thrim	thrim
grow	throng	throng	throng	throng	throng	throng
finger millet	thre	thre	thre	thre	thre	thre

Table 23: /tʰr/ in word initial position.

While occurring word medially, unlike the voiced retroflex, it also occurs intervocally (V-V), in addition to also being preceded by a consonant (C-V). However, it neither occurs inter-consonantly nor is it followed by a consonant.

English gloss	Dungkar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
light	yangthroiya	yangthroiya	yangthroiya	yangthroiya	yangthroiya	yangthroiya
straight	thrangthrang	thrangthrang	thrangthrang	thrangthrang	thrangthrang	thrangthrang
throne	zhukthri	zhukthri	zhukthri	zhukthri	zhukthri	zhukthri
land tax	sathre	sathre	sathre	sathre	sathre	sathre
menstruation	dathrak	dathrak	dathrak	dathrak	dathrak	dathrak
crematorium	duthroi	duthroi	duthroi	duthroi	duthroi	duthroi

Table 24: /tʰr/ in word medial position.

Retroflex voiced stop /d/

The voiced retroflex stop /d/ also occurs word initially and is always followed by a vowel (-V) and never by a consonant as in the examples in the table below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
ghost	dre	dre	dre	dre	dre	dre
shadow	drem	drem	drem	drem	drem	drem
feather	dro	dro	dro	dro	dro	dro
six	drô	drô	drô	drô	drô	drô
recite prayers (count)	drang	drang	drang	drang	drang	drang

Table 25: /d/ in word initial position.

While occurring word medially, it follows the same environment as the voiceless aspirated retroflex /t^{hr}/ and occurs intervocally (V-V) as well as preceded by a vowel (C-V) but never inter-consonantly or followed by a consonant. The table below presents the data from all the dialects. It also never occurs word finally.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
gratitude	kadrin	kadrin	kadrin	kadrin	kadrin	kadrin
narrow	dokdrak	dokdrak	dokdrak	dokdrak	dokdrak	dokdrak
internal settlement	nangdrik	nangdrik	nangdrik	nangdrik	nangdrik	nangdrik
daily	nendrang	nendrang	nendrang	nendrang	nendrang	nendrang
aeroplane	'namdru	'namdru	'namdru	'namdru	'namdru	'namdru

palace	phodrang	phodrang	phodrang	phodrang	phodrang	phodrang
small table	côdrom	côdrom	côdrom	côdrom	côdrom	côdrom

Table 26: /d/ in word medial position.

4.2.1.4 PALATAL STOPS

Kurtöp phonemic inventory also consists of three-way voicing among palatal stops-voiceless, voiceless aspirated and voiced.

Palatal voiceless stop /c/

The voiceless palatal stop /c/ only occurs word initially and word medially and never occurs word finally. In the word initial environment, it is always followed by a vowel (-V) and never by a consonant as shown below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
	ceskat	ceskat	ceskat	ceskat	ceska	ceskat
paddy cultivation	canglâ	canglâ	canglâ	canglâ	canglâ	canglâ
laddle	cô	cô	chang	cô	cô	cô
bald	câgong	câgong	câgong	câgong	câgong	câgong
metal plate	câlep	câlep	câlep	câlep	câlem	câlep
roofing sheet	câsho	câsho	câsho	câsho	caksho	câsho

Table 27: /c/ in word initial position.

When occurring word medially, it occurs intervocalically (V-V) as well as it can be preceded by a consonant and followed by a vowel (C-V) but never followed by a consonant or inter-consonantly.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
arrow head	daca	daca	daca	daca	daca	daca
pledge	damca	damca	damca	damca	damca	damca
balcony	bancang	bancang	bancang	bancang	bancang	bancang
day time	nenca	nenca	nenca	nenca	nenca	nenca
animal	semcan	semcan	semcan	semcan	semcan	semcan

Table 28: / c / in word medial position.

Palatal voiceless aspirated stop / c^h /

The voiceless aspirated stop / c^h / also occurs word initially and word medially only. While occurring in the word initial position it is always followed by a vowel (-V) as in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
three days from tomorrow	chispung	chispung	chispung	chispung	chiskum	chiskum
pepper	chawa	chawa	chawa	chawa	chawa	chawa
raincoat	charkap	charkap	charkap	charkap	charkap	charkap
ten	che	che	ches	che	ches	che
blowing pipe (for making fire)	chidung	chidung	chidung	chidung	chidung	chidung
monks	chôpa	chôpa	chospa	chôpa	chospa	chospa

Table 29: / c^h / in word initial position.

When occurring word medially, it follows the same conditions as its voiced counterpart and occurs intervocally (V-V) as well as it can be preceded by a consonant and followed by a vowel (C-V) but never followed by a consonant or interconsonantly, as illustrated in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
dharma	damchoi	damchoi	damchoi	damchoi	damchê	damchoi
pitiful	diche	diche	diche	diche	diches	diche
large trumpet	dungchen	dungchen	dungchen	dungchen	dungchen	dungchen
courtyard	doche	doche	doche	doche	docha	doche
desire	doichak	doichak	doichak	doichak	doichak	doichak
tools	lakcha	lakcha	lakcha	lakcha	lakcha	lakcha
discuss	tuncha	tuncha	tuncha	tuncha	tuncha	tuncha

Table 30: / c^h / in word medial position.

Palatal voiced stop / ʝ /

The voiced palatal stop / ʝ / also occurs word initially and word medially only. While occurring in the word initial position it is also always followed by a vowel (-V) as in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
prayer before tea	jamchot	jamchot	jamchot	jamchot	jamchot	jamchot
care	jamcong	jamcong	jamcong	jamcong	jamcong	jamcong
loving affection	jampa	jampa	jampa	jampa	jampa	jampa
beard	jawa	jawa	jawa	jawa	jawa	jawa

stomach	joma	joma	joma	joma	joma	joma
eight	jat	jat	jat	jat	jat	jat

Table 31: /j/ in word initial position.

In the word medial environment, it follows the same conditions as its voiceless and voiceless aspirated counterpart and occurs intervocalically (V-V) as well as it can be preceded by a consonant and followed by a vowel (C-V). However, it is also never followed by a consonant nor does it occur inter-consonantly, as illustrated in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
exposure	taja thongja	taja thongja	taja thongja	taja thongja	taja thongja	taja thongja
male	phoja	phoja	phoja	phoja	phoja	phoja
female	moja	moja	moja	moja	moja	moja
worry/concern	tshajang	tshajang	tshajang	tshajang	tshajang	tshajang
women's inner jacket	wanju	wanju	wanju	wanju	wanju	wanju

Table 32: /j/ in word medial position.

4.2.1.5 VELAR STOPS

Velar stops also occur with three-way voicing contrast in Kurtöp across all dialects.

Velar voiceless stop /k/

Voiceless velar stop /k/ occurs word initially followed by a vowel as in /kapo/ ‘difficult’ or /kâ/ ‘blood’. It is followed by a consonant to form a complex onset /kw/ which is discussed separately. Otherwise it is never followed by a consonant. The data set below illustrates this.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
difficult/hard	kapo	kapo	kamu	kapo	kapo	kamu
stars	karma	karma	karma	karma	karma	karma
source	ka	ka	ka	ka	ka	ka
blood	kâ	kâ	kâ	kâ	kâ	kâ
crow	kawling	kawling	kawling	kawling	kawaling	kawling

Table 33: /k/ in word initial position.

Word medially it occurs in all environments preceded or followed by a vowel (V-V), or preceded or followed by a consonant (V-C, C-V). But its occurrence inter-consonantly has not been recorded yet.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
cloth for new baby	dukpu	dukpu	dukpo	dukpu	tukpun	tukpu
window	karkung	karkung	karkung	karkung	karkung	karkung
hat 2	mokaling	mokaling	mokaling	mokaling	mokaling	mokaling
dirt	tsokpa	tsokpa	tsokpa	tsokpa	tsokpa	tsokpa
bothersome	tshertoka	tshertoka	tshertoka	tshertoka	tshertoka	tshertoka

Table 34: /k/ in word medial position.

The voiceless velar stop /k/ is also observed to occur word finally and in this occurrence, it is always preceded by a vowel and never by a consonant. The data set below illustrates this.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
do	ngak	ngak	ngak	ngak	ngak	ngak
differentiate	phak	phak	phak	phak	phak	phak
fell dirty	tsok	tsok	tsok	tsok	tsok	tsok
be able	tshuk	tshuk	tshuk	tshuk	tshuk	tshuk
stir	truk	truk	truk	truk	truk	truk

Table 35: /k/ in word final position.

Complex onset /k^w/

Voiceless velar stop /k/ is followed by a consonant (bilabial glide /w/) to form the complex onset /k^w/ and it is always followed by a vowel as evident in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
tilt	kweng	kweng	kweng	kweng	'yon	kweng
head	kwekpa	kwekpa	kwekpa	kwekpa	kekpa	kwekpa
round support for pot***	kwi	kwi	kwi	kwi	kwi	kwi
tooth	kwa	kwa	kwa	kwa	kwa	kwa
bald	kwelang	kwelang	kwelang	kwelang	kwelang	kwelang
for making fire***	kwan	kwan	kwan	kwan	kwan	kwan
cotton	kwampe	kwampe	kwampe	kwampe	kampe	kwampe

Table 36: /k^w/ complex onset.

Velar voiceless aspirated stop /k^h/

The aspirated velar stop /k^h/ also occurs word initially as well as word medially and never occur in the word final position. When occurring word initially it is followed by a vowel but is also followed by a consonant /w/ to form the complex onset /k^hw/. However, this is discussed separately.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
dog	khwi	khwi	khwi	khwi	khwi	khwi
laddle for rice	khoshu	khoshu	khoshu	khoshu	khoshu	khoshu
semi burned rice/flour	kharwa	kharwa	kharwa	kharwa	kharwa	kharwa
white	kharti	kharti	kharti	kharti	kharti	kharti
upwards	khakto	khakto	khakto	khakto	khakto	khakto

Table 37: /k^h/ in word initial position.

When occurring word medially it can be preceded by a consonant and followed by a vowel (C-V), or intervocalically (V-V). It doesn't occur in the word final environment.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
Indian	cakharpa	cakharpa	cakharpa	cakharpa	cakharpa	cakharpa
prison	tsonkhang	tsonkhang	tsonkhang	tsonkhang	tsonkhang	tsonkhang
heaven	zhingkham	zhingkham	zhingkham	zhingkham	zhingkham	zhingkham
appetite	zakham	zakham	zakham	zakham	zakham	zakham
country	jekhap	jekhap	jekhap	jekhap	gekhap	jekhap

Table 38: /k^h/ in word medial position.

Complex onset /k^{hw}/

There is one occurrence of /k^h/ being followed by a consonant (bilabial glide /w/) to form the complex onset /k^{hw}/. This complex onset is always followed by a vowel when forming any word in the Kurtöp, as shown in the data set below. Interestingly there are only two root words with this complex onset. I have recorded several words such as *k^{hwe}chaka* ‘juicy/watery’, *k^{hwe}etang* ‘pond’, *k^{hwe}ethor* ‘fountain/waterfall’, *k^{hwe}eyur* ‘water canal’, *k^{hwe}i’lap* ‘wave’, *k^{hwe}etshan* ‘hot water’ *k^{hwe}ebang* ‘soak/take a bath’, *k^{hwe}e’ngiya* ‘water shrew’ and *k^{hwe} lema* ‘a type of ground cover’ but all these words contain the root word *k^{hwe}* ‘water’.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
dog	khwi	khwi	khwi	khwi	khwi	khwi
water/river	khwe	khwe	khwe	khwe	khe	khe

Table 39: /k^{hw}/ complex onset.

Velar voiced stop /g/

Like the aspirated velar stop /k^h/, the voiced velar stop /g/ also doesn’t occur word finally and only does in word initial and word medial positions. When occurring word initially it is always followed by a vowel (#-V), again except in the case of complex onset /gw/ which is discussed separately.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
old	gatpo	gatpo	gatpo	gatpo	gatpo	gatpo
sleep	goma	goma	goma	goma	gomba	gomba
head	guyung	guyung	guyung	guyung	guyung	guyung
winter	gun	gun	gun	gun	gun	gun
cup	guku	guku	guku	guku	guku	guku
fire	gami	gami	gami	gami	gami	gami

Table 40: /g/ in word initial position.

Word medially it always occurs intervocalically (V-V) but there are rare incidences of being preceded by a consonant (C-V) as in /*bangala*/ (chilli) but never followed by a consonant.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
nine	dogo	dogo	dogo	dogo	dogo	dogo
chin	wâgam	wâgam	wâgam	wâgam	wagam	wâgam
chili	banggala	banggala	banggala	banggala	banggala	banggala
crawl	bagop	bagop	bagop	bagop	bagop	bagop
hut	bâgo	bâgo	bâgo	bâgo	bâgo	bâgo

Table 41: /g/ in word medial position.

Complex onset /g^w/

There is one occurrence of /g/ being followed by the bilabial glide /w/ to form the complex onset /g^w/. This complex onset is always followed by a vowel as in the data set presented below.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
two	gwa	gwa	gwak	gwa	gwak	gwak
tie	gwe	gwe	gwe	gwe	gwe	gwe
type of bean	gwan shepen	gwan shepen	gwan shepen	gwan shepen	ton shepen	bongbunala *
turn	gwar	gwar	gwar	gwar	gwor	gwar
?	gwi	gwi	gi	gwi	gwi	gwi

Table 42: /g^w/ complex onset.

4.2.1.6 GLOTTAL STOP

Hyslop (2017) indicates the presence of a glottal stop but no phonemic contrast was observed except that it occurs before vocalic high-toned initials and sometimes in place of coda /k/.

4.2.1.7 AFFRICATES

Two affricates with two-way voicing contrasts, dental voiceless / \widehat{ts} / and dental aspirated / \widehat{ts}^h / have been observed.

Affricate, voiceless / \widehat{ts} /

The voiceless affricate / \widehat{ts} / occurs both word initially as well as word medially but not in the word final environment. When occurring word initially it is always followed by a vowel (-V) as evidenced in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
hat 1	tsakaling	tsakaling	tsakaling	tsakaling	tsakaling	tsakaling
root/main	tsawa	tsawa	tsawa	tsawa	tsawa	tsawa
a little	tsama	tsama	tsoma	tsama	tsama	tsama/ekiti
onion	tsong	tsong	tsong	tsong	tsong	tsong
try hard	tsagen	tsagen	tsagen	tsagen	tsagen	tsagen
anger	tsikpa	tsikpa	tsikpa	tsikpa	tsikpa	tsikpa

Table 43: / \widehat{ts} / in word initial position.

When occurring word medially, it occurs intervocally (V-V), or preceded by a consonant and followed by a vowel (C-V) but never followed by a consonant. The data set below illustrates these observations. Its occurrence in the word final position is also not observed.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
traditional woven bag	phatsa	phatsa	phatsa	phatsa	phatsa	phatsa
goat	ratsa	ratsa	ratsa	ratsa	ratsa	ratsa
blessed water	duitsi	duitsi	duitsi	duitsi	duitsi	duitsi
7th day after death	duntsi	duntsi	duntsi	duntsi	duntsi	duntsi
astrology	kartsi	kartsi	kartsi	kartsi	kartsi	kartsi
central tower	urtse	urtse	urtse	urtse	urtse	urtse

Table 44: / \widehat{ts} / in word medial position.*Affricate, voiceless aspirated / \widehat{ts}^h /*

The aspirated affricate / \widehat{ts}^h / also occurs word initially as well as word medially and doesn't occur word finally. In the word initial environment, it is always followed by a vowel (-V) as evidenced in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
hot (water or food)	tshanma	tshanma	tshanma	tshanma	tshanma	tshanma
sweat	tshatpa	tshatpa	tshatpa	tshatpa	tshatpa	tshatpa
all present	tshang	tshang	tshang	tshang	tshang	tshang
business	tshong	tshong	tshong	tshong	tshong	tshong
orange (fruit)	tshalum	tshalum	tshalum	tshalum	tshalum	tshalum

Table 45: / \widehat{ts}^h / in word initial position.

When occurring word medially it can occur intervocalically (V-V) or be preceded by a consonant and followed by a vowel (C-V). However, it is never followed by a consonant. The data set below shows the occurrence of /tsh/ in the word medial environment.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
hot water	khwetshan	khwetshan	khwetshan	khwetshan	khwetshan	khwetshan
daily	nyintshan	nyintshan	nyintshan	nyintshan	nyintshan	nyintshan
break	bartsham	bartsham	bartsham	bartsham	bartsham	bartsham
adopted child	butshap	butshap	butshap	butshap	butshap	butshap
not only	matshat	matshat	matshat	matshat	matshat	matshat

Table 46: /tsh/ in word medial position.

4.2.1.8 FRICATIVES

Two dental fricatives, the voiceless /s/ and voiced /z/ are observed in all the dialects. In addition, the Kurtöp language also has the palatal voiceless fricative /ʃ/ and the glottal fricative /h/. The latter though is uncommon.

Dental voiceless fricative /s/

The dental voiceless fricative /s/ occurs word initially as well as word medially. However, in the word final position it is only observed in three dialects of Shawa, Gangzur and Tangmachu.

In the word initial position, this fricative is always followed by a vowel (#-V) and does not make any complex onsets as evidenced in the data set below.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
at night/night time	sutla	sutla	sutla	sutla	sunla	sunla
new	sarwa	sarwa	sarwa	sarwa	sarwa	sarwa
three	sum	sum	sum	sum	sum	sum
mind	sem	sem	sem	sem	sem	sem
seed/seedling	sawan	sawan	sawan	sawan	sagon	sagon

Table 47: /s/ in word initial position.

In the word medial position, it occurs mostly in the inter-vocalic environment (V-V) but is also followed by a consonant (V-C) though its occurrence preceded by a consonant or inter-consonantly is not possible because of the phonotactics of the language. The data set below illustrates this.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
knee	pusum	puskum	puskum	puskum	puskum	puskum
today	dasum	dasum	dasum	dasum	dasum	dasum
three times	duisum	duisum	duisum	duisum	duisum	duisum
day after tomorrow	naspung	naspung	naspung	naspung	naskum	naspung

Table 48: /s/ in word medial position.

As mentioned earlier, the word final position is only observed in Shawa, Gangzur, and Tangmachu. Since consonant deletion in word final position is commonly observed across all languages, it is presumed at this stage that the Proto Kurtöp had the coda /s/ which over time has been lost in the dialects of Dungkhar, Zhamling and Nê

and replaced with a lengthened word final vowel as in /mras/ (paddy) to /mrâ/, /yas/ (work) to /yâ/ and /kas/ (ladder) to /kâ/.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
work	yâ	yâ	yas	yâ	yas	yas
ladder	kâ	kâ	kas	kâ	kas	kas
numeral7	'nî	'nî	'nis	'nî	'nîs	'nis
bigger/larger	che	che	ches	che	ches	che
paddy.Pr.Cont.	mrâ	mrâ	mras	mrâ	mras	mras
make	co	co	cos	co	cos	co

Table 49: /s/ in word final position.

Dental voiced fricative /z/

The voiced dental fricative /z/ also occurs word initially and word medially but unlike its voiceless counterpart it doesn't occur word finally. In the word initial position, it is always observed to be followed by a vowel (#-V) and never by a consonant as in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
urine	zengma	zengma	zengma	zengma	zengma	zengma
pinching pain	zer	zer	zer	zer	zer	zer
alcohol	zhor	zhor	zhor	zhor	zhor	zhor
two	zon	zon	zon	zon	zon	zon
mosquito	zendoma	zendoma	zendoma	zendoma	zendoma	zendoma
hold	zong	zong	zong	zong	zong	zong

Table 50: /z/ in word initial position.

However, in the word medial position, contrary to the occurrence of the voiceless /s/ where its occurrence preceded by a consonant has not been observed, there are many occurrences of /z/ being preceded by a consonant (C-) as in /dakzin/ (care) or /mopzang/ (beautiful) and like the /s/ it also occurs intervocally (V-V). No occurrences of /z/ being followed by a consonant or occurring between consonants have been observed.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
tooth pain	kwazer	kwazer	kwazer	kwazer	kwazer	kwazer
medicinal food	'manze	'manze	'manze	'manze	'manze	'manze
didn't make a mistake	mazoi	mazoi	mazoi	mazoi	mazoi	mazoi
care	dakzin	dakzin	dakzin	dakzin	dakzin	dakzin
beautiful/pretty	mopzang	mopzang	mopzang	mopzang	mopzang	mopzang
large pot	wazang	wazang	wazang	wazang	chuzang	wazang

Table 51: /z/ in word medial position.

Palatal fricative low tone /zh/

The palatal fricative /zh/⁵ occurs word initially as well as word medially but never word finally. In the word initial position, it is always followed by a vowel (-V) and ever by a consonant. The data set below illustrates this.

⁵ Hyslop (2017, *inter alia*) analyses this phonemic contrast as a voiceless palatal fricative with following low tone. Acoustic studies (Hyslop 2009, Hyslop and Plane 2024) confirm this and support the hypothesis that Kurtöp is undergoing tonogenesis.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
voluntary work	zhapto	zhapto	zhapto	zhapto	zhapto	zhapto
red	zhinti	zhinti	zhinti	zhinti	zhinti	zhinti
wind	zhilung	zhilung	zhilung	zhilung	zhilung	zhilung
cat	zhimbula	zhimbula	zhimbula	zhimbula	zhumbula	zhimbula
thief	zhundila	zhundila	zhundila	zhundila	zhundila	zhundila
forget	zhit	zhit	zhit	zhit	zhit	zhit

Table 52: /ç/ in word initial position with following low tone

In the word medial position it occurs intervocalically (V-V) or preceded by a consonant and followed by a vowel (C-V). Its occurrence inter-consonantly is not observed. The data set below illustrates these observations.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
behaviour	bezha	bezha	bezha	bezha	bezha	bezha
foundation of a house	'mangzhi	'mangzhi	'mangzhi	'mangzhi	'mangzhi	'mangzhi
confiscate (by govt)	zhungzhe	zhungzhe	zhungzhe	zhungzhe	zhungzhe	zhungzhe
natural	rangzhin	rangzhin	rangzhin	rangzhin	rangzhin	rangzhin
place in Kurtö	serzhong	serzhong	serzhong	serzhong	serzhong	serzhong
respect	guizhap	guizhap	guizhap	guizhap	guizhap	guizhap

Table 53: low-toned /ç/ in word medial position

Palatal fricative /ç/

The palatal fricative /ç/ occurs word initially and word medially and not word finally. When in the word initial environment, it is always followed by a vowel (#-V) and never by a consonant as evidenced in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
shoes	sham	sham	sham	sham	sham	sham
east	shar	shar	shar	shar	shar	shar
lose	shor	shor	shor	shor	shor	shor
sieve	shur	shur	shur	shur	shur	shur

Table 54: /ç/ in word initial position.

When occurring in the word medial environment it can occur inter-vocally as in /choisham/ (alter), or /nyishu/ (four hundred) but can also be preceded by a consonant (C-V) as in /tarshing/ (prayer flag) or /tongshe/ (milk churner) but never followed by a consonant.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
doorsill/doorstep	doshem	doshem	doshem	doshem	dothem	doshem
altar	choisham	choisham	choisham	choisham	choisham	choisham
four hundred	nyishu	nyishu	nyishu	nyishu	nyishu	nyishu
flag/flag pole	tarshing	tarshing	tarshing	tarshing	tarshing	tarshing
milk churner	tongshe	tongshe	tongshe	tongshe	tongshe	tongshe

Table 55: /ç/ in word medial position.

Glottal fricative / h /

There are little occurrence of the voiceless glottal fricative / h / in comparison to the other consonants and (Hyslop, 2011) points to about 30 words in total across the dialects occurring before all the five Kurtöp vowels. (Hyslop, 2011) also points out that in the Nê variety of Kurtöp for example, /h/ is a possible realisation of the voiceless aspirated velar stop /k^h/. This is evident in the work *k^hak* for ‘up’ which is realised as *hak* in the Nê variety.

The data set below shows this consonant variety across the six dialects in word initial position and is always followed by a vowel.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
spade	hêma	hêma	hêma	hêma	hêma	hêma
sling	hurdup	hurdup	hurdup	hurdup	hurdup	hurdup
hiccup	hiktum	hiktum	iktum	hiktum	hiktuma	hiktuma
cucumber salad	hoge	hoge	hoge	hoge	hoge	hoge
oily/greasy	humkhoka	humkhoka	‘numkhoka	humkhoka	humkhoka	‘numkhoka

Table 56: / h / in word initial position.

The occurrence of the glottal fricative in the word medial position is rare, only observed in one word in my data as shown below. (Hyslop, 2011) states that this consonant occurs word finally as well but is a redundant feature and I have not been able to record any entries.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
Bhutanese style accordion	horhoma	horhoma	horhorma	horhoma	horhorma	horhorma

Table 57: / h / in word medial position.

4.2.1.9 LATERALS

Two laterals, dental voiceless / ɭ / and voiced / l / are observed in all the dialects of the Kurtöp.

Lateral voiceless dental / ɭ /

Voiceless dental lateral / ɭ / is observed to occur word initially and word medially but is not observed to occur word finally. In the word initial position it is always followed by a vowel and never by a consonant as illustrated in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
god/deity	lha	lha	lha	lha	lha	lha
temple	lhakhang	lhakhang	lhakhang	lhakhang	lhakhang	lhakhang
annual puja	lhasoi	lhasoi	lhasoi	lhasoi	lhasoi	lhasoi
painting	lhadri	lhadri	lhadri	lhadri	lhadri	lhadri
south	lho	lho	lho	lho	lho	lho

Table 58: / ɭ / in word initial position.

While it is also observed to occur word medially, its occurrence is only observed in words that are most likely borrowings from Dzongkha or have a close Dzongkha construction. In this environment, it is most followed and preceded by a vowel (V-V) or also preceded by a consonant (C-V) but never followed by a consonant. The data set below illustrates this.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
traditional boot	tshôlham	tshôlham	tshôlham	tshôlham	tshôlham	tshôlham

male god/deity	pholha	pholha	pholha	pholha	pholha	pholha
Jumolhari Mountain	Jumolhari	Jumolhari	Jumolhari	Jumolhari	Jumolhari	Jumolhari
literacy	drilhak	drilhak	drilhak	drilhak	drilhak	drilhak
local deity/god	yuilha	yuilha	yuilha	yuilha	yuilha	yuilha
God of Medicine	'manlha	'manlha	'manlha	'manlha	'manlha	'manlha
leftover. Hon	soilhâ	soilhâ	soilhâ	soilhâ	soilhâ	soilhâ

Table 59: /l̥/ in word medial position.

Lateral voiced dental /l/

Voiced dental lateral /l/ occurs word initially, word medially as well as word finally (though it is only observed in words that are likely borrowings from Dzongkha). While occurring word initially it is always followed by a vowel (-V) as in the data set below.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
good	limu	limu	limu	limu	limu	limu
jump	ling	ling	ling	ling	ling	ling
pumpkin	laushar	laushar	laushar	laushar	laushar	laushar
field	leng	leng	leng	leng	leng	leng
body	luspu	luspu	luspu	luspu	luspu	luspu

Table 60: /l/ in word initial position.

It also occurs word medially as in /'molam/, /drola/, /dolom/ where it occurs intervocalically or in /tongla/ or /punla/ where it is also preceded by a consonant (C-V).

But its occurrence followed by a consonant (inter-consonantly) is not observed. The data set below illustrates this.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
aspirational prayer	'molam	'molam	'molam	'molam	'molam	'molam
short work in the morning	drola	drola	drola	drola	drola	drola
rags	tongla	tongla	tongla	tongla	tongla	tongla
egg plant	dolom	dolom	dolom	dolom	dolom	dolom
cousin	punla	punla	punla	punla	punla	punla
wind	zhilung	zhilung	zhilung	zhilung	zhilung	zhilung

Table 61: /l/ in word medial position.

While it is also observed to occur word finally, the data set collected as shown below only include words that are likely borrowings from Dzongkha, as mentioned earlier. I have not observed any native Kurtöp word with this occurrence. In this occurrence it is always preceded by a vowel (V-) as shown below in the data from all the dialects:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
distribute	trampel	trampel	trampel	trampel	trampel	trampel
development	gongphel	gongphel	gongphel	gongphel	gongphel	gongphel
sorrow/worries	dungel	dungel	dungel	dungel	dungel	dungel
magic	'mikthrul	'mikthrul	'mikthrul	'mikthrul	'mikthrul	'mikthrul
relic	ringsel	ringsel	ringsel	ringsel	ringsel	ringsel

Table 62: /l/ in word final position.

4.2.1.10 NASALS

Four nasal sounds are observed in all the Kurtöp dialects, bilabial voiceless /m/, dental voiceless /n/, palatal /ɲ/ and velar /ŋ/.

Bilabial voiceless nasal /m/

The bilabial voiceless /m/ occurs in the onset position as in /mê/ ‘house’, /meme/ ‘grandfather’ or /mangku/ ‘much/many’ and is observed to always follow a vowel (-V) except where it forms the complex onset /mr/, which is discussed separately. The table below illustrates the data for the above in the different dialects.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
house	mê	mê	mê	mê	mê	mê
grandfather	meme	meme	meme	meme	meme	meme
too much	mangku	mangku	mangku	mangku	mangku	mangku
oil/butter	markhu	markhu	markha	markhu	markhu	markhu
down there	mau	mau	mau	mau	mau	mau

Table 63: /m/ in word initial position.

The bilabial nasal also occurs word medially where it occurs in different environments; intervocalically as in /joma/, preceded by a vowel and followed by a consonant (V-C) as in /charyamba/ or preceded by a consonant and followed by a vowel (C-V) as in /tsupmu/. However, its occurrence inter-consonantly has not been observed. The data set below shows the /m/ in the different environments.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
stomach	joma	joma	joma	joma	joma	joma
unripe	'ngunma	'ngunma	'ngunma	'ngunma	'ngunma	'ngunma

lowest rank in armed forces	cuma	cuma	cuma	cuma	cuma	cuma
steep (slope)	tsupmu	tsupmu	tsupmu	tsupmu	tsupmu	tsupmu
three days ago	charyamba	charyamba	charyamba	charyamba	charninma (thininma)	Charyamba
tasty	lemta					

Table 64: /m/ in word medial position.

The bilabial nasal /m/ also occurs word finally as in /nam/ ‘sky’, /pham/ ‘to lose’ or /wâgam/ ‘chin’ where it is always preceded by a vowel (V-). Data from the six dialects are presented in the table below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
knee	pusum	puskum	puskum	puskum	puskum	puskum
shoes	sham	sham	sham	sham	sham	sham
threshold (door)	doshem	doshem	doshem	doshem	dothem	doshem
sky	nam	nam	nam	nam	nam	nam
lose	pham	pham	pham	pham	pham	pham
chin	wâgam	wâgam	wâgam	wâgam	wâgam	wâgam
sky	nam	nam	nam	nam	nam	nam
lose	pham	pham	pham	pham	pham	pham
chin	wâgam	wâgam	wâgam	wâgam	wâgam	wâgam

Table 65: /m/ in word final position.

Complex onset /mʳ/

The only environment in which the bilabial nasal /m/ is followed by a consonant is when it forms the complex onset /mʳ/. This onset is observed in all the dialects. However, as presented in the table below, an inconsistency is observed in the Gangzur dialect where the complex onset is preserved in /mras/ and /mraka/ but is not in /mip/ and /mikchun/. This onset is always followed by a vowel (-V). This cannot be explained at this stage.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
paddy	mrâ	mrâ	mras	mrâ	mras	mras
muddy (dam mraka)	mraka	mraka	mraka	mraka	mraka	mraka
berry	mrip	mrip	mrip	mrip	mip	mrip
???	mrikchun	mrikchun	mrikchun	mrikchun	mikchun	mrikchun

Table 66: /mʳ/ complex onset.

Dental voiceless nasal /n/

Like the bilabial nasal, the dental voiceless /n/ also occurs word initially, word medially and word finally. While occurring word initially it is always followed by a vowel (-V). No occurrence of complex onset with this consonant has been observed. The data set below shows the occurrence of /n/ in the word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
Sun	ne	ne	ne	ni	ni	ni
cattle	nor	nor	nor	nor	nor	nor
seven	'nî	'nî	'nis	'nî	'nis	'nis
stretch	nar	nar	nar	nar	nar	nar
sky	nam	nam	nam	nam	nam	nam

aunty (father's female siblings and wives of mother's male siblings)	nene	nene	nene	nene	nene	nene
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Table 67: /n/ in word initial position.

While occurring word medially, it is observed to occur intervocalically in most instances though it can also be preceded by a consonant (C-V) as in /charnin/ or followed by one (V-C) as in /phinjur/ but not observed to occur inter-consonantly.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
aunty (father's female siblings and wives of mother's male siblings)	nene	nene	nene	nene	nene	nene
Cereals for Religious Purpose	prûna	prûna	prûna	druna	druna	brûna
day before yesterday	charnin	charnin	charnin	charnin	charning	charnin
3 years ago	chining	chining	chining	chining	chining	chining
mistake	phinjur	phinjur	phinjur	phinjur	phinjur	phinjur

Table 68: /n/ in word medial position.

In word final environment, the dental voiceless nasal is always preceded by a vowel (V-) and never by a consonant, as in the data below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
seed	sawan	sawan	sawan	sawan	sagon	sagon
fault	con	con	con	con	con	con
friend	gon	gon	gon	gon	gon	gon
King	pon	pon	pon	pon	pon	pon

medicine	'man	'man	'man	'man	'man	'man
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Table 69: /n/ in word final position.

Palatal nasal /ɲ/

The palatal nasal /ɲ/ also occurs word initially and word medially. However, unlike the bilabial and dental nasals, the palatal nasal doesn't occur in the word final position, nor does it combine to form a complex onset. While occurring word initially it is always followed by a vowel (-V).

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
get	nyang	nyang	nyang	nyang	nyang	nyang
less	nying	nying	nying	nying	nying	nying
fat	nyam	nyam	nyam	nyam	nyam	nyam
sweet	nyokta	nyokta	nyokta	nyokta	nyokta	nyokta
black	nyunti	nyunti	nyunti	nyunti	nyunti	nyunti

Table 70: /ɲ/in word final position.

Word medially, the palatal nasal mostly occurs intervocalically (V-V). While it is also observed to be preceded by a consonant in rare cases such as in /sernya/ 'golden fish', it can however be disputed that these are two words /ser/ meaning 'gold' and /nya/ meaning 'fish'. It is never followed by a consonant as in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
didn't get/receive	manyang	manyang	manyang	manyang	manyang	manyang
golden fish	sernya	sernya	sernya	sernya	sernya	sernya
	jânye	jânye	jânye	jânye	jânye	jânye

monk/laymonk beggar	soinyumpa	soinyumpa	soinyumpa	soinyumpa	soinyumpa	soinyumpa
type of cymbal	sinyen	sinyen	sinyen	sinyen	sinyen	sinyen

Table 71: /p/ in word medial position.

Velar nasal /ŋ/

Like the other nasal sounds in the language the velar nasal /ŋ/ also occurs word initially, word medially and word finally. While occurring word initially it is always followed by a vowel (-V) and never by a consonant as in the data set below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
strong/hard	ngarma	ngarma	ngarma	ngarma	ngarma	ngarma
shin	ngardong	ngardong	ngardong	ngardong	ngardong	ngardong
temper	ngar	ngar	ngar	ngar	ngar	ngar
drum	nga	nga	nga	nga	nga	nga
real	ngôma	ngôma	ngôma	ngôma	ngôma	ngôma

Table 72: /ŋ/ in word initial position.

While occurring word medially, the nasal is always preceded by a vowel (V-) but can be followed by a consonant (V-C) as in /mangku/ ‘plentiful’ or by a vowel, intervocalically (V-V) as in /mangu/ ‘don’t do IMP’. The data set below illustrates these occurrences:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
lengthy/tall	ringku	ringku	ringku	ringku	ringku	ringku
more (comparative)	mangku	mangku	mangku	mangku	mangku	mangku

throat	olongma	olongma	olongma	olongma	oitong	olongma
alder tree	kesengma	kesengma	kesengma	kesengma	kesengma	kesengma
don't do	mangu					

Table 73: /ŋ/ in word medial position.

While occurring word finally the velar nasal /ŋ/ is always preceded by a vowel (V-) as illustrated in the table below:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
one	bleng	bleng	bleng	bleng	bleng	bleng
uncle	ashang	ashang	ashang	ashang	ashang	ashang
pot hole	wang	wang	wang	wang	wang	wang
gather	phong	phong	phong	phong	phong	phong
scold	brong	brong	brong	brong	brong	brong
deaf	wuntong	wuntong	wuntong	wuntong	wuntong	wuntong

Table 74: /ŋ/ in word final position.

Velar nasal /ŋ/ with diphthong /ui/

One word with the velar nasal /ŋ/ is followed by the diphthong /ui/ to form /ŋui/ ‘buy’ has been observed. Apart from this no other word has been observed. /ŋuikhan/ ‘buyer’ takes the root word /ŋui/. This is often pronounced as /ngwi/ and /ngwikhan/ like a complex onset of the velar nasal /ng/ followed by the glide /w/.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
buy	ngui	ngui	ngui	ngui	ngui	ngui
buyer	nguikhan	nguikhan	nguikhan	nguikhan	nguikhan	nguikhan

Table 75: /ŋui/ complex onset.

4.2.1.11 RHOTIC

Only the dental rhotic /r/ is observed in Kurtöp language and occurs word initially, word medially as well as word finally.

Dental rhotic /r/

In the word initial position, it is always followed by a vowel (-V) and doesn't combine as a complex onset with any other consonant.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
bone	rospa	rospa	rospa	rotpa	rospa	rospa
landslide	rothpa	rothpa	rothpa	rothpa	rothpa	rothpa
round	rilum	rilum	rilum	rilum	rilum	rilum
long/lengthy	ringku	ringku	ringku	ringku	ringku	ringku
goat	ratsa	ratsa	ratsa	ratsa	ratsa	ratsa

Table 76: /r/ in word initial position.

While occurring word medially it always occurs intervocally (V-V) except in cases where it forms a complex with /p/ to /pr/, /ph/ to /phr/ or /m/ to /mr/ or /b/ to /br/.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
women's dress	kira	kira	kira	kira	kira	kira
Cereals for Religious Purpose	prûna	prûna	prûna	druna	druna	brûna
eleven	chauri	chauri	chauri	chauri	chaure	chauri
ox	bari	bari	bari	bari	bari	bari
we	nera	nera	nera	nera	nera	nera

Table 77: /r/ in word medial position.

When occurring word finally it is always preceded by a vowel (V-) and never by a consonant.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
water cannal	yur	yur	yur	yur	yurkha	yurba
load	khör	khör	khör	khör	khör	khör
cattle	nor	nor	nor	nor	nor	nor
alcohol	zhör	zhör	zhör	zhör	zhör	zhör
gold	ser	ser	ser	ser	ser	ser

Table 78: /r/ in word final position.

4.2.1.12 GLIDES

The bilabial glide /w/ and palatal glide /j/ are confirmed to be present in all the dialects of Kurtöp and is observed to occur only word initially and word medially.

Bilabial glide /w/

In the word onset position the bilabial glide is always followed by a vowel (-V). It doesn't combine to form a complex onset. The data set below illustrates this.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
lower side	wako	wako	wako	wako	wako (yosto)	wako
bear	wam	wam	wam	wam	wam	wam
yes (agreement)	wen	wen	wen	wen	wen	wen
tub	wa	wa	wa	wa	wa	wa
this much	wakso	wakso	wakso	wakso	wakso	wakso
earring	wancung	wancung	wancung	wancung	wancung	wancung
back on the same day	wanlo	wanlo	wanlo	wanlo	wanlo	wanlo

Table 79: /w/ in word initial position.

Word medially, the bilabial glide occurs more commonly intervocally (V-V) but can also be preceded by a consonant (C-V) as in /shirwa/ (wet) but never followed by one.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
seed	sawan	sawan	sawan	sawan	sawan	sawan
bamboo torch	pewan	pewan	pewan	pewan	pêban	pewan
eagle	kawa	kawa	kawa	kawa	kawa	kawa
hope	rewa	rewa	rewa	rewa	rewa	rewa
chaff	phoiwa	phoiwa	phoiwa	phoiwa	phaiba	phoiwa

wet	shirwa	shirwa	shirwa	shirwa	shirba	shirwa
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Table 80: /w/ in word medial position.

Palatal glide /j/

Like the bilabial glide, the palatal glide /j/ also only occurs word initially and word medially. The environment of occurrence is similar to the bilabial glide where in the word initial position it is always followed by a vowel (-V) and doesn't form a complex onset as shown in the data set below.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
hand	yâ	yâ	yâ	yâ	yâ	yâ
water canal	yur	yur	yur	yur	yurkha	yurba
scarf	yapma	yapma	yapma	yapma	yamba	yapma
five	yanga	yanga	yanga	yanga	yanga	yanga
path	yam	yam	yam	yam	yam	yam
letter	yigu	yigu	yigu	yigu	yigu	yigu
water offering	yonchap	yonchap	yonchap	yonchap	yonchap	yonchap

Table 81: /j/ in word initial position.

In the word medial position, it is also common to occur intervocalically (V-V), though there are also occurrences of being preceded by a consonant as in /'neryang/ (angry) –But never followed by a consonant as illustrated in the data set below.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
angry	'neryang	'neryang	'neryang	'neryang	'neryang	'neryang
fodder grass	tiya	tiya	tiya	tiya	tiwa	tiwa

piglets	phauya	phauya	phauya	phauya	phauya	phauya
measuring cup	phuya	phuya	phuya	phuya	phuya	phuya
calf	bauya	bauya	bauya	bauya	bauya	bauya
radish	muya	muya	muya	muya	muya	muya

Table 82: /j/ in word medial position.

The table below summarizes the occurrences of all the Kurtöp consonants in the word initial, medial and final positions.

Consonant	Word Initial Env.	Word Medial Env.	Word Final Env.
p	Yes	Yes	Yes
pr	Yes	No	No
p ^h	Yes	Yes	No
p ^h r	Yes	No	No
b	Yes	Yes	No
bj	Yes	No	No
bl	Yes	No	No
br	Yes	No	No
t	Yes	Yes	Yes
t ^h	Yes	Yes	No
d	Yes	Yes	No
t	Yes	Yes	No
t ^h r	Yes	Yes	No
dr	Yes	Yes	No
c	Yes	Yes	No
c ^h	Yes	Yes	No
ɟ	Yes	Yes	No

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k	Yes	Yes	Yes
kw	Yes	No	No
k ^h	Yes	Yes	No
k ^h w	Yes	No	No
g	Yes	Yes	No
gw	Yes	No	No
ʔ			Yes
ts̄	Yes	Yes	No
ts ^h ̄	Yes	Yes	No
s	Yes	Yes	Yes
z	Yes	Yes	No
z ^h	Yes	Yes	No
f	Yes	Yes	No
h	Yes	Yes	?
l	Yes	Yes	Yes
l̥	Yes	Yes	No
m	Yes	Yes	Yes
mr	Yes	No	No
n	Yes	Yes	Yes
ɲ	Yes	Yes	No
ŋ	Yes	Yes	Yes
ŋw	Yes	No	No
r	Yes	Yes	Yes
w	Yes	Yes	No
j	Yes	Yes	No

Table 83: Occurrence of Kurtöp Consonants in the different positions

In summary, all the consonants occur in the word initial position and word medial position. However, the complex onsets neither occur in the word medial position nor in the word final position. Most consonants don't occur in the word final position except for the voiceless stops /p/, /t/, /k/; fricative /s/; lateral /l/ and the rhotic /r/. Among the four nasals the bilabial /m/, alveolar /n/ and the velar /ŋ/ occur word finally but the palatal /ɲ/ doesn't.

4.2.2 VOWELS

All the five vowels (front open /i/, close-mid front /e/, mid low /ɐ/, back close-mid rounded /o/ and back close rounded /u/) are observed in all the dialects and occur in the exact same environment- in the word initial position the vowels are followed by a consonant (-C), while in the word medial position they always occur inter-consonantly (C-C) and in the word final position they are always preceded by a consonant (C-). Educated speakers and those influenced by Dzongkha also use the front vowels.

Following is the data for the vowels:

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
cooked rice/food	ipa	ipa	ipa	ipa	ipa	ipa
hide	im	im	im	im	im	im
at all costs, by all means	inci minci	inci minci	inci minci	inci minci	inci minci	inci minci
to put it on something	ik	ik	ik	ik	ik	ik

Table 84: /i/ in word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
fodder grass	tiya	tiya	tiya	tiya	tiwa	tiwa

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same as	sisa	sisa	sisa	sisa	shisa	sispa
two days after tomorrow	dispung	dispung	dispung	dispung	diskum	diskum
terraced paddy field	aring	aring	aring	aring	aring	aring
long/lengthy	ringku	ringku	ringku	ringku	ringku	ringku
short	thingku	thingku	thingku	thingku	thingku	thingku

Table 85: /i/ in word medial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
ox (<i>Jatsham</i>)	bari	bari	bari	bari	bari	bari
dog	khwi	khwi	khwi	khwi	khwi	khwi
numeral7	'nî	'nî	'nis	'nî	'nîs	'nis
let's go	geci	geci	geci	geci	geci	geci
bow	limi	limi	limi	limi	limi	limi
eyes	mî	mî	mî	mî	mî	mî

Table 86: /i/ in word final position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
how?	enji	enji	enji	enji	enji	enji
exclamation when seeing sth dirty or sth that you dislike/disapprove of	eke	eke	eke	eke	eke	eke
who	eri	eri	eri	eri	eri	eri

to lie flat	ebaling	ebaling	ebaling	ebaling	ebaling	ebaling
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Table 87: /e/ in word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
let's go	geci	geci	geci	geci	geci	geci
baby talk	ceskat	ceskat	ceskat	ceskat	ceska	ceskat
free/idle	dewa	dewa	dewa	dewa	deba	deba
shadow	drem	drem	drem	drem	drem	drem
(I/we/they) controlled (applied restrain)	zem	zem	zem	zem	zem	zem

Table 88: /e/ in word medial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
house	mê	mê	mê	mê	mê	mê
one	thê	thê	thê	thê	thê	thê
Buddha	Sanje	Sanje	Sanje	Sanje	Sanje	Sanje
central tower	urtse	urtse	urtse	urtse	urtse	urtse
go IMP	gile	gile	gale	gile	gale	gile

Table 89: /e/ in word final position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
uncle (mother's brother or father's sisters' husband)	ashang	ashang	ashang	ashang	ashang	ashang

how	ator	ator	ator	ator	ator	ator
lady	ashi	ashi	ashi	ashi	ashi	ashi
father's brothers or mother's sisters' husband	aku	aku	aku	aku	aku	aku
woven belt	atsing	atsing	atsing	atsing	atsing	atsing

Table 90: /ɛ/ in word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
ox (<i>Jatsham</i>)	bari	bari	bari	bari	bari	bari
shoes	sham	sham	sham	sham	sham	sham
oil/butter	markhu	markhu	markha	markhu	marku	markhu
number	drangkha	drangkha	drangkha	drangkha	drangkha	drangkha
seed/seedling	sawan	sawan	sawan	sawan	sagon	sagon

Table 91: /ɛ/ in word medial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
stomach	joma	joma	joma	joma	joma	joma
same as	sisa	sisa	sisa	sisa	shisa	sispa
men's dress	chupa	chupa	chupa	chupa	chupa	chupa
fodder grass	tiya	tiya	tiya	tiya	tiwa	tiwa
clothing	atsa	atsa	atsa	atsa	atsa	atsa

Table 92: /ɛ/ in word final position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
bring	oth	oth	oth	oth	oth	oth
throat	olongma	olongma	olongma	olongma	oitong	olongma
socks	omso	omso	omso	omso	omso	omso
well/good	otoka	otoka	otoka	otoka	otoka	otoka
fall facing down	op	op	op	op	op	op

Table 93: /o/ in word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
alcohol	zhor	zhor	zhor	zhor	zhor	zhor
bone	rospa	rospa	rospa	rotpa	rospa	rospa
cattle	nor	nor	nor	nor	nor	nor
taste	prowa	prowa	prowa	prowa	prowa	drobja
sleep	goma	goma	goma	goma	gomba	gomba

Table 94: /o/ in word medial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
snake	po	po	po	po	po	po
feather	dro	dro	dro	dro	dro	dro
six	drô	drô	drô	drô	drô	drô

stupid	kukpa	kukpa	kukpa	kukpa	kukpa	kukpa
splinter chip	zhoko	zhoko	zhoko	zhoko	zhoko	zhoko

Table 95: /o/ in word final position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
persist	utsu	utsu	utsu	utsu	utsu	utsu
blowing horn	um	um	um	um	um	um
frustrate	ugam	ugam	ugam	ugam	ugam	ugam
apply (cream medicine etc	ur	ur	ur	ur	ur	ur
porcupine	usila	usila	usila	usila	usila	usila

Table 96: /u/ in word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
garden	durma	durma	durma	durma	dumbara	dumra
knee	pusum	puskum	puskum	puskum	puskum	puskum
killed	sut	sut	sut	sut	sut	sut
send	kut	kut	kut	kut	kut	kut
men's dress	chupa	chupa	chupa	chupa	chupa	chupa

Table 97: /u/ in word medial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
father's brothers or mother's sisters' husband, stepfather	aku	aku	aku	aku	aku	aku
milk	ju	ju	ju	ju	ju	ju
blue	jangku	jangku	jangku	jangku	jangku	jangku
go. Imp	gilu	gilu	gilu	gilu	galo	gilu
long/lengthy	ringku	ringku	ringku	ringku	ringku	ringku

Table 98: /u/ in word final position.

Diphthongs

Four diphthongs /ɐu/, /iu/, /ui/, and /oi/ have been observed in the Kurtöp language. The diphthong /ɐu/ is observed in the word initial, word medial as well as word final positions as shown in the data below. In the word initial position, the diphthong is always followed by a consonant except in /au/ which is a standalone question word meaning ‘when’.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
where	au	au	au	au	au	au
where going	augemale	augemle	augemale	augemle	augemale	augemle
sister (elder)	auwa	auwa	auwa	auwa	auwa	auwa
somewhere	audi	audi	audi	audi	audi	audi

Table 99: /ɐu/ in word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
calf	bauya	bauya	bauya	bauya	bauya	bauya
twelve	chau'ni	chau'ni	chanu'nis	chau'ni	chau'nis	chau'nis
thick	brauki	brauki	brauki	brauki	brauki	brauki
crow	kauling	kauling	kauling	kauling	kawaling	Kawaling
new bud of a fruit	thauli	thauli	thauli	thauli	thauli	thauli

Table 100: /ɛu/ in word medial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
up	yau	yau	yau	yau	yau	'yau
down	mau	mau	mau	mau	mau	'mau
fried egg (for kids)	kau	kau	kau	kau	kau	Kau
large bowl	tau	tau	tau	tau	tau	tau

Table 101: /ɛu/ in word final position.

In comparison, the diphthong /iu/ only occurs word medially and word finally. While occurring word medially, the diphthong always occurs inter-consonantly and when occurring word finally it always follows a consonant.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
grand daughter	diumi	diumi	diumi	diumi	dibumi	diumi

mangoose	niuli	niuli	niuli	niuli	niuli	niuli
wild garlic	kiuya	kiuya	kiuya	kiuya	kiula	kiuya
octopus (from Dzongkha?)	tshiuradu	tshiuradu	tshiuradu	tshiuradu	tshewaradu	tshiuradu

Table 102: /iu/ in word medial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
bullet/grandson	diu	diu	diu	diu	dibu	diu
local festival	priu	priu	priu	priu	priu	priu
bird chirping	ciuciu	ciuciu	ciuciu	ciuciu	ciuciu	ciuciu
pheasant	riu	riu	riu	riu	riu	riu
nit	'riu	'riu	'riu	'riu	'riu	'liu
dance steps	liu	liu	liu	liu	liu	liu

Table 103: /iu/ in word final position.

The diphthong /ui/ only occurs word finally and always follows a consonant.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
search	tshui	tshui	tshui	tshui	tshui	tshui
offer	phui	phui	phui	phui	phui	phui
sell	'mui	'mui	'mui	'mui	'mui	'mui
drag	'rui	'rui	'rui	'rui	'rui	'rui

bamboo type	ru	ru	ru	ru	ru	ru
loss	gu	gu	gu	gu	gu	gu
cow herder	nordui	nordui	nordui	nordui	nordi	nordi

Table 104: /ui/ in word final position.

And the diphthong /oi/ also mostly observed to occur word finally, though two words with its occurrence word initially has been observed in which one is followed by a consonant as in /oiwa/ ‘muddy water’ and one is a standalone word /oi/ which is a causal way of calling someone, perhaps equivalent to English ‘hey’.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
muddy water	oiwa	oiwa	oiwa	oiwa	oiba	oiwa
casually calling someone (younger)	oi	oi	oi	oi	oi	oi

Table 105: /oi/ in word initial position.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
eat/drink Hon.	soi	soi	soi	soi	soi	soi
to make/give work	koi	koi	koi	koi	koi	koi
tease	droi	droi	droi	droi	droi	droi
roll	toi	toi	toi	toi	toi	toi
tradition/culture	luksoi	luksoi	luksoi	luksoi	luksoi	luksoi

Table 106: /oi/ in word final position.

4.2.2 TONE AND VOWEL LENGTH

Kurtöp tone is contrasted on initial syllables following sonorant and palatal fricative consonants as in *méŋ* for ‘crowd’ *mèŋ* for excessive and *çém* for shoes and *çèm* for a ‘man’s length measurement’. In the obstruents, high tone is observed following voiceless initials and low tone following voiced as in *pé:* for ‘meat slice’ and *bè* for ‘target’, and *té* for color and *dè* for praise or appreciation. Hyslop (2009) uses acoustic and comparative data to argue that tone has first developed in Kurtöp following the sonorant consonants and is now in the process of phonologizing following the obstruents, with the voicing contrast first neutralising following the palatal fricatives (following the expected pattern first observed by Maspero (1912) and later substantiated and expanded by Haudricourt (1954), Hombert (1978), inter alia, in which voiced initial condition low tone and voiceless initials condition high tone).

More specifically, the high or low tone following the sonorants in Kurtöp has developed as a result of historically present onset clusters where the first member was a voiceless stop. Hyslop (2009, 2017) explains this by giving examples in Written Tibetan (WT) and Proto East Bodish (PEB) where the complex onsets in these languages are reduced and replaced with a high tone on the following nucleus (e.g. where the WT for nose is <*sna*> while in Kurtöp is *né* and the word for hair in PEB is **kra* whereas it is *rè* in Kurtöp). Hyslop (2017) further adds that just as tone phonologized after sonorant consonants, voicing contrast in palatal fricatives collapsed and was replaced by tonal contrast.

The existence of vowel length in Kurtöp is not a saliently observable feature but where there is, it is likely a result of loss of consonant in the coda position. Hyslop (2017) assesses this diachronically and illustrates through examples of the words for ‘pig’, ‘tiger’ and ‘pour’ in the Kurtöp and Written Tibetan (WT), which are <*phags*>, <*stag*>, <*glug*> and in WT, and the Kurtöp words are *p^hé:*, *té:*, and *jó:* respectively, wherein all three words have lost their consonants or suffixes in the coda position and made up for the loss by vowel lengthening. Generally, as evident from discussions above East Bodish languages are being influenced more and more by Dzongkha and this has also been highlighted by Bosch (2016).

4.2.3 VARIATION

In this section I examine the variation that was found between the dialects.

4.2.3.1 CODA /s/

Coda /s/ has been observed in the three dialects of Shawa, Gangzur and Tangmachu as in the data set below in place of the lengthened vowel in Dungkhar, Zhamling and Nê.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
work	yâ	yâ	yas	yâ	yas	yas
ladder	kâ	kâ	kas	kâ	kas	kas
paddy	mrâ	mrâ	mräs	mrâ	mräs	Mras
barley	nâ	nâ	nas	nâ	nas	nas

Table 107: Coda /s/.

Similarly, in the next data set below, /s/ word medially is observed again in the Shawa Gangzur and Tangmachu in the present continuous forms of verbs. However, in the plain verb form as in /ni/ ‘stay’ or /so/ ‘feed’, /go/ ‘need’, /ra/ ‘coming’ and /zu/ ‘eat’, the corresponding words in Shawa, Gangzur and Tangmachu are not with coda /s/ and this occurrence is only observed word medially in the present continuous form. For instance, the imperative forms for the verbs are not nisye, or sosye or zusye in the dialects above.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
staying.Pr.Cont.	nîta	nîta	nista	nîta	nista	nista
Feeding a baby.Pr.Cont.	sôta	sôta	sosta	sôta	sosta	sosta
need...required .Pr.Cont.	gôta	gôta	gosta	gôta	gosta	gosta

coming.Pr.Cont.	râta	râta	rasta	râta	rasta	rasta
eat.Pr.Cont.	zûta	zûta	zusta	zûta	zusta	zusta

Table 108: /s/ in word medial position.

Sound Correspondence Ø: Ø: s: Ø: s: s:

My hypothesis is that the Proto Kurtöp consisted of the coda /s/ which has been, over time, lost or replaced by vowel lengthening.

*s > s in Shawa, Gangzur, Tangmachu

*s > Ø in Dungkhar, Zhamling and Nê

Based on the observation above, it can also be concluded that Dungkhar, Zhamling and Nê are closer together as dialects and as perhaps Shawa, Gangzur and Tangmachu.

4.2.3.2 GLIDES /J/ AND /W/

The word for fodder grass is /tiya/ in Dungkhar, Zhamling, Shawa and Nê. However, the palatal glide /y/ is replaced by the bilabial glide /w/ in Gangzur and Tangmachu and the corresponding word is /tiwa/. I then looked at similar words like the words for ‘bed bugs’ and ‘rat’ to check for consistency. Apart from the three I did not observe any other words. The word for ‘bed bug’ in Dungkhar, Zhamling, Shawa and Nê are /’liya/. As expected, the corresponding word in Gangzur was /’liwa/ but it remained as /’liya/ in Tangmachu. Similarly, the word for ‘rat’ is /’ngiya/ in Dungkhar, Zhamling, Shawa and Nê and is /’ngiwa/ in Gangzur but yet again it is /’ngiya/ in Tangmachu and not /’ngiwa/.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
fodder grass	tiya	tiya	tiya	tiya	tiwa	tiwa
bed bug	'liya	'liya	'liya	'liya	'liwa	'liya
rat	'ngiya	'ngiya	'ngiya	'ngiya	'ngiwa	'ngiya

Table 109: Glides /y/ to /w/

Sound correspondence: y: y: y: y: w: w:

I hypothesize that the Proto Kurtöp words were *tiya, *'liya and *'ngiya and Gangzur most likely was influenced by Chocangaca since the language have cognates with /w'/. However, even though Tangmachu shares closer proximity to Chacangaca speakers and is observed to have generally more influence, it is interesting that it hasn't been in this case.

4.2.3.3 GLIDE /W/ AND VELAR /G/

Another allophonic observation is also made in the words for 'seed', 'bamboo fire torch' and 'cucumber'. In Dungkhar, Zhamling, Shawa and Nê the corresponding words are /sawan/, /pewan/ and /kawan/ where as in Gangzur and Tangmachu are /sagon/, /peban/ and /kagon/. These are again expected since these are similar to corresponding words in Chocangaca which are /sagon/, /peban/ and /gagon/. So the words in Proto Kurtöp are /*sawan/, /*pewan/ and /*kawan/.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
seed	sawan	sawan	sawan	sawan	sagon	sagon
bamboo fire torch	pewan	pewan	pewan	pewan	peban	peban

cucumber	kawan	kawan	kawan	kawan	kagon	kagon
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Table 110: Glide /w/ and Velar /g/ and bilabial /b/

4.2.3.4 SOUND CORRESPONDENCES OBSERVED DURING RECONSTRUCTION FOR FLAURA AND FAUNA.

During the reconstruction and comparison of the data from the different varieties, some sound correspondences were observed to be significant. This is presented in the table below. I then attempted to collect further data to form cognate sets and ascertain whether they are regular sound changes within the language or random.

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
shorter bean known as sem in Dz.	shauli	shauli	shauli	shauli	shauling	shauling
<i>Sound Correspondence</i>	∅	∅	∅	∅	ŋ	ŋ
turnip	yumang	yumang	yumang	yumang	yusmang	yumang
<i>Sound Correspondence</i>	∅	∅	∅	∅	s	∅
scallion type	kiuya	kiuya	kiuya	kiuya	kiula	kiula
<i>Sound Correspondence</i>	j	j	j	j	l	l
cucumber	kawan	kawan	kawan	kawan	kagon	kagon
<i>Sound Correspondence</i>	w	w	w	w	g	g
bamboo type	phan	phan	phan	pchan	phran	phran
<i>Sound Correspondence</i>	ph	ph	ph	pch	phr	phr
pomelo	kapula	kapula	kapula	kapula	kapila	kapula

<i>Sound Correspondence</i>	<i>u</i>	<i>u</i>	<i>u</i>	<i>u</i>	<i>i</i>	<i>u</i>
mariwana	'na'lingpa	'nalipa	'na'limpa	'na'limpa	'nalumpa	'nalumpa
<i>Sound Correspondence</i>	<i>ŋ</i>	<i>∅</i>	<i>m</i>	<i>m</i>	<i>m</i>	<i>m</i>
<i>Sound Correspondence</i>	<i>i</i>	<i>i</i>	<i>i</i>	<i>i</i>	<i>u</i>	<i>u</i>
herb type	tanglungma	tangrungma	tanglungma	tanglungma		
<i>Sound Correspondence</i>	<i>l</i>	<i>r</i>	<i>r</i>	<i>l</i>		
plant type, similar to namnampa.	'nyomseng	'nomseng	'nomseng	'nomseng	'nomseng	'nomseng
<i>Sound Correspondence</i>	<i>ɲ</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>	<i>n</i>
tree type	bramseng	branseng	bramseng	bramseng	branseng	branseng
<i>Sound Correspondence</i>	<i>m</i>	<i>n</i>	<i>m</i>	<i>m</i>	<i>n</i>	<i>n</i>
Rising Cupped Oak	sela	sela	sela seng	sela seng	sela seng	sila seng
<i>Sound Correspondence</i>	<i>e</i>	<i>e</i>	<i>e</i>	<i>e</i>	<i>e</i>	<i>i</i>
weed/grass type	zhungzhungma	zhongroma	zhongruma	zhongruma	zhungzhungma	zhongar seymo
<i>Sound Correspondence</i>	<i>zh</i>	<i>r</i>	<i>r</i>	<i>r</i>	<i>zh</i>	
<i>Sound Correspondence</i>	<i>u</i>	<i>o</i>	<i>o</i>	<i>o</i>	<i>u</i>	<i>o</i>

Table 111: Sound Correspondences

Of the sound correspondences above I have been able to confirm that fricative /s/ word medially and sound change from glide /w/ to velar /g/ is regular as discussed earlier and as shown again in the data sets below and I conclude that Gangzur and Tangmachu varieties to take the velar /g/ and bilabial /b/ in place of the glide /w/ as also discussed above:

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
cucumber	kawan	kawan	kawan	kawan	kagon	kagon
seedling	sawan	sawan	sawan	sawan	sagon	sagon
bamboo fire torch	pewan	pewan	pewan	pewan	peban	peban

Table 112: Glide /w/ to velar /g/ and bilabial /b/

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
turnip	yumang	yumang	yumang	yumang	yusmang	yumang
happy.Pr.Cont.	gâta	gâta	gasta	gâta	gasta	gasta
to report/say. Hon..Pr.Cont.	zhûta	zhûta	zhusta	zhûta	zhusta	zhusta
monks	chôpa	chôpa	chospa	chôpa	chospa	chospa
gift	chôma	chôma	chôma	chotma/chôma	chotma	chôma
going.Pr.Cont.	gêta	gêta	gêta	gêta	gesta	gesta
eating.Pr.Cont.	zûta	zûta	zusta	zûta	zusta	zusta

Table 113: Fricative /s/ word medially

As evident from the table above, Gangzur and Tangmachu has fricative /s/ word medially which is lost in the other varieties and replaced with vowel lengthening. There are some inconsistencies in the words such as *chôma* ‘gift’ which should have been *chosma* in Gangzur and Tangmachu but it isn’t. Shawa variety has the fricative /s/ word medially for *zhusta* ‘to report/say. Hon.Pr.Cont.’; *gasta* ‘happy.Pr.Cont.’; *chospa* ‘monks’ and *zusta* ‘eat.Pr.

Cont.’ but it isn’t the case for *yumang* ‘turnip’ and the other entries as shown in the table above. As in the case of coda /s/, I conclude that Shawa variety has the word medial /s/ as well but some of the words are influenced by neighbouring varieties.

Then I have the data sets for some other sound correspondences as shown below but are not consistent or regular. Gangzur and Tangmachu varieties have the word final velar nasal /ŋ/ in *shauling* ‘bean type’ but it is not consistent in other words with similar construct environment such as for *pauli* ‘unripe little fruit’. For *kauling* ‘crow’, it is interestingly the exact opposite. Gangzur and Tangmachu varieties don’t have the word final velar nasal while Dungkhar, Zhاملeng, Shawa and Nê variety does. It is therefore inconsistent to draw any conclusions.

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
shorter bean known as sem in Dz.	shauli	shauli	shauli	shauli	shauling	shauling
unripe little fruit	pauli	pauli	pauli	pauli	pauli	pauli
crow	kauling	kauling	kauling	kauling	kauli	kauli

Similarly, the sound change from palatal approximant /j/ to lateral /l/ or vice versa is also not conclusive as this is not evident in words for *phauya* ‘piglet’, *bauya* ‘calf’ and *daula* ‘orphan’ as shown in the table below:

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
scallion type	kiuya	kiuya	kiuya	kiuya	kiula	kiula
piglet	phauya	phauya	phauya	phauya	phauya	phauya
calf (animal)	bauya	bauya	bauya	bauya	bauya	bauya
orphan	daula	daula	daula	daula	daula	daula

The sound change for lateral /l/ to rhotic /r/ or vice versa is also not conclusive as there are not enough data available in the language to draw a conclusive comparison. The Zhamleng and Shaw varieties have /r/ in place of /l/ in Dungkhar and Nê varieties in the word for a herb type whereas respondents from Gangzur and Tangmachu couldn't identify this plant. In a similarly constructed word for bamboo plate, Zhamleng has it as *tanglup* as opposed to the expected *tangrup* as in Shawa. Gangzur and Tangmachu has it as *tangrup* as well. It is likely that the lateral /l/ in Dungkhar and Nê varieties is realised as the rhotic /r/ in this environment in the other varieties there are not enough words/data in the language to conclusively corroborate this claim.

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
herb type	tanglungma	tangrungma	tangrungma	tanglungma		
bamboo plate	tanglup	tanglup	tangrup	tanglup	tangrup	tangrup

Another interesting sound correspondence is /ph/ in Dungkhar, Zhamleng and Shawa, corresponding to /pch/ in Nê and /phr/ in Gangzur and Tangmachu as in the word for a bamboo type as shown in the table below. However, this is not consistent as in the words for *phak* 'to separate', *phan* 'benefit', *phat* 'to be okay', or *pham* 'to be defeated'. So, I conclude that this is not a regular sound change. Interestingly the word with the complex onset 'phr' such as *phrum* 'cottage cheese', *phruk* 'to snatch' *phret* 'to tear' are consistent throughout the varieties and have it in all as evident in the table below.

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
bamboo type	phan	phan	phan	pchan	phran	phran
to separate	phak	phak	phak	phak	phak	phak
to be okay	phat	phat	phat	phat	phat	phat
benefit/cure	phan	phan	phan	phan	phan	phan
be defeated/to lose	pham	pham	pham	pham	pham	pham
cottage cheese	phrum	phrum	phrum	phrum	phrum	phrum

to snatch with force	phruk	phruk	phruk	phruk	phruk	phruk
to tear	phret	phret	phret	phret	phrat	phrat

For the rest of the sound correspondences there are no cognates for comparison in the language and no conclusions can be drawn.

The above data and discussions indicate that Gangzur and Tangmachu are closer related dialects as compared to the other Kurtöp dialects or in other words they are influenced more by the neighbouring language of Chocangaca. This is not surprising in that these two places share geographical boundaries with speakers of other languages such as Chocangaca, Tshangla and Dzala whereas the other four are surrounded by communities/villages consisting of more homogenous Kurtöp speakers. It is therefore likely that the dialects of Gangzur and Tangmachu may contain more borrowings or influences from the other surrounding languages.

In general, in terms of phonology, Kurtöp dialects show remarkable coherence. There is minimal difference between them in terms of presence versus absence of coda, and this difference can be used to distinguish the Tangmachu, Shawa and Gangzur dialects (coda *-s* present), on the one hand, from Dungkhar, Zhamling, and Nê (vowel length on preceding vowel), on the other.

4.3. MORPHOLOGY AND ALLOMORPHY

Now we will turn to an examination of morphology and allomorphy. As we will see, Kurtöp dialects exhibit more variation in terms of morphology than in terms of phonology. For each morpheme discussed, I have attributed a colour circle, which will be used in an attempt to propose an internal phylogeny of the language based on shared allomorphy.

4.3.1 THE HORTATIVE IKI~KI~CI

The hortative forms *iki~ki~ci* suggest something to be done in the immediate future (Hyslop, 2011) or can indicate a suggestion or a polite command.

These hortative forms of the verbs are observed to have variation among the dialects. It is *iki~ki~ci* in Dungkhar, Zhamling, Shawa and Nê, in comparison to *gi~ki~ci* in Gangzur and *~ki/gi~ci/ji* in Tangmachu as shown in the data below.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
(lets) eat	zuiki	zuiki	zuiki	zuiki	zugi	zugi
(lets) dig	kuiki	kuiki	kuiki	kuiki	kugi	kugi
(lets) see	taiki	taiki	taiki	taiki	tagi	tagi
(lets) die	seiki	seiki	seiki	seiki	segi	segi
(lets) wait	guki	guki	guki	guki	guki	guki
(lets) uproot	phuki	phuki	phuki	phuki	phuki	phuki
(lets) do	thrangki	thrangki	thrangki	thrangki	thrangki	thranggi
(lets) distribute/share	kuici	kuici	kuici	kuici	kuici	kuiji
(lets) go	geci	geci	geci	geci	geci	geci
(lets) fight	pratci	pratci	pratci	pratci	pratci	pratci
(lets) hide	imci	imci	imci	imci	imci	imji

Table 114: Hortative *iki~ki~ci*

The *-iki* form in Dungkhar, Zhamling, Shawa and Nê are realised as *-gi* in Gangzur and Tangmachu and are consistent throughout the data. The *-ki* form stays the same in Gangzur and Tangmachu varieties but is inconsistent after a nasal as /thrangki/ ‘lets climb’ is realized as /thranggi/. The *-ci* form remains the same in Gangzur but is realized as *-ji* in Tangmachu but again it is inconsistent as /geci/ ‘lets go/ and /pratci/ ‘lets fight’ are not realized as expected with the *-ji* morpheme.

Therefore, given that that the *iki~ki~ci* to *gi~ki~ci* in Gangzur and *~ki/gi~ci/ji* in Tangmachu are not consistent and also considering that it is consistent as *iki~ki~ci* in the four

varieties of Dungkhar, Zhameng, Shawa and Nê, I conclude that the iki~ki~ci is the Proto form. And based on my collected data, I note the environments for these hortative forms as in the table below:

Hortative form	Environment	Examples (Verb root to hortative form)
-iki	Verb root ending in vowels	/zu/ ‘eat’ to /zuiki/ ‘(lets) eat’, /ta/ ‘look/see’ to /taiki/ ‘(lets) look/see’, /ni/ ‘stay’ to /niiki/ ‘(lets) stay’, /tsho/ ‘plough’ to /tshoiki/ ‘(lets) plough’
-ki	Verb root ending in coda /k/ and /ng/	/guk/ ‘wait’ to /guki/ ‘(lets) wait’, /thrang/ ‘climb’ to /thrangki/ ‘(lets) climb’
-ci	Verb root ending in codas /m/, /n/, /r/, /p/, /b/, /t/ or proto */l/.	/ge/ ‘go’ to /geci/ ‘(lets) go’, /’mui/ ‘sell’ to /’muici/ ‘(lets) sell’, /thoi/ ‘bore (a hole)’ to /thoici/ ‘(lets) bore (a hole)’, /’lom/ ‘hide’ to /’lomci/ ‘(lets) hide’, /’nan/ ‘add (on)’ to /’nanci/ ‘(lets) add (on)’.

Table 115: Environment in which the hortative occur

If the verb root ends in a lengthened vowel it means there was a coda consonant in the proto language and the hortative form is the one corresponding to the existence of the previous coda. For example, ‘(lets) beat’ is /poki/ since the verb root for ‘beat’ is /pô/ or /pok/ or ‘(lets) keep’ is /breki/ and not /breci*/ since the verb root is /brek/.

4.3.2. THE PERFECTIVE SALA~WALA~PALA

The perfective form sala~wala~pala indicates a completed action where the agent is involved and is certain of it. Hyslop, 2011 has a detailed chart of the environment in which they are observed to occur and my collected data is consistent with this too.

Stem Type	Example Bare Stem	Gloss	Stem with <i>-pala</i>
-k	<i>kuk</i>	‘gather’	<i>kû-wala</i>
-ng	<i>thong</i>	‘drink’	<i>thong-wala</i>
-r	<i>chir</i>	‘chop’	<i>chir-wala</i>
historical -l	<i>phre</i>	‘separate’	<i>phre-wala</i>
-t	<i>dot</i>	‘sleep’	<i>dot-pala</i>
-n	<i>gin</i>	‘wear’	<i>gin-pala</i>
-p	<i>phap</i>	‘bring.down’	<i>phap-pala</i>
-m	<i>ngom</i>	‘be.excessive’	<i>ngom-pala</i>
open syllable	<i>se</i>	‘die’	<i>se-sala</i>

Table 116: Environment in which the perfective *sala~wala~pala* allomorphs occur

(Source: Hyslop, 2017: 215)

Similarly, variations are also observed in this form as well. It is observed to be *sala~wala~pala* in Dungkhar, Zhamling, Nê and Gangzur, as compared to *phala~wala~pala* in Shawa and just *pala* in Tangmachu as in the data shown in the table below.

Stem	English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
-s	(I/we/they) ate	zusala	zusala	zuphala	zusala	zusala	zuspala
-s	(I/we/they) came	rasala	rasala	raphala	rasala	rasala	raspala
-s	dead	sesala	sesala	sephala	sesala	sesala	sespala
-s	had	nisala	nisala	niphala	nisala	nisala	nispala
-s	gave	bisala	bisala	biphala	bisala	bisala	bispala

-s	need	gosala	gosala	gophala	gosala	gosala	gospala
-e	(I/we/they) kept	brewala	brewala	brewala	brewala	brewala	brekpala
-ng	(I/we/they) drank	thongwala	thongwala	thongwala	thongwala	thongwala	thongpala
-ng	thrown	cangwala	cangwala	cangwala	cangwala	cangwala	cangpala
-a	I have	nawala	nawala	nawala	nawala	nawala	nakpala
-ui	offered	phuiwala	phuiwala	nawala	phuiwala	phuiwala	hipala
-e	went	gewala	gewala	phuiwala	gewala	gewala	gepala
-ng	(I/you) did	thungwala	thungwala	thungwala	thungwala	thungwala	thungpala
-r	left	dharwala	dharwala	dharwala	dharwala	dharwala	dharpala
-a	(I/you) did	ngawala	ngawala	ngawala	ngawala	ngawala	ngakpala
-n	(I/we/they) came	jonpala	jonpala	jonpala	jonpala	jonpala	jonpala
-t	killed	sutpala	sutpala	sutpala	sutpala	sutpala	sutpala
-m	(I/we/they) hid	impala	impala	impala	impala	impala	impala
-n	sent	zonpala	zonpala	sonpala	zonpala	zonpala	zonpala
-m	(I/we/they) controlled (applied restrain)	zempala	zempala	zempala	zempala	zempala	zempala
-n	know/known	khanpala	khanpala	khanpala	khanpala	khanpala	khanpala

Table 117: Perfective sala~wala~pala

Beyer (1992) mentions the evidence to indicate the association of *-s* suffix with the perfective aspect and even in sister East Bodish languages in Bhutan the perfective aspects are /*zus/* and /*ras/* in Bumthap and Khengpa. The varieties in Gangzur and Tangmachu also tend to use *-sa* as a perfective aspect as in /*zusa/* and /*rasa/* but neither the *-s* nor the *-sa* suffixes are

observed in the other varieties. In the other varieties it is the suffix *-shang* that marks the perfective aspect. So as stated by Hyslop (2017) while there is comparative evidence for *-s* or *-sa* as a perfective marker it cannot be concluded as such given that it is not observed or very rare in the varieties of Dungkhar, Zhamleng, Shawa and Nê.

My hypothesis at this stage is that the Proto Kurtöp perfective aspect is **pala* and I concur with Hyslop, 2011 that */p/ > /w/* is a result of assimilation to velar place of articulation and following */r/* and */l/* as a result of assimilation in sonority.

4.3.3 THE SANA ~WANA~PANA

This is the same form as the perfective aspect marker above and occurs in the exact same environment as well. This is also very similar to the form *sara ~wara~para* which also occurs in the same environment. These two forms are used when the speaker is unsure about the action being completed or not by the other. There is a subtle difference though in these two forms though it is hard to make a clear distinction right away.

For instance, when saying */yangwana/* ‘(might/must be up/awake)’ is used when the speaker has some tinge of knowledge that the person in question is up or awake. For example, hearing that person walk or talk. On the contrary, */yangwara/* ‘might/must be up/awake’ is more on the basis of time assuming that the person in question should be up by now.

When saying */zusana/* ‘might/must have eaten’ the speaker assumes that the person must or might have eaten, for instance because he was offered food and he denied or he didn’t look hungry. Whereas */zusara/* ‘might/must have eaten’ when the speaker assumes that its past meal time so he must have eaten or that he returned from a place where he would have surely been served or that he would have had a way to feed himself.

In this form also the five dialects of Dungkhar, Zhamling, Shawa, Nê and Gangzur are observed to share the same form *sana~wana~pana* where as Tangmachu has a simplified single form */pera/*.

My hypothesis is the same as it is for the perfective *sala ~wala~pala* with the Proto Kurtöp form for *sana ~wana~pana* being **pana* and *sara ~wara~para* being **pera*.

Stem	English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
-ng	maybe up	yangwana	yangwana	yangwana	yangwana	yangwana	yangpera
-ng	done. Hon. Or gave hon.	'nangwana	'nangwana	nangwana	'nangwana	'nangwana	'nangpera
-ng	must have done	thungwana	thungwana	thungwana	thungwana	thungwana	thungpera
-u	must have eaten	zusana	zusana	zusana	zusana	zusana	zuspera
-a	must have come	rasana	rasana	rasana	rasana	rasana	raspera
-u	must have moved	pusana	pusana	pusana	pusana	pusana	puspera
-n	must have come/gone (Hon)	jonpana	jonpana	jonpana	jonpana	jonpana	jonpera
-n	must have killed	sutpana	sutpana	sutpana	sutpana	sutpana	sutpera
-n	must have sent	zonpana	zonpana	zonpana	zonpana	zonpana	zonpera

Table 118: sana~wana~pana

This -sana is not to be mistaken with the other -sana which is a combination of the nominalizer -sa and the locative -na as well as the -pana with the -pana that is again a combination of the nominalizer and locative as in the examples below:

phusana throngkhan seng wen

phu-sa-na throngkhan seng wen

Up-NMZ+LOC grow.NMZ tree yes

(This/that) is the tree that grows in higher altitude

gonpana nikhanla Gomchen

gonpa-na ni-khan-la Gomchen

Temple.LOC stay.NMZ:IPFV laymonk

The laymonk (who) stays at the Temple

4.3.4 THE POLITE IMPERATIVE LE~E~YE

ye~le~e are categorized as polite imperatives compared to lu~ngu~u~yu which are categorized as informal (Hyslop, 2011). The former is more like a request whereas the latter is a subtle command or informal. The polite forms can become further polite through the use of honorific forms of the verbs such as /zuye/ ‘eat’ to /soile/ ‘eat.HON’.

It is observed that if the verb stem ends in coda /k/, /ng/, /p/ and /m/, it takes the form /-e/ as in /pok/ ‘beat’ to /poge/ ‘beat.IMP.POL’; /thong/ ‘drink’ to /thonge/ ‘drink.IMP.POL’; /lap/ ‘talk/say’ to /labe/ ‘talk/say.IMP.POL’ and /lom/ ‘hide’ to /lome/ ‘hide.IMP.POL’. As we can say in this stated example when imperative -le is suffixed to stops with non-coronal stop finals, the final consonant gets voiced as in /phap/ to /phabe/, /pok/ to /poge/ or /lap/ to /labe/. And the coda in the verb root becomes voiced as in /p/ to /b/ in /phap/ to /phabe/; /k/ to /g/ in /pok/ to /poge/ and /p/ to /b/ in /lap/ to /labe/.

It is observed that if the verb stem ends in coda (-r/, -t/, -n) or the historical -l/, the polite imperative is /-le/ as in /thar/ ‘release/let go’ to /tharle/ ‘release/let go.IMP.POL’; and likewise /prot/ ‘remove’ to /protle/, /zon/ ‘send’ to /zonle/ and /phui/ ‘offer’ to /phuile/ (case of historical -l).

In case of open syllables it takes the /-ye/ polite imperative form as in /ni/ ‘stay’ to /niye/ ‘stay.IMP.POL’, and likewise /zu/ ‘eat’ to /zuye/, /se/ ‘die’ to /seye/ etc. Therefore, my hypothesis is that /-e/ and /-ye/ are allomorphs of /-le/.

In this form, Dungkhar, Zhamling, Shawa and Nê share the same form ye~le~e, and so does Gangzur but Tangmachu has a variation ya/wa~la~nge~ge~be, in comparison. Consistent with the observation on the other allomorphs, the forms in Dungkhar, Zhamling, Shawa and Nê are consistent and I thus propose the ye~le~e as the Proto form. The source of the allomorphy in Tangmachu cannot be determined at this stage.

Stem	English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
-i	stay	niye	niye	niye	niye	niye	niya
-i	open	phiye	phiye	phiye	phiye	phiye	phiya
-u	eat (offering)	zuye	zuye	zuye	zuye	zuye	zuwa
-u	please report/convey	zhuye	zhuye	zhuye	zhuye	zhuye	zhuwa
-hist. 1	go...instruct	gile	gile	gile	gile	gale	gala
-r	let go	tharle	tharle	tharle	tharle	tharle	tharla
-ui	offer (ask/instruct)	phuile	phuile	phuile	phuile	phuile	phila
-ng	drink	thonge	thonge	thonge	thonge	thonge	thonge
-ng	do	thunge	thunge	thunge	thunge	thunge	thunge
,ng	catch/hold/grab	zonge	zonge	zonge	zonge	zonge	zonge
-g	beat/hit	poge	poge	poge	poge	poge	konge
-g	make/construct	drige	drige	drige	drige	drige	drige
-g	put	thege	thege	thege	thege	thege	thege
-b	say/tell/convey	labe	labe	labe	labe	labe	labe
-b	study/learn	'lube	'lube	'lube	'lube	'lube	'lube
-b	bring down	phabe	phabe	phabe	phabe	phabe	phabe

Table 119: Imperative ye~le~e

4.3.5 THE INFORMAL IMPERATIVE LU~U~YU

This imperative contrasts with the *le~e~ye* above as in this is used more informally or less politely and more like a subtle command normally from an elder to a kid or someone younger or someone important or higher up in the social hierarchy to someone lower. The environment in which this occurs is exactly the same as the polite imperative above and hence *lu~u~yu* are allomorphs as well.

In this form, as compared to the observation in the other categories above, Gangzur shares the same form as Dungkhar, Zhamling and Nê as *lu~u~yu*, while a variation is observed in Shawa as *le~e/u~be/ye*. As expected Tangmachu is observed to be distinct as in *la~e~ya/wa*.

As with *ye~le~e* forms, the observation on the informal imperative *lu~u~yu* is also consistent and I thus propose the Proto form as *lu~u~yu* as observed in the Dungkhar, Zhamling, Shawa and Nê varieties.

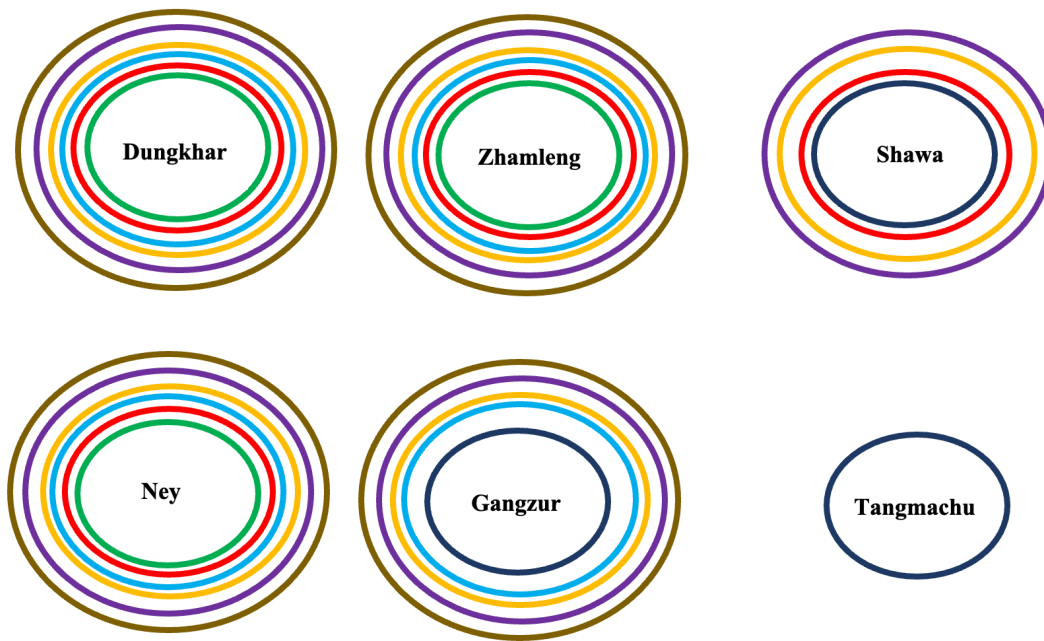
Stem	English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
-hist. 1	go IMP	gilu	gilu	gile	gilu	galu	gala
-t	sleep	dotlu	dotlu	dotle	dotlu	dotlu	dotla
-t	fight	pratlu	pratlu	pratle	pratlu	pratlu	pratla
-ng	drink	thongu	thongu	thonge	thongu	thongu	thonge
-ng	scold	brongu	brongu	bronge	brongu	brongu	brange
-ng	tilt	kwengu	kwengu	kwengu	kwengu	kwengu	-
-b	bring down	phabu	phabu	phabe	phabu	phabu	phabe
-b	say/tell/convey	labu	labu	labe	labu	labu	labe
-i	open	phiyu	phiyu	phiye	phiyu	phiyu	phiya
-u	eat	zuyu	zuyu	zuye	zuyu	zuyu	zuwa

-u	report/convey (hon)	zhuyu	zhuyu	zhuye	zhuyu	zhuyu	zhuwa
-g	make/construct	drigu	drigu	drige	drigu	drigu	drige
-g	put	thegu	thegu	thege	thegu	thegu	thege
-g	beat	pogu	pogu	poge	pogu	pogu	poge

Table 120: Imperative lu~u~yu

The pictorial depiction below shows that Dungkhar, Zhamling and Nê share more morphological similarities in comparison and that Tangmachu stands out as the most distinct followed by Shawa and then Gangzur.

Dungkhar, Zhamling and Nê share the most in common, with all three sharing the same forms for the hortative iki~ki~ci; the perfective sala~wala~pala; the polite imperative le~e~ye; lu~u~yu and sana~wana~pana whereas Gangzur is different in the hortative form.



4: Morphological comparison.

Figure

Morphological

iki~ki~ci



(Except in Gangzur where its gi~ki~ci and Tangmachu is gi~ki/gi~ci/ji)

sala~wala~pala



(Except in Shawa where it is Sala/phala~wala~pala and Tangmachu is all pala)

ye~le~nge~ge~be



(Except in Tangmachu where it is ya/wa~la~nge~ge~be)

wana~pana~sana



(Except in Tangmachu where it is all pera)

lu~ngu~bu~yu~gu



(Except in Shawa where it is le~nge/ngu~be/ye~ge and Tangmachu where it is la~nge~be~ya/wa~ge)

Figure 5: Morphological observations

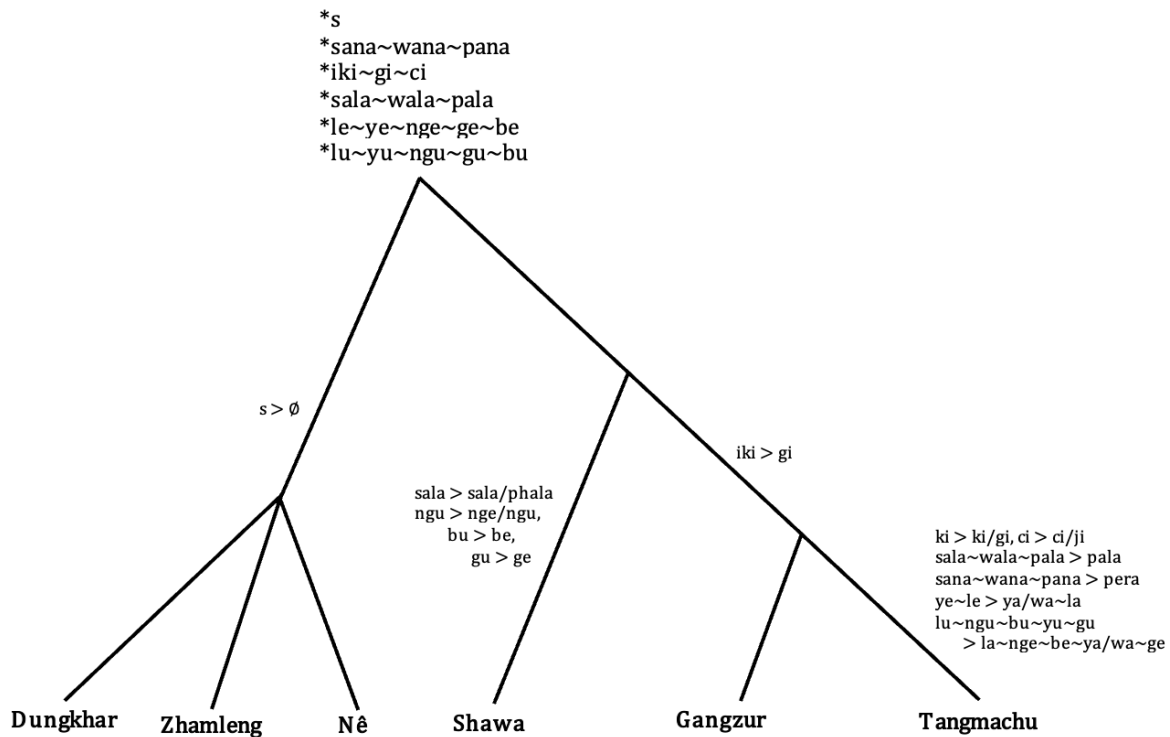


Figure 6. Internal phylogeny of Kurtöp.

The above figure shows the proposed internal phylogeny of Kurtöp based on phonological and morphological comparisons.

4.4 LEXICAL

A lexical comparison was also carried out to compare the uniqueness/similarity among the Kurtöp dialects. 30 words that stood out in one or two of the languages as compared to the others were picked and compared. I chose words that are used commonly in the community and home setting to ensure that the comparison is fair and consistent. Through this lexical comparison as well, Dungkhar, Zhamleng and Nê were observed to share greater similarity. However, unlike in the morphological observation Shawa is also observed to share more common words to Dungkhar, Zhamleng and Nê while Tangmachu was the least common, followed by Gangzur.

In both the above observations, Tangmachu was the most unique or stood out from the rest of the dialects, followed by Gangzur. This is expected as Tangmachu shares geographical

boundaries with speakers of Chocangaca on all sides and thus it can be hypothesized that Tangmachu is influenced by Chocangaca and has many borrowings from this language. For example, the word for seed in Dungkhar, Zhamleng, Nê and Shawa are /sawan/ but /sagon/ in Tangmachu and Gangzur and it is /sagon/ in Chocangaca too. Similarly, /prowa/ in the other dialects is /drobja/ in Tangmachu and its /drowa/ in Chocangaca. The word for jump is /ling/ in the other dialects compared to /chong/ in Tangmachu which is again the same in Chocangaca. Likewise, almost all the words unique to Tangmachu are either borrowings or influenced by Chocangaca such as /tiwa/, /chong/, /dorba/, /itshan/, /prangpo/, /kamu/, /mutuma/, /cangba/ etc.

What is interesting though is the word for knees which is /pusum/ in Dungkhar but /puskum/ in all the other dialects. Another similar interesting observation is the word for ‘alcohol container’ which is /palang/ in Dungkhar but /kalang/ in all the other dialects.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
(in the)lap	thowa	thowa	zema, thowa	thowa	thowa	thawa
knee	pusum	puskum	puskum	puskum	puskum	puskum
fist	khuntola	khuntola	khuntola	khuntola	mutuma	mutuma
bone	rospa	rospa	rospa	rotpa	rospa	rospa
fingers	primang	primang	primang	primang	primang	primang
shoulder	pongma	pongma	pongma	pongma	pongma	pongma
stomach	joma	joma	joma	joma	joma	phowa/towa
head	guyung	guyung	guyung	guyung	guyung	guyung
hand	yâ	yâ	yâ	yâ	yâ	yâ/lak
buttock	mor	mor	mor	mor	mor	mor
chest	brangto	brangto	brangto	brangto	brangto	brangto

Table 121: Lexicon-Body parts.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
ara container	palang	palang	kalang	kalang	kalang	kalang
Type of wooden cup	togola	togola	togola	togpola	togpola	tongkaling
cloth for newborn	dukpu	dukpu	dukpo	dukpu	tukpun	tukpu
bamboo plate	tanglup	tanglup	tanglup	tanglup	tanglup	tanglu
cup	guku	guku	guku	guku	guku	guku/phurung

Table 122: Lexicon-Household items.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
wife	'nêsang	'nêsang	moja/'nêsang	'nêsang	nêsang	moja/mopsa
husband	makpa	makpa	phoja/makpa	makpa	makpa	phoja/phobsa
father	apa	apa	apa	apa	apa	apa
mother	ama	ama	ama	ama	ama	ama
grandfather	meme	meme	meme	meme	meme	meme
grandmother	aiya	aiya	aiya	aiya	aiya	aiya/ai
uncle 1 (mother's brothers)	ashang	ashang	ashang	ashang	ashang	ashang
uncle 2 (father's brothers)	aku	aku	aku	aku	aku	aku
aunty 1 (father's sisters)	nene	nene	nene	nene	nene	nene
aunty 2 (mother's sisters)	amin	amin	amin	amin	amin	amin
stepfather	aku	aku	aku	aku	aku	aku
stepmother	amin	amin	amin	amin	amin	amin

Table 123: Lexicon-Kinship terms.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
animal	semcan	semcan	semcan	semcan	semcan	semcan
cattle	nor	nor	nor	nor	nor	nor
chicken	khawa	khawa	khawa	khawa	khawa	khawa/khaga
cock	khataling	khataling	khataling	khataling	khataling	khataling
pig	phâ	phâ	phâ	phâ	phâ	phâ/phakpa
dog	khwi	khwi	khwi	khwi	khwi	khwi/khi
cat	zhimbula	zhimbula	zhimbula	zhimbula	zhimbula	zhimbula
horse	ta	ta	ta	ta	ta	ta
oxen	bari/'lowa	bari/'lowa	bari/'lowa	bari/'lowa	bari/'lowa	bari/'lowa
mithun	manti	manti	manti	manti	manti	manti

Table 124: Lexicon-Domestic animals.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
tiger	tâ	tâ	tâ	tâ	tâ	tâ
lion	singi	singi	singi	singi	singi	singi
leopard	zî	zî	zî	zî	zî	zî/zik
bear	dom	dom	dom	dom	dom	dom
monkey	pra	pra	pra	pra	pra	pra
snake	po	po	po	po	po	po

Table 125: Lexicon-Wild animals.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
one	thê	thê	thê	thê	thê	thê
two	zon	zon	zon	zon	zon	zon
three	sum	sum	sum	sum	sum	sum
four	ble	ble	ble	ble	ble	ble
five	yanga	yanga	yanga	yanga	yanga	yanga
six	dro	dro	dro	dro	dro	dro
seven	‘ni	‘ni	‘ni	‘ni	‘ni	‘ni
eight	jat	jat	jat	jat	jat	jat
nine	dogo	dogo	dogo	dogo	dogo	dogo
ten	che	che	che	che	che	che
twenty	khedi	khedi	khedi	khedi	khedi	khedi
one hundred	khê yanga	khê yanga	khê yanga	khê yanga	khê yanga	khê yanga
four hundred	nyishu the	nyishu the	nyishu the	nyishu the	nyishu the	nyishu the
one thousand	tongthra the	tongthra the	tongthra the	tongthra the	tongthra the	tongthra the
ten thousand	thri the	thri the	thri the	thri the	thri the	thri the
one hundred thousand	bum the	bum the	bum the	bum the	bum the	bum the

Table 126: Lexicon-Counting/numbers.

English gloss	Dungkhar	Zhamling	Shawa	Nê	Gangzur	Tangmachu
taste	prowa	prowa	prowa	prowa	prowa	drobja
sleep	goma	goma	goma	goma	gomba	gomba
jump	ling	ling	ling	ling	ling	chong
hole	lom	lom	lom	lom	lom	dorba
village	trong	trong	trong	trong	trong	itshan
poor	prangca	prangca	prangca	prangca	prangca	prangpo
sand	bjyasa	bjyasa	bjyasa	bêsa	bêsa/bêma	bêma
difficult/hard	kapo	kapo	kamu	kapo	kapo	kamu
at night/night time	sutla	sutla	sutla	sutla	sunla	sunla
day after tomorrow	naspung	naspung	naspung	naspung	naskum	naskum
beat	pô/pog	pô/pog	pô/pog	pô/pog	pô/pog	kong
free/idle	dewa	dewa	dewa	dewa	deba	deba
empty stomach/hungry	towa	towa	towa	tokpa	tokpa	tokpa
Sun	ne	ne	ne	ni	ni	ni
cat	zhimbula	zhimbula	zhimbula	zhumbula	zhumbula	zhumbula
water canal	yur	yur	yur	yur	yurkha	yurba
Cereals for Religious Purpose	prûna	prûna	prûna	druna	druna	brûna
only...(??)	thêbe	thêbe	pucang	thêbe	thêbe	cangba

Table 127: Lexicon-Others.

4.5 SUMMARY

In the chart below I have tried to highlight how the six dialects are related to or different from each other in terms of their lexicon. Each coloured circle represents a word across the six dialects of the language and the number of circles around each of the dialects represent commonality/uniqueness within the dialects. It is evident again that the varieties of Dungkhar, Zhamleng, Shawa and Nê share more common lexical entries as compared to Gangzur and Tangmachu while Tangmachu stands out as the most distinct with very little shared lexicon.

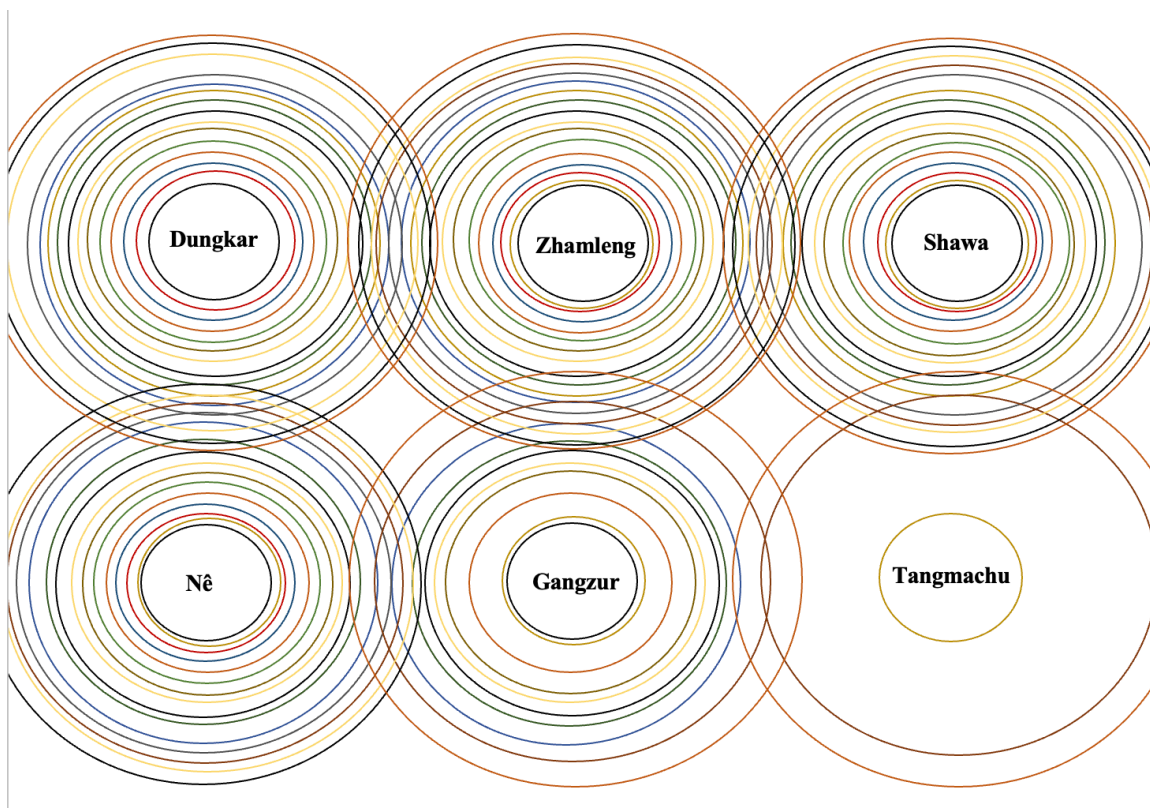


Figure 7: Lexical Comparison.

The above figure shows the comparison among the dialects based on lexical differences and it is evident that Gangzur and Tangmachu varieties stand out as distinct even based on lexical comparisons with Tangmachu as the most distinct. The other four dialects namely Dungkhar, Zhamleng, Shawa and Nê share a lot more similarities consistent with observation on phonological and morphological differences.

It is evident from the above, through phonological, morphological and lexical comparisons that Dungkhar, Zhamling and Nê share more similarities in all aspects of the comparison and that Tangmachu stands out as the most distinct. Tangmachu, given its geographical placement and assimilation with neighbouring communities, consists of many borrowings from Chocangaca, especially into its lexicon. However, it can also be safely concluded that if we remove the borrowings in Tangmachu, what is left and of similar to other dialects have perhaps more closer to Proto Kurtöp such as the *pala, coda *s, *pera etc.

Based on phonological, morphological and lexical comparisons, I propose the following as the Proto Kurtöp phylogeny:

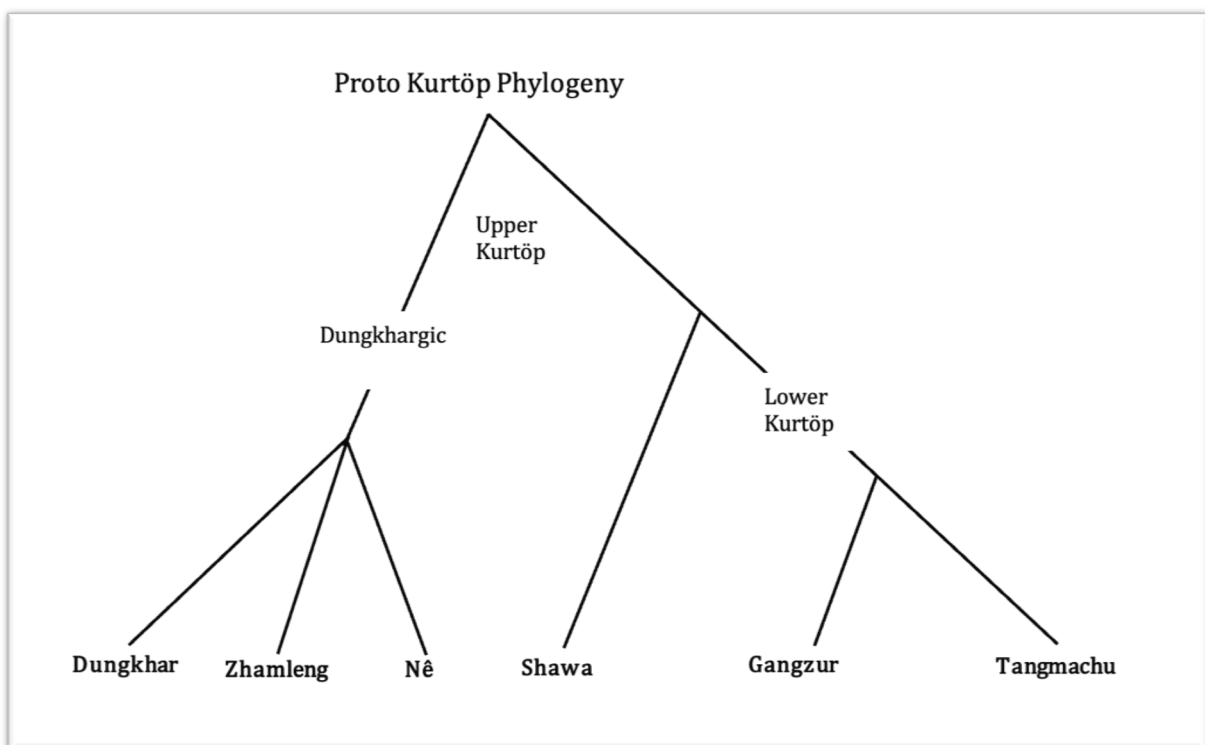


Figure 8: Proto Kurtöp Phylogeny

By virtue of its placement at the upper side of the *Kurkhwe* ‘*Kuri* river’ valley, I group Dungkhar, Zhamleng, Shawa and Nê varieties as upper Kurtöp and Gangzur and Tangmachu varieties as lower Kurtöp. Further, the dialects of Dungkhar, Zhamleng and Nê which share common phonological, morphological and lexical similarities as compared to the other three dialects of Shawa, Gangzur and Tangmachu are proposed to be clubbed together as the Dungkhargic group. While there is no particular reason to choose Dungkhar superseding the other two varieties the sole reason is given Dungkhar’s historical importance in comparison as the ancestral home of the monarchs of Bhutan.

5. RECONSTRUCTING PROTO KURTÖP FLORA

5.1 GRAINS AND PSEUDO-CEREAL CROPS

The Kurtöp region is known for its fertile soil and favourable climate that is conducive for the cultivation of all nine varieties of grains in Bhutan, collectively known as “*drunagu*”, meaning nine varieties of cereal crops. The Bhutanese diet in general is dominated by cereals with most of the population consuming rice for breakfast, lunch and dinner. Rice also has a strong association with prestige and is grown and consumed by all ethnolinguistic groups (Hyslop, 2011) in the country. The “ancient concept of ‘*drunagu*’ includes all important cereals” (nbc.gov.bt), including barley, wheat, and millets, which have been cultivated in Bhutan for centuries, forming the backbone of the country's agricultural practices. Hyslop & d’Alpoim-Guedes (2021) points out that though not much is known about the prehistoric domestication or the cultivation of crops across the Himalayas, using historical linguistic methods of reconstruction points to the cultivation and domestication of buckwheat. The cultivation of these crops not only provides food but also a stable source of income for many families. The surplus grains are often sold in local markets, contributing to the economic prosperity of the community. The income generated allows farmers to meet their basic needs (of buying essential items such as salt, cooking oil, sugar etc), invest in education, and improve their overall quality of life.

Below I present the comparative Kurtöp data for the various grain and pseudo cereal crops in the Kurtöp region:

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
sweet buckwheat	cara	cara	cara	cara	cara	cara
bitter buckwheat	brâma	brâma	brasma	brâma	brasma	brâma
maize	bacukpa	cahan	cahar	bukcuma	cahon	cahana/cana
wheat	go	go	go	go	go	go
barley	nâ	nâ	nas	nâ	nas	nas

paddy	mrâ	mrâ	mrâs	mrâ	mrâs	mrâs
husked rice	mrâ	mrâ	mrâs	mrâ	mrâs	mrâs
polished rice	chung	chung	chung	chung	chung	chung
cooked rice	ipa	ipa	ipa	ipa	ipa	ipa
finger millet	thre	thre	thre	thre	thre	thre
foxtail millet	ran	ran	ran	ran	ran	ran
broomcorn millet	yon	yon	yon	yon	yon	yon
shorter bean known as sem in Dz.	shauli	shauli	shauli	shauli	shauling	shauling
amaranth	'mung	'mon	'mô	'mon	'mô	'mô
perilla	'nam	'nam	'nam	'nam	'nam	'nam
pea	néma	nêmi	nêmin	nêmi	nemin	Nêmi
oilseeds	rû	rû	rû	rû	rû	'rû

Table 128: Cereal crops.

The term for sweet millet (*Fagopyrum esculentum*) is consistent throughout the varieties and thus proposed reconstruction is straightforward as **cara*⁶. However, for bitter buckwheat (*Fagopyrum tartaricum*), while it is *brâma* in four varieties of Dungkhar, Zhamleng, Nê and Tangmachu, it is *brasma* in Shawa and Gangzur. While it could be a natural

⁶ Note that Hyslop & d'Alpoim-Guedes (2021) reconstructs the Proto East Bodish word for sweet millet as **kja branma* where **branma* is their Proto East Bodish word for bitter buckwheat. *Branma* is from Bumthap while the other East Bodish languages Dakpa and Dzala have their words for sweet buckwheat as *kjabre*. It is therefore likely that the Proto Kurtöp could have been *kjabrasma* as well but given that it is consistent as *cara* I have proposed as such.

choice to go for *brâma* as it occurs commonly across five varieties, I had proposed the existence of coda *s* in Proto Kurtöp and that it has been replaced by vowel lengthening in Dungkhar, Zhamleng and Nê varieties in my discussion on internal phylogeny of the Kurtöp in Chapter 4. This argument stands valid in reference to this data as well though Tangmachu data is inconsistent. Thus, the proposed reconstruction for bitter buckwheat is **brasma*.

Similarly, applying the coda *s* hypothesis, the reconstructed word for barley (*Hordeum vulgare*) is **nas*, paddy (*Oryza sativa*) is **mras* and husked rice is **mras* as well. Both paddy and husked rice are called *mrâ* and *mras*. It is interesting to note that Tangmachu variety has lost its coda *s* in the word for bitter buckwheat, it has retained in the words for paddy and husked rice. It is possible though that respondents are influenced by different dialects as there is now greater interaction between the different communities.

The word for wheat (*Triticum aestivum*) is consistent throughout the varieties and thus reconstructed as **go*. Similarly, there are no differences in the words for polished rice, cooked rice, finger millet (*Eleusine coracana*), foxtail millet (*Setaria italica*), broomcorn millet (*Panicum miliaceum*), and perilla (*Perilla frutescens*) and are thus easy to reconstruct as **chung*, **ipa*, **thre*, **ran*, **yon* and **'nam* respectively. It is interesting to note that while *ipa*⁷ refers to cooked rice, it is also used to refer to any meal and this is possibly because rice is the staple food and traditionally consumed for all three meals in the day.

Shauli/shauling (*Fabaceae* or *Leguminosae*) refers to a shorter type of bean known as *sem* in Dzongkha. It has not been possible to find the English equivalent name, at this stage. It is known as *shauli* in Dungkhar, Zhameng, Nê and Shawa and as *shauling* in Gangzur and Tangmachu. There are cases where the word final consonant is lost in a variety it is replaced by a lengthened vowel, but it isn't the case in the case of this crop. The Gangzur and Tangmachu varieties end in a velar nasal as opposed to the other varieties. This was presented as problematic without a definite solution in chapter 4 but given that words ending in velar nasal are common and so is the loss of coda consonants, I propose to reconstruct the Proto Kurtöp word as **shauling*.

⁷ It is interesting and relevant to note that different stages of the paddy is known by different terminologies from *mras* to *ipa*. It is known as *sawan* 'seed or seedling' (or *mras sawan* when its a seed and is grown to be transplanted, *mras* when it is a plant and continues to be called a *mras* when harvested and stored as a grain, once it is unhusked its called *chung* and once its cooked its called *ipa*.

Amaranth (*Amaranthus hybridus*) is referred to in a few different ways too. It is ‘*mung* in Dungkhar, ‘*mon* in Zhamleng and Nê and ‘*mô* with a lengthened vowel ending in Shawa, Gangzur and Tangmachu. All the varieties retain the high tone in the word initial nasal but the word final velar nasal /ng/ in Dungkhar variety, the alveolar nasal /n/ in Zhamleng and Nê varieties is lost in Shawa, Gangzur and Tangmachu varieties and replaced by a lengthened vowel. This is interesting because, in other cases where a similar pattern is observed, such as with coda /s/, the Shawa, Gangzur, and Tangmachu varieties preserve the coda consonant, while in the Dungkhar, Zhamleng, and Nê varieties it is replaced by a lengthened vowel. However, in the case of nasal codas, the pattern is reversed: the Dungkhar, Zhamleng, and Tangmachu varieties retain the codas, whereas the Shawa, Gangzur, and Nê varieties show a lengthened vowel instead. However, in my analysis of the available data this is not a regular sound change like the coda /s/. Considering available data, I propose the reconstructed Proto Kurtöp word for amaranth as *‘*mon*, with the assumption that Shawa, Gangzur and Tangmachu lost the coda and replaced by a lengthened vowel while the Dungkhar variety is inconsistent with the rest except for the high tone initial.

Pea (*Fabaceae* or *Leguminosae*) is *nêma* in Dungkhar, *nêmi* in Zhamleng, Nê and Tangmachu and *nêmin* in Shawa and Gangzur. The Dungkhar variety has the low back vowel in the coda position while it is a high front vowel in the Zhamleng, Nê and Tangmachu variety. The Shawa and Gangzur variety has the alveolar nasal in the coda position. My analysis is that Coda consonants are quite common in Kurtöp and there are many instances where they are lost and often replaced by a lengthened vowel. I thus proposed to reconstruct *‘*shauling* for the bean type known as *sem* in Dzongkha, *‘*mon* for amaranth and thus along the same reasoning propose *‘*nêmin* for pea. However, the aberrant vowel -a in Dungkhar variety if not accounted for in this reconstruction and cannot be explained at this stage.

Oilseeds (*Brassica napus*) known as *pêka* in Dzongkha was mainly cultivated in the past for extraction of oil for cooking but now the leaves are consumed as a vegetable and oil extraction is almost non-existent due to easy availability of vegetable oil in the market. Back in the past it was an important source of oil and thus the term is also consistent throughout the varieties as *rû* except in Tangmachu with a slight variation with high tone as ‘*rû*. However, given that it is consistent across five varieties I propose for reconstruction to Proto Kurtöp form as *‘*rû*.

The word for maize (*Zea mays*) is the most interesting and complex. It is called *bacukpa* in Dungkhar and *bukcuma* in Nê, *cahan* in Zhamleng, *cahar* in Shawa, *cahon* in Gangzur and *cahana/cana* in Tangmachu. The word for maize in Dzongkha is *geza*, in Chocangaca is *asham*, in Tshangla (another widely spoken language in the region) is *ashom* and in Dzalakha spoken in the neighbouring villages of Khoma is also *ashom*. Unfortunately, none of these are helpful for the analysis. What can be concluded at this stage is that *asham* in Chocangaca is a borrowing from Tshangla but whether this has an influence on *cahan/cahana/cana* is not clear. It is however clear that the forms in Dungkhar and Nê varieties as in *bacukpa* and *bukcuma* are related (and unique and it is not known where this term could have originated from (Hyslop & d’Alpoim-Guedes, 2021)), and those in Shawa, Zhamleng, Gangzur and Tangmachu as *cahar*, *cahan*, *cahon* and *cahana/cana* respectively are related. In Bumthap, the language spoken in the neighbouring district with close historical ties to Kurtöp, the word for corn/maize is *asham*, clearly related to *ashom* in Tshangla, with one borrowing from the other. It is also interesting to note the observation in the other East Bodish languages for reference. Dakpa has it as *ushom*, Dzala as *asham*, Khengkha as *asham*, Chali as *ahamar*, clearly related to Tshangla, the lingua franca of Eastern Bhutan and the second largest in terms of number of speakers, after Dzongkha (van Driem, 1998). Hengke has it as *geza* which is the same in Dzongkha and not surprising since it is surrounded by Dzongkha speaker and clearly a borrowing. According to Hyslop & d’Alpoim-Guedes (2021), it is not surprising that this term cannot be reconstructed to Proto East Bodish since maize is a new world crop only brought to Bhutan within the last 500 years, while it is hypothesized that Proto East Bodish is spoken at least two millennia prior.

However, given that *bacukpa* and *bukcuma* are unique and considering all the other factors as stated above I feel reasonable to propose **bacukpa*⁸ as the Proto Kurtöp form for now. However, the meaning could not possibly be ‘maize/corn’ and what the exact meaning of the word could be ascertained at this stage. Kurtöp was a popular trade route in the past and studying the term in related languages in Tibet could throw some light but until then I feel compelled to propose as such.

5.2 VEGETABLES TRADITIONALLY GROWN IN THE COMMUNITY

⁸ Note that (Hyslop & d’Alpoim-Guedes, 2021) spells it as *bakchukpa* with a coda *k* in the first syllable and an aspirated palatal stop *ch* in the second syllable and this is likely a variation among the speakers in Kurtöp.

The Kurtöp communities are self-sufficient in the production of *tshotmisê* ‘vegetables’ literally meaning ‘ingredients for curry’. Vegetables such as chillies, pumpkin, turnip, varieties of spinach, radish, egg plant, crow’s beak and varieties of beans, as well as tree tomatoes and garlic, have been grown in Kurtöp for a long time. This is evident from the distinct native names for these vegetables in comparison to local languages spoken in the region as well as to Dzongkha.

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
chilli	banggala	banggala	banggala	banggala	banggala	banggala
crow's beak	chidula	ja shepen	ja shepen/jagarpi shepen	kaw'ling choto	'langcen rawa	'langcen rawa
radish	muya	muya	muya	muya	muya	caru
potato	ki	ki	ki	ki	ki	ki
turnip	yumang	yumang	yumang	yumang	yusmang	yumang
spinach	'ngotshot	'ngotshot	'ngotshot	'ngotshot	'ngotshot	rû
beans	shepen	shepen	shepen	shepen	shepen	shepen
bean type	gwan shepen	gwan shepen	gwan shepen	gwan shepen	ton shepen	bongbunala
bean type	moringmi shepen	moringmi shepen	moringmi shepen	moringmi shepen	moringmi shepen	moringmi shepen
bean type	sangbaling te	tsi'likpi shepen	sangbaling te	sangbaling te	shepen bogala	sangbaling shepen
bean type	patangrinkula	yodrakpa	yobrakpi shepen	patangrinkula	bartali shepen	patang shepen
bean type	Ashi shepen	NA	NA	NA	NA	NA
garlic	chacu	chacu	chacu	chacu	chacu	chacu
scallions	tsong	'tsong	'tsong	'tsong	'tsong	'tsong
high altitude chives	matma	matma	mâma	matma	matma	matma
egg plant	dolom	dolom	dolom	dolom	dolom	dolom
carrot	muya zhintila	muya zhintila	muya zhintila	muya zhintila	muya zhintila	caru zhintila

scallion type	kiuya	kiuya	kiuya	kiuya	kiula	kiula
pumpkin	laushar	laushar	laushar	laushar	laushar	laushan/dorshan
taro	bjo	bjo	bjo	bjo	bjo	bjoki
green vegetable type	brekha	'lakaling	brekha	brekha	brekha	khawiru
ginger	saga	saga	saga	saga	saga	saga
turmeric	yongka	yongka	yongka	yongka	yungka	yungka

Table 129: Vegetables traditionally grown in the community.

For the Kurtöps, as it is for all Bhutanese, chilies (*Capsicum spp.*) are consumed as a vegetable rather than spice and it is therefore an integral part of the Bhutanese diet (Ueda and Samdup, 2010). No curry is cooked without chilies and children also start consuming chilies from a very young age. This is quite evident from this data as well where the word for chili is consistent throughout the dialects and thus easy to reconstruct as **banggala*. How old the introduction of chili in the Kurtöp area is not sure but being a plant from the Americas, this certainly postdates Proto-Kurtöp and the exact literal meaning of ‘banggala’ in Kurtöp or Proto Kurtöp cannot be ascertained. One hypothesis would be that that the name comes from its immediate place of origin (proposed Bengal region in India, immediately south of Bhutan).

Another important vegetable and also a cash crop today is potatoes (*Solanum tuberosum L.*). In terms of food consumption in Bhutan it is one of the most important together with wheat, rice and maize (Rai et al. 2021). According to Roder et al. (2008), potatoes were first introduced in Bhutan in the 18th century by George Bogle, a Scottish explorer who travelled through Bhutan⁹. Today, it is a cash crop grown across many parts of Bhutan especially by farmers in

⁹ The word for potatoes in Tshangla is *joktang* and there is an interesting anecdote on how it came to be so. How accurate it is cannot be ascertained but makes for an interesting story. Since potatoes were first introduced in Bhutan by the Scottish explorer George Bogle, locals credit him for its introduction as a gift from him and thus came to be known as *joktang*, *jok* which is a local contorted form of George and *tang* meaning ‘gift’ in Tshangla and thus ‘gift from George’. In a similar example, there is a variety of beans in Kurtöp that people fondly refer to as *Ashi Shepen*. This is because the seed of that particular bean was first gifted to the people during the royal visit of Her Majesty Ashi Sangay Choden Wangchuck, the then Queen Mother and people fondly refer to the bean variety as *Ashi Shepen* ‘Queen bean’.

Wangdue and Bumthang. In the Kurtö region, while it is commonly grown for self-consumption, the farmers in Zhamleng grow in large scale for commercial purposes and is one of the main sources of cash income. The word for potato is also phonetically consistent throughout the dialects and thus reconstructed to Proto Kurtöp as **ki*.

The word for turnip (*Brassica rapa*) is quite straightforward and there is not much discrepancy, save for Gangzur variety which has a coda *s* in the first syllable. Where coda *s* was present in the Proto form the replacement as observed in many instances such as in *mräs* ‘paddy’ to *mrâ*, *nas* ‘barley’ to *nâ*, or in the initial syllable in a disyllabic word such as *nista* ‘staying Pr. Cont.’ to *nîta*, *rasta* ‘coming Pr. Cont.’ to *râta*, vowel lengthening is not observed in this case and thus Gangzur variety’s *yusmang* is not consistent to be considered as a Proto form. I thus propose to reconstruct the Proto Kurtöp for turnip as **yumang* for the above reason and also applying the rule of majority considering all other varieties have it as such.

Similarly, the word for ‘spinach’ (*Amaranthaceae*, family) is consistent as ‘*ngotshot*’ throughout the varieties except in Tangmachu where it is *rû*. However, *rû* is oilseeds in the other Kurtöp varieties while Tangmachu tends to differentiate the word for oilseeds with a high tone as ‘*rû*. The Kurtöp word for ‘curry’ is *tshotma* and this is consistent in their reference to ‘spinach’ as ‘*ngotshot*’ where *tshot* refers to *tshotma*. ‘*ngo*, the first syllable in ‘*ngotshot*’ either comes from ‘*ngon* as in ‘greens plants’ or from ‘*ngokar* which refers to the colour ‘light blue’¹⁰. Interestingly the word in Dzongkha for ‘spinach’ is also *höntshö* where *hön* is from *höm* as in ‘blue’ and *tshö* from *tshöm* as in curry. How they are connected cannot be ascertained at this stage. There are however plenty of examples in the language where the word initial /h/ in Dzongkha has a nasal high tone in word initial position in Kurtöp¹¹. I propose the Proto Kurtöp word for spinach as *‘*ngotshot*’.

¹⁰ This is an interesting observation where ‘*ngokar* which actually means the color ‘blue’ is used to refer to something green. Why this is so cannot be explained at this stage. It may also be noted that Dzongkha word for ‘*ngotshot*’ is *höntshö* which also means ‘green curry’ while the *hön* is actually from *höm* which means the colour blue. In the same vein ‘green chillies’ are referred to as *ema höm* which technically means ‘blue chillies’. However, this is not the same in Kurtöp where ‘green chillies’ are referred to as *banggala* ‘*ngunma* meaning ‘fresh chillies’ and doesn’t refer to the colour.

¹¹ *hang* ‘pillow’ in Dzongkha is ‘*ngâ* in Kurtöp. *hing* in Dzongkha meaning ‘from the heart’ is ‘*neng* in Kurtöp. Similarly *hap* ‘snort’ is ‘*nâp*; *hema* ‘before/earlier is ‘*nâpa*; *hapa* ‘nose’ is ‘*nâ*; *hum* ‘smell’ is ‘*nam* etc.

The words for ‘garlic’ (*Allium sativum*), ‘onion’ (*Allium sp.*), ‘eggplant’ (*Solanum melongena*) and ‘carrot’ (*Daucus carota*) are consistent throughout the dialects and thus easy to propose reconstruction. The proposed reconstructed Proto Kurtöp word for ‘garlic’ is thus **chacu* and for ‘scallions’ is **tsong*. Onions have not been part of the local diet and is a recent introduction and goes by the name *pes* which is a borrowing from the Hindi word *pyaaj*.

The proposed reconstructed Proto Kurtöp word for ‘eggplant’ is **dolom* and for ‘carrot’ is **muya zhintila*. It is interesting to note that while the words for *chacu* and *tsong* are different in Dzongkha as *cagop* and *dunggop*, the words for egg plant and carrot are basically the same. Egg plant is *dolom* in Dzongkha as well while carrot is *laphu marp* which literally means ‘red radish’ and that is the same in Kurtöp as well where *muya zhintila* means ‘red radish’. It can be hypothesised for now that egg plant and carrot were perhaps introduced later into the communities through assimilation with other communities in Bhutan and thus perhaps the names are a borrowing/alteration of Dzongkha terms.

The word for ‘high altitude chives’ (*Allium wallichii*) is also consistent throughout the varieties as *matma*, except in Shawa where the alveolar voiceless /t/ is replaced by a lengthened vowel and realized as *mâma*. This is however not a regular sound change in similar words such as *tshotma* ‘curry’. However, considering that it is consistent throughout the other varieties I propose to reconstruct the word for high latitude chives in Proto Kurtöp as **matma*. Then there is another variety of vegetables similar to the high-altitude chives, identified for now as scallion type and grows in lower elevation compared to *matma*. This is called *kiuya* in Dungkhar, Zhamleng, Shawa and Nê but called *kiula* in Gangzur and Tangmachu. However, *kiula* is a borrowing from Chocangaca and thus I propose to reconstruct as **kiuya*. Additionally, there is no evidence to consider /y/ to /l/ as a regular sound change among the Kurtöp varieties.

The words for pumpkin (*Cucurbita pepo*) and taro (*Colocasia esculenta*) are also consistent as *laushar* and *bjo* respectively, except for a slight variation in Tangmachu as *laushan/dorshan* and *bjoki* respectively. The coda consonant alteration from alveolar /r/ to nasal /n/ as in *laushar* to *laushan* is most likely a deviation caused over time but *dorshan* is mysterious at this stage as this change is not seen elsewhere in the dialect. The Tangmachu -n doesn’t correspond to -r in the other dialects. Nonetheless since it is consistent in all five dialects and a minor alteration in the Tangmachu variety, I propose to reconstruct the word for pumpkin in Proto Kurtöp as **laushar*. As for taro, the word in Tangmachu variety is *bjoki* and *ki* means potato. Considering that taro and potato are both tubers and also looks similar *ki* is

perhaps an elaboration on the word *bjö* to emphasize on its visual similarity as well as both being edible tubers. In this context, I propose to reconstruct the word for taro in Proto Kurtöp as **bjö*.

The next is a green vegetable called *brekha* (*species unknown*) in Dungkhar, Shawa, Nê and Gangzur but interestingly called ‘*lakaling* in Zhamleng and *khawiru* in Tangmachu. While this vegetable is green like a spinach, it is bitter and the leaves are narrow and spread like chicken feet and this explains why it is called by the name *khawiru* ‘chicken’s web’ in Tangmachu. Why it is called ‘*lakaling* in Zhamleng cannot be explained at this stage and the word cannot be broken to study or comment on the etymology either. However, since *brekha* is common across four dialects I propose to reconstruct to Proto Kurtöp as **brekha*.

There are several varieties of beans (*Fabaceae* or *Leguminosae*) grown and consumed in the Kurtöp region. The generic term for ‘beans’ is *shepen* and is consistent throughout the dialects and thus the proposed Proto Kurtöp form is **shepen*.

There is a type of bean called *moringmi shepen* and the name is consistent throughout the varieties. This word comes from *moringmo* meaning a household where the woman of the household is not married or that her husband has left or is a widow and the woman has the burden of running the house alone. The *-i* marks genitive in Kurtöp and so *moringmi* means ‘*moringmo*’s’. Locals claim that this bean was perhaps first cultivated by such a lady. The yield from this cultivation was extraordinary and she is believed to have become prosperous after cultivating this bean and thus the name came to be so. The Proto Kurtöp reconstruction is straightforward as **moringmi shepen*.

Another popular bean type is *gwan shepen* as it is called in Dungkhar, Zhamleng, Shawa and Nê but known as *ton shepen* in Gangzur and *bongbunala* in Tangmachu. The Gangzur variety is definitely borrowed from Chocangaca as *ton* means ‘autumn’ in that language. *Bongbunala* in Tangmachu is a mystery and cannot be explained at this stage. Given thus I propose the Proto Kurtöp reconstruction for this bean variety as **gwan shepen*. Interestingly, there is also a fern variety called *gwan zhima* which is a variety that grows at a higher elevation but the two seem to have no reasonable connection as to why both of them share the name *gwan*.

Another variety of bean that is widely grown in the communities is what is called *sangbaling te* in Dungkhar, Shawa and Nê while it is called *tsi’likpi shepen* in Zhamleng,

shepen bogala in Gangzur and *sangbaling shepen* in Tangmachu. *Sangbaling* refers to sparrow, in particular House Sparrow (*Passer domesticus*), Eurasian Tree Sparrow (*Passer montanus*) and Russet Sparrow (*Passer rutilans*) and *te* means ‘egg’ so *sangbaling te* literally means sparrow’s egg and this bean is named so due to the shape and size of the beans which resembles that of a sparrow’s egg. Why it is known as *shepen bogala* in Gangzur cannot be ascertained at this stage but since *shepen* is the generic word for beans and commonly used with the names of the beans as in *gwan shepen*, *moringmi shepen* etc. I propose to reconstruct this to **sangbaling te shepen*.

The next variety of bean is called *patangringkula* in Dungkhar and Nê; *yodrakpa* and *yodrakpi shepen* in Zhamleng and Shawa respectively; *bartali shepen* in Gangzur; and *patang shepen* in Tangmachu. From the etymology it looks like *patang* and *patangringkula* refers to the elongated shape of the beans like a *patang* meaning ‘sword’ and *ringkula* meaning ‘the long one’ in Kurtöp. *Yodrakpa* and *yodrakpi* refers to place from where the seeds could have possibly originated or brought from. Yodrak is the name of a place in Lhuentse. The suffix *-pa* is a denizen marker so that Yodrakpa can be analysed as ‘one from Yodrak’ and with the genitive it becomes ‘one from Yodrak’s’ *-li* in *bartali* is a genitive marker that shows possessiveness but the meaning of *barta* or *bartala* cannot be ascertained at this stage. Locals guess that it was probably introduced in the village by someone called Bartala. There are several instances where varieties of seeds or plants are named after the person who introduced them such as *ashi shepen* (as discussed below) or *nyimi ’ngon* or *chonye dorji* (discussed later under weeds). However, for the purpose of reconstruction for this variety of beans I propose to consider the shape of the beans which is a more reliable reference and thus propose to reconstruct to Proto Kurtöp as **shepen patangringkula* ‘the bean that is like a long sword’.

Ginger (*Zingiber officinale*) is consistent throughout the varieties as *saga*. It is also called *saga* in Dzongkha and perhaps a recent introduction in the community but locals claim that ginger has been grown on small scale for self-consumption for ‘as long as they remember’.

Turmeric (*Curcuma sp.*) is consistent across four varieties of Dungkhar, Zhamleng, Shawa and Nê as *yongka* but as *yungka* in Gangzur and Tangmachu. However, it is also known as *yungka* in Dzongkha so the latter two communities’ term is a direct borrowing while *yongka* is also a slight modification of the Dzongkha term indicating that turmeric is also not native to the community. Unlike in Indian cuisine where turmeric is used as a spice, in Bhutan as well as in Kurtöp, it is used more for its medicinal value as an antiseptic and also used in dyeing yarn.

5.3 RECENTLY INTRODUCED VEGETABLES

English gloss	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
bitter gourd	khaktima	khaktima	khaktima	khaktima	khaktima	khaktima
broccoli	brokali	brokali	brokali	brokali	brokali	brokali
cauliflower	metokopi	metokopi	metkopi	metokopi	metokopi	metokopi
cabbage	kopi	kopi gurkhan	kopi gurkhanla	kopi gurkhan	gurkhanla	bandakopi
asparagus	nya khacung	nya khacung	nya khacung	nya khacung	nya khacung	nya khacung

Table 130: Vegetables introduced and grown in recent times.

In comparison, vegetables such as broccoli (*Brassica oleracea var italica.*), cauliflower (*Brassica oleracea*), cabbages (*Brassica oleracea var. capitata.*), bitter gourd (*Momordica charantia*), asparagus (*Asparagus officinalis*) etc. take their names from Dzongkha with certain modification to Kurtöp such as *khaktem* in Dzongkha to *khaktima* which is similar to many Dzongkha word modified to Kurtöp with a pronounced coda; or *banda kopi* to *kopi gurkhan* in Kurtöp which literally means *kopi* ‘cabbage’ that is ‘twisted’ or ‘bowing’ with Gangzur keeping *gurkhanla* ‘the twisted or bowing one’ and in Tangmachu its *bandakopi* as it is in Dzongkha. Ultimately *bandakopi* is again a borrowing from Hindi indicating that this vegetable is a recent introduction in the country itself. Given that they are introduced in recent years, no reconstruction is proposed and only their Kurtöp/modified names are recorded.

5.4 WILD HARVESTED VEGETABLES

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
fiddlehead/fern	zhima	zhima	zhima	zhima	zhima	zhima
autumn fern/fat fern	gwan zhima	gwan zhima	gwan zhima	gwan zhima	gwan zhima	gwan zhima
orchid type	cungka meto	ola choto	cungka meto	ola choto	cungka	ola choto
orchid type	ola choto	ba cungka	ola choto	ola choto	ola choto	ola choto
banana flower	ngalito/bakshaling	nyokitong	ngalito	ngala khambu	bakshaling	bakshaling
green leafy veg.	damburu	damburu	damburu	damburu	damburu	damburu
yam, wild potato	ron ki	ron ki	ron ki	ron ki	ron ki	kikshaling
cane	patsha	pacha	pacha	pacha	pacha	pacha
sweet potato	janki			kisha'ling	janki	desho kewa

Table 131: Wild harvested vegetables.

In addition, as a community isolated from modernization and self-sufficient for a long time, the local people's knowledge of identifying and consuming wild vegetables and fruits is not surprising. Locals can not only identify them but also describe when and where these vegetables and fruits grow.

In Table 131 above, we can see there are nine different harvest vegetables consumed by all Kurtöp communities. The two fiddlehead/fern *zhima* (*Diplazium esculentum*) and *gwan zhima* (*Matteuccia struthiopteris*?) are identical across all varieties and as such it is easy to reconstruct **zhima* and **gwan zhima* to Proto Kurtöp. While *zhima* grows closer to the villages, *gwan zhima* grows higher up in the mountains (approx. 2500 meters above sea level and above).

Varieties of orchids (*Orchidaceae spp*) are also grown but predominantly two are consumed as a delicacy. However, it is known interchangeably in the communities but nonetheless it is confirmed that there are two varieties. It is interesting that *ola choto* refers to 'crows beak' vegetable in Dzongkha (which is known by *chidula* in Kurtöp) and has no relation

to the reference to orchid type in Kurtöp. The Dungkhar and Shawa varieties call it *cungka meto* but *meto* refers to flower and thus omitted in the reconstruction. Zhamleng refers to one type of orchid as *ba cungka* which is again unique but no substantial information to consideration in the reconstructed form. Therefore, I propose reconstruction to Proto Kurtöp for these two types of orchids as **ola choto* and **cungka*.

Damburu (*sp. unknown*) is a popular foraged vegetable, a plant with broad leaves and mainly cooked as *jāju* ‘a soup type curry’. Given its common usage across Bhutan it is not surprising that it is referred to by the same across all the villages and thus reconstructed as **damburu*. It must also be noted that the Dzongkha term is *damru* which is similar to Kurtöp but since this plant grows extensively in Kurtöp and traditionally consumed, it is hard to assume that it is a borrowing.

Yam (*Dioscorea*), a variety of potato foraged from the jungle and is known as *Ron ki* across all the varieties except for Tangmachu where they call it *kikshaling*. However, in Nê *kikshaling* refers to another variety of foraged potato, sweet potato (*Ipomoea batatas*.) known as *jan ki* in Dungkhar and Gangzur. Respondents in Shawa and Zhamleng didn’t know the names for this variety of foraged potato whereas in Tangmachu, respondents hesitantly suggested *desho kewa*. *Desho kewa* however sounds like an influence or borrowing from Dzongkha since *desho* is ‘daphne paper’ and *kewa* is ‘potato’ in Dzongkha. Both these varieties of potatoes are not collected or consumed today and thus also explains the unfamiliarity among some of the respondents. Based on these findings I reconstruct to Proto Kurtöp as **ron ki* and **jan ki* for yam and sweet potato respectively.

Another foraged vegetable particularly popular for making *jāju* (vegetable broth or soup) is cane. It is called *patsha* in Dungkhar but in all other varieties it is *pacha*. It must also be noted that this is also not commonly grown in the region and the word *patsha* is a direct borrowing from Dzongkha. It is not common for the Dungkhar variety alone to borrow from Dzongkha so this instance is unique. Given its consistency among the five other dialects and that Dungkhar variety is a borrowing from Dzongkha, I propose to reconstruct this to Proto Kurtöp as **pacha*.

For banana blossom (*Musa spp.*), we see differences across the varieties. The Dungkhar and Shawa term *ngalito* is analysable as *ngala* ‘banana’ to ‘food’, using words borrowed from

Dzongkha. I thus propose that these terms are recent in these varieties and not reconstructable. The Nê term *ngala khambu* is similarly composed of the Dzongkha word for ‘banana’ *ngala* plus a Tibetan word for ‘peach’ *khambu*; this word is thus also probably a recent term in the language. The Zhamleng term *nyokitong* is potentially analysed as *nyok* ‘sweet’ plus *tong* ‘wild apple’. The only term that is semantically opaque is *bakshaling*, as found in Dungkhar, Gangzur and Tangmachu. I thus reconstruct this to Proto Kurtöp **bakshaling*. This only grows on wild bananas and the actual fruit never really ripens nor is it consumed.

5.5 HERBS

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
herb type	sorburu	sorburu	sorburu	songoru	sorburu	sorburu
herb type	pojama	pojama	pojama	pojama	pojama	jama gole
herb type	'ret	'ret	'ret	'ret	'ret	'ret
herb type	gonzuru	gonzuru	gonzuru	gonzorum	zenguru	zengaru /gonzaru
herb type	tanglungma	tangrungma	tangrungma	tanglungma		
herb type	ushula	ushula	ushula	ushula	ushula	ushula
coriander	yoisi	yoisi	yoisi	yoisi	yoisi	yoisi

Table 132: Herbs.

The table above shows the list of seven herbs that are popularly consumed among the communities. All these herbs, except for coriander, grow in the wild and are seasonal. People have however begun domesticating *sorburu* and is now grown in the villages too. The whole plant with its roots is uprooted and transplanted in the gardens and this has been a successful venture. These herbs are also consumed and available in many parts of the country though the variety and taste differ.

Sorburu (*scientific name unknown*), a very popular herb in Kurtö is also available in many parts of the country but the one in Kurtö has a stronger smell in comparison. It is called ‘*namda*’ in Dzongkha. It is used both fresh and dry and commonly cooked with potato and chili dishes. It is called *sorburu* across all varieties except *songoru* in Nê. At this stage it is difficult to decipher the origin and provide an explanation for why it is called *songoru* in Nê. However, given that it is *sorburu* across all other varieties and that it is a commonly consumed herb and also because it is found in all the communities, I infer that there cannot be a great difference in the name and I thus propose to reconstruct to Proto Kurtöp as **sorburu*.



Image 14: *sorburu*, type of edible wild plant.

Credit: Gwendolyn Hyslop

Another herb that is commonly found among the communities under focus and is quite straightforward is ‘*ret*’ (*scientific name unknown*). The plant has leaves like buckwheat and is consumed fresh with *eze* (chili paste) and grows wild in muddy or swampy places. Since there is no difference between the varieties, the Proto Kurtöp form is easy to propose for consideration as **ret*.



Image 15: 'ret, type of plant.

Credit: Jamyang Choden.

Pojama (scientific name unknown), is another herb that is consumed fresh with eze and grown wildy in muddy fields. It is called *pojama* across all varieties except in Tangmachu where it is interestingly called *jama gole*. The etymology of *jama gole* cannot be deciphered at this stage. However, considering that it's a common herb and considering the rule of majority it is safe to reconstruct to Proto Kurtöp as **pojama*.

The next variety of herbs is known by four different names across the different varieties of Kurtöp and is not as commonly used as *sorburu*, *pojama* or 'ret and its scientific name is unknown too at this stage. It is known as *gonzuru* in Dungkhar, Zhamleng and Shawa, *gonzurum* in Nê and *zenguru* and *zengaru* in Gangzur and Tangmachu respectively. In addition, Tangmachu identifies *zengaru* as the variety grown in the terraced fields where paddy is grown and *gonzaru* as the variety grown in *phusa* 'higher land'. The speakers of the other varieties that I consulted haven't confirmed the existence of two types of this herb. The reconstruction is a little complicated. While *gonzuru* and *gonzurum* are definitely related, *zengaru* and *zenguru* perhaps points to a separate species as identified by the speakers of the Tangmachu variety. I would like to confirm as such and propose for reconstruction to Proto Kurtöp for one variety as **gonzuru* given its common and consistent across three varieties and **zenguru* for the other species of the herb.

The next herb type is known by two variations, *tanglungma* in Dungkhar and Nê and *tangrungma* in Zhamleng and Shawa. However, respondents in Gangzur and Tangmachu were unable to identify the herb and said this is grown in the higher altitude areas and not available in their communities. The two names are definitely related but hard to ascertain with confidence as to which one would be the Proto form. The sound change from /l/ to /ɾ/ or vice versa is not regular as well and no instances have been observed among the varieties. However, according to the internal phylogeny as observed through phonological and morphological comparisons Dungkhar, Zhamleng and Nê are closer together as varieties while Shawa, Gangzur and Tangmachu stand out. Considering this, I would like to propose for reconstruction for this herb type as **tanglungma* for now. However, the fact that Shawa, Gangzur and Tangmachu standing out in certain respect doesn't necessarily mean that they are innovative in all aspects.

The next type of herb is a mint (*Mentha spp.*) and is consistent across all varieties as **ushula* and hence easy to propose for reconstruction as such.

Coriander (*Coriandrum sativum*) is also common across all varieties as **yoisi* and easy to propose for reconstruction as such. The coriander leaves are consumed fresh with *eze* 'chili paste' or added to it as a herb. Interestingly it is *yösi* in Dzongkha perhaps indicating that coriander is not native to the region and that the name in Kurtöp is a borrowing with modification to Kurtöp as is common with many Dzongkha names with German umlaut vowel modified to Kurtöp with the diphthong /oi/ as in *töb* 'praise or compliment' to *toiba*; *tötsi* 'half jacket worn by monks' to *toitsi*; *thâ khö* 'to accomplish' to *thar khei*; *datrö* 'to convey' to *datroi* etc. It could be also that it is a borrowing from Dzongkha after splitting up of Proto Kurtöp.

5.6 WILD MUSHROOMS

A total of thirteen wild mushroom species have been identified for reconstruction in the Kurtöp language as shown in the table below. However, since mushrooms are seasonal there is a possibility that some may have been missed from the record as well. However, given the list of thirteen mushrooms as listed below, it is evident that mushroom collection from the wild is an important vegetable source for the speakers of Kurtöp and that they have played a crucial

role in the dietary and culinary practices of indigenous Kurtöp speaking communities, as is common across most parts of rural Bhutan (Penjor et al., 2010).

Mushrooms are not only a rich source of nutrients but also a versatile ingredient in traditional cuisines, offering unique flavours and textures that complement various dishes. In the context of the Kurtöp-speaking communities, where agricultural resources is limited due to rugged terrain and climatic conditions, wild mushrooms serve as an important supplement to the diet, providing essential nutrients and culinary diversity. Today, mushrooms also serve as a supplementary source of cash income as members of the community collect them and sell at the nearest market in Lhuentse.

Furthermore, the extensive knowledge of local mushroom species among Kurtöp speakers underscores the deep-rooted connection between the communities and their natural environment. Through generations of observation and experience, indigenous peoples have developed intricate systems of classification and utilization of wild mushrooms, harnessing their nutritional and medicinal properties while ensuring sustainable harvesting practices to preserve biodiversity (Penjor et al., 2010).

The collection of wild mushrooms from the forest is a communal activity, with families and communities venturing into the wilderness to forage for edible varieties. This practice not only provided sustenance but also fostered social cohesion and cultural exchange, as they shared knowledge and techniques for identifying, harvesting, and preparing mushrooms.

It may also be noted that there are as many non-edible or poisonous mushrooms that have not been listed for reconstruction here¹².

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
mushroom type	kawamu	kawamu	kawamu	kawamu	kawamu	kawa shamu

¹² There is however an interesting traditional belief or practice to avoid being poisoned by a non-edible mushroom-locals belief that if one is unsure of whether a mushroom is edible or not one must give it a name with confidence and then cook it and consume it. Another local belief is that adding Sichuan Pepper to mushroom kills its poisonous content and a mushroom dish is always seasoned with a pinch of Sichuan Pepper powder. These are however not scientifically proven, and Bhutan has officially recorded 26 deaths and 76 recoveries from mushroom poisoning in the last three years (*More Awareness to Curb Mushroom Poisoning* | *Kuensel Online*, 2024).

Black Wood Ear (Fungus)	chimuya	chimuya	chimuya	chimimu	chimuya	chimila sham
Black Wood Ear type (cat's ear)	zhimbulina	zhimbulina	zhimbulina	zhimbulina	zhimbulina	zhimbulina
mushroom type	tabrimu	tabrimu	tabrimu	tabrimu	tabrimu	tabri sham
chanterelle	silimu	silimu	silimu	silimu	silimu	silu sham
mushroom type	binamu	binamu	binamu (whitish)	binamu	binamu	binu sham
mushroom type (monkey's ear)	praina	praina	praina	praina	prai nabring	prai yâ
mushroom type	pisingmu/cikwir mu	pisingmu	cikwirmu/kha shiphelang	pisingmu	pisingmu	pisingmu
mushroom type	tropamu	tropamu	tropamu	tropamu	prengpimu	phowa sham
mushroom type	jumu		jumu	jumu	jumu	piseng kola/tshakseng kola
mushroom type	threphimu	threphilimu	makpalingmu	threphimu	threphimu	Threphimi
mushroom type	pahangmu	pegarmu	pegarmu	kinseng patra	bawshamu	bawshamu

Table 133: Wild harvested mushrooms.

The table above presents the list of edible mushrooms and their corresponding names across the different dialects. As evident, generally, there seems to be a consistent phonetic realization across all dialects. The generic term for mushroom in Kurtöp is *mu* it may be noted that the word for mushroom in Dzongkha is *shamu* and we see this borrowing in some of the dialects, especially Tangmachu.

There is consistent phonetic realization for *kawamu* (*scientific name unknown*) though it is *kawa sham* in Tangmachu. *Shamu* is clearly a Dzongkha and Chocangaca borrowing and I thus propose to reconstruct the word for this mushroom as **kawamu*.

A slight variation is observed in the word for Black Wood ear fungus (*Auricularia auricula-judae*). While it is *chimuya* in Dungkhar, Zhamleng, Shawa and gangzur, it is *chimimu* in Nê and *chimila sham* in Tangmachu. It is important to note here that names for mushrooms in Kurtöp tend to generally end with *mu* which is the generic term for mushrooms

except in the case of *zhimbulina* and *praina* where the name is a clear reference to the shape of the mushrooms in reference to something that is common. *Chimuya* is made up of two words *chi* meaning ‘lips’ and *muya* meaning ‘radish’. This doesn’t help in reconstructing the word in the Proto language. The *mi* in *chimimu* and the *la* suffix in *chimila sham* can either be adjectives to indicate ‘lip-like-mushroom’ or a focus marker (Hyslop, 2017) in case of *chimila sham*¹³. Given these observations and considering consistency in other names of the mushrooms I propose to reconstruct to Proto Kurtöp as **chim*.

Zhimbulina, literally ‘cat’s ear’ is consistent throughout the varieties and thus easy to propose reconstruction as **zhimbulina*¹⁴. It is interesting that both *chim* and *zhimbulina* are known as *bj’ili ’namco* in Dzongkha which literally means ‘cat’s ear’ but are distinct in Kurtöp.

The three other varieties of mushrooms namely *tabrimu* (English common name and Scientific name unknown), *silimu* (English common name and Scientific name unknown) and *binamu* (English Common name and Scientific name unknown) are consistent except again in the Tangmachu variety they use the term *sham* for mushroom which is clearly a borrowing from Dzongkha and the neighbouring Chocangaca language. Thus, I propose to reconstruct these words as they are in the five other varieties of the Kurtöp as **tabrimu*, **silimu* and **binamu*. *Silimu* is similar to *sese sham* (Chanterelle in English, *Cantharellus cibarius*) in Dzongkha but are not the same and *sese sham* doesn’t grow in the Kurtö region.

A species of mushroom called *praina* (English Common name and Scientific name unknown) literally meaning ‘monkey’s ear’ is also consistent across the four varieties of Dungkhar, Zhamleng, Shawa and Nê. However, it is *prai nabring* literally meaning ‘monkey’s earlobe’ in Gangzur and *praiyâ* literally meaning ‘monkey’s hand’ in Tangmachu. This is a

¹³ *La* suffix is a focus marker after names; after adjectives as in *jikpala* ‘the big one’, *nyuntila* ‘the black one’; or after verbs as in *zukanla* ‘the one who is eating’, *gekhanla* ‘the one who is going/leaving’ is common in Kurtöp.

¹⁴ According to locals *zhimbulina* has been harvested and consumed by the locals as far as they can remember. However it is interesting to note that the name in Dzongkha for this variety of mushroom is *bjili ’namco* which also exactly means ‘cat’s ear’. This indicates either this was a variety that was introduced later and thus translated the Dzongkha name but according to locals this couldn’t have been true.

consumable mushroom but the locals in Tangmachu shared that the *praiyâ* is not edible and thus could be a different variety of mushroom. The consultants I worked with were not aware of an edible version. I propose to consider the rule of majority again, and also because *nabring* ‘earlobe’ is an extension of the *na* ‘ear’ and thus reconstruct it to **praina*.

Pisingmu (English common name and Scientific name unknown) has a few variations. In Dungkhar, while it is also called *pisingmu*, locals call it *cikwirmu* as well. In Shawa, it is also known by two names as *cikwirmu* as in Dungkhar and another interesting name as *khashi phelang*. All other varieties, except in Shawa it is known as *pisingmu*. *Pisingmu* is comprised of *pising* as in ‘oak tree’ and *mu* as in ‘mushroom’. This mushroom grows wild on oak trees and hence the name. It also grows on *drapseng*. It is also called *cikwirmu* in Dungkhar and Shawa because the bird called *cikwir* starts chirping around the same time this mushroom starts growing and hence the name. *Khashi phelang* literally means ‘deer’s forehead’ and is a description of the shape of the mushroom. I propose to reconstruct this mushroom variety as **pisingmu*.

Trotpamu (English common name and Scientific name unknown) is consistent in Dungkhar, Zhamleng, Shawa and Nê but goes by *prengpimu* in Gangzur and *phowa shamu* in Tangmachu. *Trotpa* means intestine and thus the mushroom draws its name from its appearance. *Prengpa* means a slice of leather often used as a rope or a belt and can argue that it looks similar to an intestine. However, *phowa* meaning ‘stomach’ or intestine’ is clearly a Dzongkha and Chocangaca borrowing which is consistent with most entries in the Tangmachu variety. Given that it is common across four varieties and that *prengpa* also refers to how the mushroom looks, I propose to reconstruct it as **trotpamu*.

Jumu (English common name and Scientific name unknown) is also more or less consistent throughout the varieties except in Tangmachu where it is called *pising kola* and *tshakseng kola*. *Jumu* literally means ‘milk mushroom’ and stems from the fact that a milk like liquid oozes out from the mushroom when plucked. On the other hand, Tangmachu variety calls it *piseng kola* and *tshakseng kola* since this mushroom grows as a parasite on *piseng* ‘oak tree’ and *tshakseng* ‘chir pine’. However, the etymology of *kola* cannot be explained at this

stage. Nonetheless, given that all other varieties are consistent, I propose to reconstruct it as **jumu*¹⁵.



Image 16: *jumu*, type of mushroom.

Credit: Gwendolyn Hyslop

Similar to *jumu*, the variety of mushroom called *threphimu* (English common name and Scientific name unknown) is also mainly consistent but the difference in this case is in the Shawa variety where it is known as *makpalingmu* and unfortunately the etymology of this entry also cannot be elaborated much at this stage. My guess is that this is perhaps another variety of mushroom but didn't resonate with the respondents from the other varieties of the language. However, again, considering that it is consistent in the other varieties, I propose to reconstruct as **threphimu*. This is also because *threphimu* makes etymological sense as *threphi* means 'millet flour' and the mushroom is covered in a certain flourlike substance on the surface.

¹⁵ The edible *jumu* is reddish black in colour but there is another variety slightly pale in comparison and is poisonous.

What is perplexing and hard to reconstruct from among the edible mushroom varieties is what is known as *pahangmu* in Dungkhar, *pegarmu* in Zhamleng and Shawa, *kinseng patra* in Nê and *bamshamu* in Gangzur and Tangmachu. The English common name and the scientific name is unknown as well. I suspect if these are different varieties of mushrooms but since it was not mushroom season during my visit it was not possible to identify accurately and differentiate through pictures. However, respondents in Dungkhar, Zhamleng and Nê confirmed that this variety is grounded as a powder for consumption. The etymology of *pahang* and *pegar* in *pahangmu* and *pegarmu* cannot be ascertained but *kinseng* refers to a tree type from which *kinmar*, a black coloured oil is extracted but this has no correlation with the mushroom as the mushroom is not known to grow on this tree. Similarly, *baw* in *bawshamu* refers to a node on certain varieties of trees but again no correlation to the variety of mushroom. Given this scenario, I propose to reconstruct the word for this mushroom as **pegarmu* for two reasons. One, it is consistent in at least two varieties. Two, while *bawshamu* is also consistent in two varieties it can be observed that most of the names of mushroom in the Tangmachu variety are influenced by or borrowings from Chocangaca and it cannot be ruled out in this instance as well.

5.7 SICHUAN PEPPER

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
wild Sichuan pepper	chawa	chawa	chawa	chawa	chawa	chawa
wild Sichuan pepper	michawa	michawa	michawa	michawa	michawa	michawa
wild Sichuan pepper	prachawa	prachawa	prachawa	prachawa	prachawa	prachawa
wild Sichuan pepper	wamchawa	pharchawa	pharchawa	wamchawa	wamchawa	wam chawa
wild Sichuan pepper	gangchawa	gangchawa	gangchawa	gangchawa	gangchawa	gangchawa
wild Sichuan pepper	‘manchawa	‘manchawa	‘manchawa	‘manchawa	‘manchawa	‘manchawa
wild Sichuan pepper	yachawa	yachawa	yachawa			

Table 134: Types of Peppers.

Six species of Sichuan pepper are identified by the respondents in the six different communities of Kurtöp speakers. The generic term for this Sichuan pepper species is *chawa* (*Zanthoxylum spp.*). While Kurtöps, like almost all other Bhutanese cuisines don't use much spices, Sichuan pepper is used for specific dishes and locals can identify what goes best with what particular dish. Of the six, three are more popular and commonly consumed and they are *michawa* (*Zanthoxylum armatum*), '*manchawa* (*Zanthoxylum nitidum*) and *gangchawa* (*Zanthoxylum ovalifolium*). Etymologically *mi* refers to 'people', indicating that this is most widely consumed by the 'people, '*man* refers to 'medicine' perhaps referring to some intrinsic medicinal value to the locals and *gang* meaning 'hill' indicating that it grows higher up compared to the other species. *Michawa* is slightly bigger in size in comparison or '*brauki*' as the Kurtöps explain in comparison to '*manchawa* which is *pratmi* 'thin'. Of the six, two species namely *wamchawa* (*Zanthoxylum rhetsa*) and *prachawa* (*Zanthoxylum acanthopodium*) are not consumed. Locals also note that the distinction of *prachawa* in comparison to other species is that it grows as a bunch. Etymologically, *wam* in *wamchawa* means 'bear' and *pra* in *prachawa* means 'monkey' so these species are likely consumed by these animals.

The common name for Sichuan pepper is easy to reconstruct as it is consistent throughout the varieties and thus I reconstruct as **chawa*.

Similarly, *michawa*, '*manchawa*, *gangchawa* and *prachawa* are also consistent and thus reconstructed as **michawa*, **'manchawa*, **gangchawa* and **prachawa*.

Wamchawa has a slight variation as it is known as *pharchawa* in Zhamleng. *Phar* likely refers to *pharwa* as in 'wolf' but given that it is consistent in all five other varieties of the language I propose to reconstruct as **wamchawa* and hypothesize that *pharchawa* is a local innovation at the dialect level.

There is a species known as *yachawa* but only respondents from Dungkhar, Zhamleng and Shawa mention of it while the respondents in the rest of the varieties were unaware. Given that it is consistent in the three known varieties, I reconstruct the term for this species of

Sichuan pepper as **yachawa*. This species is not used widely and in fact only used in one specific occasion in making porridge for a Buddhist practice called *nyungné*¹⁶.

5.8 DOMESTICALLY GROWN FRUITS

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
pomelo	kapula	kapula	kapula	kapula	kapila	kapula
orange	tshalum	tshalum	tshalum	tshalum	tshalum	tshalum
mango	amcukuli	amcukuli	amcukuli	amcukuli	amcukuli	amcukuli
apple	epali	epali	epala	epala	epal	epal
peach	li	li	li	li	li	li
peach type	losum khambu	losum khambu	losum khambu	losum khambu	losum khambu	losum khambu
peach type	dramtsipa	dramtsipa	cakharpi li	cakharpi li	cakharpi li	cakharpi li
peach type	phili	phili	phili	phili	phili	phexham
persimmon	andre	andre	andre	andre	andre	andre
cucumber	kawan	kawan	kawan	kawan	kagon	kagon
banana	caya	caya	caya	caya	cê	cê
pear	'litong	'litong	'litong	letong	'litong	'litong
cucumber	kawan	kawan	kawan	kawan	kagon	kagon
plum	culi	culi	culi	culi	culi	culi
guava	bebziu	bebziu	bebziu	bebziu	bebziu	bebsiu

Table 135: Domestically grown fruits.

¹⁶ *Nyungné* is a Buddhist fasting practice. It is normally done in sets with two days comprising a set. Participants are allowed to eat and drink till lunch on the first day, then drink for the rest of the day till night and once they put their heads on the pillow for the night, they can neither eat nor drink nor talk for the following day and night and the cycle begins again on the morning of the third day. Porridge, locally known as *thukpa* is served before breakfast and this species of *chawa* is used specifically for this porridge.

The Kurtöps also cultivate and consume a wide variety of fruits and as many are also foraged from the wild. The temperate condition (1800-2600 masl) is favourable for the cultivation of many varieties of fruits but generally most of the land that are easily accessible are used either for settlement or agriculture works and fruits are normally cultivated on a small scale and only for self-consumption. None of the communities cultivate fruit as a cash crop like their counterparts in western and southern Bhutan. In Southern Bhutan mandarin and cardamom are cultivated for sale and export and likewise in the northern districts of Thimphu and Paro, apples are extensively cultivated for commercial purpose. Apart from this, not much is known about the history of deciduous fruit cultivation in the country owing to very little documentation (Dorji, 1999). More than as a food or food supplement, fruits always occupied a prominent place on the altar of offering (Dorji, 1999) and it is evident in its reverent reference as *tshô* meaning ‘offering’ to deities and higher beings. But this does point to the fact that fruits could have been cultivated in the communities for a long time.

Oranges¹⁷ (*Citrus reticulata*) are grown across the region, and this is consistent across all varieties. However, it is very similar to the Dzongkha word *tshêlu* so it is perhaps a recent introduction and the name is derived from its Dzongkha equivalent. Nonetheless, given that it is consistent throughout the varieties, I propose the Proto Kurtöp term as **tshalum* for mandarin.

The Kurtöp term for Pomelo (*Citrus medica*) is also consistent as *kapula* in all the varieties except in Gangzur where it is known as *kapila*. This vowel fronting from /u/ to /i/ is not a common sound change in the dialect, and I thus consider it an idiosyncratic development. I propose to reconstruct the term for Pomelo as **kapula*. It is however interesting to note that this fruit is also called ‘*numpa* and ‘*num pang*’ by many respondents and seems to be an influence of the Dzongkha named with a slight change.

Similarly, the term for mangoes (*Mangifera indica*) is also consistent but it is an exact borrowing from Dzongkha where it is known both as *am* and *amcukuli*. Locals in Kurtö believe that mango is not native to the region and thus the word is a borrowing from Dzongkha. The

¹⁷ What are known as oranges in Bhutan are technically mandarin.

Dzongkha word in itself is again a borrowing from the Hindi word *aam* and *amcukuli* means ‘the little *aam*’, likely because the mangoes grown in Bhutan were little in size in comparison to those grown in the warm plains of India. However, unlike vegetables such as broccoli and cauliflowers which were introduced much recently, when exactly mangoes were introduced cannot be ascertained and since it is consistent throughout the varieties, I propose to reconstruct as **amcukuli*, as borrowed from Dzongkha.

The term for apples (*Malus domestica*) is also a borrowing from Dzongkha where it is known as *epal* and the varieties of Gangzur and Tangmachu have the exact same words as in Dzongkha. The other varieties modify it a little to sound Kurtöp like it is done for most English words that find its way into the language. In Dungkhar and Zhamleng it is known as *epali*, and in Shawa and Nê as *epala*. However, if we look at many English words that have entered into the Kurtöp lexicon, the general tendency is to add the high front vowel -i word finally such as in *schooli*, *mobil*, *tableli*, etc. In keeping with this tendency, I propose to reconstruct the Proto Kurtöp word for apple as **epali*.

In comparison, peach (*Prunus persica*) is perhaps one of the most native fruits cultivated in the Kurtöp speaking communities. It is known as *lî* in all the varieties and is evidently different from Dzongkha or Chocangaca or Tshangla, three languages that are spoken in the region and have certain influences. It is known as *kham* in Dzongkha and Chocangaca, *lese* in Tshangla. I therefore reconstruct the term for peach in Proto Kurtöp as **lî*.

There are however a few distinct peach varieties namely *losum khambu*, *dramtsipa* and *phili* and *cakharpi lî*¹⁸. Notably, if we compare the terms, *losum khambu* and *phili* appear to be the most deeply rooted in local agricultural tradition, with *losum khambu* consistent across all varieties, while *phili* is found in five of the six varieties. However, *phili* as known in Tangmachu is also its equivalent in Chocangaca with the same etymological meaning.

Etymologically, *losum khambu* derives from Classical Tibetan (Chöke), suggesting a historical introduction from Tibet. This is not unlikely as Kurtö was one of the major trade routes to Tibet prior to its closure in 1962. Elders in the village of Dungkhar still recount of this trade journeys to Wenged (Tibet as referred to by Kurtöps). The term *losum* translates to

¹⁸ *Losum khambu* ripens in the sixth lunar month, *dramtsipa* in the seventh lunar month and *phili* in the eighth lunar month. According to vernacular knowledge this is also how they can differentiate the varieties of peaches.

‘three years’ and *khamu* to ‘peach, possibly indicating a cultivar that requires a three-year maturation period before fruiting.

On the other hand, *phili* is etymologically linked to the local terminology, with *phi* meaning ‘flour’ and *li* as the generic term for ‘peach’. This name likely references the fruit’s soft, flour-like flesh. It is not surprising that in Tangmachu this peach variety is known as *phekham* where *phe* means ‘flour’ and *kham* means ‘peach. The Dzongkha word for peach is also *kham*. It is therefore clear that *phekham* is either a borrowing from Chocangaca or a direct translation of *phili*. I reconstruct the Proto words for these two species of peaches as **losum khambu* and **phili*.

The varieties *dramtsipa* and *cakharpi li* however, are most likely recent introduction to the community. The term *dramtsipa* likely refers to its origin from Dramitse, a place in Mongar District in Eastern Bhutan suggesting the seed was sourced from there or someone from Dramitse first introduced the seeds in the community. Conversely, *cakharpi li* meaning ‘indian peach’ points to its more recent introduction indicating to its source from India. Given that these two varieties are relatively new and inconsistent across the Kurtöp dialects I propose to reconstruct the terms for only **losum khambu* and **phili*. I must also point out that generic word for peach is *li* with a long vowel and often *phili* is also pronounced as *phili* in emphasized speech but in normal casual speech it is hard to hear the long vowel.

The word for persimmon (*Diospyros sp.*) is consistent throughout the varieties as *andre* but the Dzongkha word is also exactly the same. It can be concluded at this stage that it is a borrowing from Dzongkha as persimmon is not a commonly grown fruit in the region as compared to peaches or oranges. However, since it is consistent and we don’t know when exactly the borrowing could have occurred, I propose to reconstruct the word as **andre*.

Cucumber (*Cucumis sativus*) is more or less consistent as *kawan* except in Gangzur and Tangmachu where it goes by *kagon*. The sound change from glide /w/ to bilabial /g/ and /b/ tends to be regular in Kurtöp as in *kawan* to *kagon*, *pewan* ‘bamboo torch’ to *peban* and *sawan* ‘seed’ to *sagon* are perhaps borrowing from Chocangaca, as mentioned in Chapter 4 but need to be further explored. Given my present findings based on available data I consider this as a regular sound change and propose to reconstruct the Proto Kurtöp word for cucumber as **kawan*.

There are two varieties of bananas (*Musa spp.*), the edible grown in the villages and the inedible that grows wild in the jungle. The one in discussion here is the edible one. The Dungkhar, Zhamleng, Shawa and Nê varieties are consistent as *caya*, Gangzur and Tangmachu call it *cê*, and is a direct borrowing from Chocangaca. Hence I propose to reconstruct the Proto Kurtöp form for banana as **caya*.

Pear (*Pyrus pyrifolia*) is consistent as *'litong* except in the Nê variety where the high tone is lost to a lowered vowel in the initial syllable and realised as *letong*. But again it cannot be confirmed that there is a direct link between the two as there are no available cognates for comparison and this could most likely be a one off case. However, since it is mainly consistent, I propose to reconstruct the word for domesticated pear as **'litong*. I refer to this variety as domesticated pear and is discussed further under wild pear in the following section under wild edible fruits.

Plum (*Prunus prunus*) is consistent throughout all the varieties as *culi* but again it's a direct borrowing from Dzongkha. Nonetheless, given it is consistent I propose to reconstruct to Proto Kurtöp as **culi*.

Guava (*Psidium guajava*) is consistent across five varieties as *bebziu* except in Tangmachu where it is called *bebsiu*. The Dzongkha word is also *bebsiu* as it is in Tangmachu while the *bebziu* as it is known in the five other varieties of Kurtöp also points to a direct borrowing from Dzongkha with the alveolar /s/ replaced by the post alveolar /z/. However, again, given that it is consistent across five varieties I propose to reconstruct the term for guava as **bebziu*.

5.9 WILD FRUITS

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
walnut	khuci	khuci	khuci	khuci	khuci	tarka
gooseberry	kut	kut	kut	kut	kut	kut
wild pear	rontong	tong	ronning tong	rontong	rontong	rontong

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banana	ngala	ngala	ngala	ngala	rongi ngala	ngangla
avocado	mi guli	mi guli	guli	guli	guli	guli
wild avocado (monkey)	pra guli	pra guli	pra guli	pra guli	pra guli	pra guli
wild avocado (bear)	wam guli	wam guli	wam guli	wam guli	wam guli	wam guli
dogwood	namnampa	namnampa	namnampa	namnampa	namnampa	namnampa
berries (all types)	mrip	mrip	mip	mrip	mip	mi
berry type	tsher mrip	tsher mrip	tsher mip	tsher mrip	tsher mi	tsher mi
strawberry	samrip	samrip	samip		samrip	samrip
berry type	pangmrip	pangmrip	pangmip	pangmrip	pangmi	pangmi
berry type	derkong (dermrip)	derkong	derkong	derkong	derkong	derkong
berry type	simaling mrip	simaling mrip	simaling mrip			
berry type	mikchun	mikchun	mikchun/ mikchun	ba mikchun	mikchun	congecong
berry type	la mrip	la mrip	la mip	la mrip	la mi	la mi
berry type	prekpema	prekpema	prekpema	prekpema	prakpala	prakpala
berry type	prau mrip	prau mrip	prau mip	prau mrip		
sugarcane	nampa	buram nampa	buram nampa	buram nampa	nampa	nampa
sugarcane type	kanampa	kanampa	kanampa		kanampa	
sugarcane type	khashi nampa	khashi nampa	khashi nampa	khashi nampa	khashi nampa	khashi nampa
sugarcane type	bjaunampa	bjaunampa	bjaunampa	bjaunampa	bjaunampa	bjaunampa
grapes	gundrum	gundrum	gundruma	gundruma	gundruma	gundrum
a sour fruit	khomang or khomang curpo	sacurpo	sacurpo	'mentsela	khomang curpo/sa curpo	khomang curpo
a wild fruit	deng phate	deng phate	deng phate	deng phade	phatsa deng	deng phate

Table 136: Wild edible fruits.

Wild edible fruits refer to fruit species that are foraged or collected from the wild for consumption as opposed to those domestically cultivated as discussed in the earlier section. However, almost all the domesticated fruits have their indigenous species in the wild (Dorji, 1999). Though these fruits, as mentioned, are not staple food supplements, these nutrient-rich species enhanced the food security especially of these remote isolated communities who are dependent on agriculture and closely associated with nature and forests (Yangdon et al., 2022). These fruits are mostly collected for self-consumption especially in the Kurtöp region and this could partly be a result of lack of accessibility to market as well as low market value of these fruits during the season. Some households do engage in drying these fruits for consumption and sale during the off-season. The Kurtöps in general possess in-depth indigenous knowledge¹⁹ when it comes to identifying the wild edible fruits just as they can identify other flora and fauna.

It is evident though to conclude based on linguistic data that some fruits have been collected and consumed for a longer duration as opposed to others. Walnut, gooseberry and wild pear are some of these. Walnut is known as *khuci*, gooseberry as *kut* and wild pear as *rontong* throughout the varieties. *Rontong* has two other varieties but are not etymologically different and only a variation in the way it is said. In Zhamleng it is *tong* and in Shawa is *ronning tong*. It is evident from this that *tong* is the generic term for pear with the domesticated variety known as ‘*litong*’ and wild as *rontong* where *ron* stands for ‘wild/jungle’. In the Shawa variety the suffix *-ning* is an ablative indicating its source to *ron* ‘wild/jungle’. Based on this I propose to reconstruct a generic word for pear as **tong* and wild pear as **rontong*. And the Proto Kurtöp words for walnut (*Juglans regia*) and gooseberry (*Phyllanthus sp.*) are unambiguous as **khuci* and **kut* respectively.

The word for avocado (*Persea Americana*) is also easy to reconstruct. However, there are three varieties, two edible and one inedible. The edible varieties are *mi guli* and *pra guli*. Etymologically *mi guli* means ‘human avocado’ and *pra guli* means ‘monkey avocado’. Locals say that the former is mainly consumed by humans while the latter is also consumed by monkeys. The inedible variety is called *wam guli* which means ‘bear avocado’. All the varieties

¹⁹ However, during my interactions I observed that the level of indigenous knowledge differed extensively between those born and grown in the village and those who have travelled outside of the village, mainly in pursuit of modern education and the opportunities that came therewith.

grow in the wild. People have also started domesticating avocados now given its high value in the market. The domestic ones are however mostly the imported species. It is only done in small scale for self-consumption in the Kurtöp region unlike in the rest of Bhutan where Kuensel (2015), the national newspaper dubs avocado as the ‘new mandarin’ in the district of Zhemgang. What is apparent from the above is that the generic term for avocados is **guli* and I propose to reconstruct as such. The three other varieties are also easy to reconstruct as **mi guli*, **pra guli* and **wam guli*.

Dogwood (*Cornus capitata*.) is easy to reconstruct as well since it is consistent throughout the varieties. It grows in all the communities across the Kurtöp region. The Proto Kurtöp reconstruction is **namnampa*. Etymologically *nam* means ‘sky’ and *nampa* is ‘sugarcane’ so ‘sugarcane from the sky’. Perhaps it is a reference to its sweetness when ripe. *Namnampa* refers to both the tree as well as the fruit.

Various type of berries also grows in the Kurtöp region. The generic term for berries is *mrip* in Dungkhar, Zhamleng and Nê; *mip* without the complex onset in Shawa and Gangzur; and *mi* without the coda /p/ in Tangmachu. The vowel in the end is usually lengthened on the loss of a coda consonant but not in this case. The Tangmachu variety can easily be ruled out as influenced by Chocangaca as it is referred to in the same way in that language. Complex onsets are a feature of all the East Bodish languages and there are many examples of its loss over time such as *pcha* to *cha*, *mya* to *nya* etc. Thus, The generic term for Elaeagnus berry type is reconstructed as **mrip*. Then there are varieties of *mrip* of which 6 edible varieties are recorded here. *Tsher mrip* is with thorns on the stem as etymologically evident where *tsher* means ‘thorn’. So are *sa mrip* and *pang mrip* where *sa* refers to ‘earth/soil’ and *pang* refers to a ‘field of grass’ indicating to where they normally grow. They are also easy to reconstruct as **tsher mrip*, **sa mrip* and **pang mrip*. Another variety is called *derkong* and is also consistent throughout the varieties and thus reconstructed as **derkong*. This variety is also called *dermrip* in Dungkhar but the respondents from other communities didn’t know of this name for this variety of berry. *Simaling mrip* is another variety of edible berries but it is only recorded in the three dialectal regions of Dungkhar, Zhamleng and Shawa and perhaps only grows in these higher altitude regions in comparison. Since it is consistent in these three dialects it is proposed for reconstruction as **simaling mrip*. Another variety of berry is called *mikchun* in the five varieties but not very sure in Tangmachu. Some of the respondents said it could be *congcong* but this couldn’t be verified in the absence of not being able to spot and verify the actual berry.

The respondents from Shawa also pointed to two varieties of this berry, the other is known as *ba mikchun* where the berry is bigger in size. Given that it is consistent through five Kurtöp varieties of Dungkhar, Zhamleng, Shawa, Nê and Gangzur, I propose to reconstruct the Proto Kurtöp word for this berry type as **mikchun*.

Vaccinium sikkimense (English common name unknown) is a type of berry found in the higher altitude as in the name *la* ‘pass’. The plant grows as a shrub and bears bluish/whitish berries that are edible. Consistent with the term for berries as *mrip*, the Dungkhar, Zhamleng and Nê varieties have it as *la mirp* while Shawa has it as *la mip* and Gangzur and Tangmachu as *la mi*. The term **mrip* is already proposed for reconstruction so it is easy to propose reconstruction for this berry as **la mrip*.

Another berry type is *Lyonia villosa* (English common name unknown) which is known as *prekprema* in four varieties of Dungkhar, Zhamleng, Shawa and Nê but as *prekpala* with the nominalizer form in Gangzur and Tangmachu. This plant also grows as a shrub and the berries are similar to *la mrip* but smaller in size. Considering that it is consistent across four varieties I propose for reconstruction to Proto Kurtöp for this berry type as **prekprema*.

The next entry is another berry type *Toddalia asiatica* (English common name unknown). It has long climbing stems and grows as a parasite on larger trees and the berries fruit as a bunch like grapes but is normally not eaten. It is culturally significant as it ripens during the harvest season and back in the past the ripening of these berries was a way to know whether it was harvest season or not. However, this berry type has been identified only in the varieties of Dungkhar, Zhamleng, Shawa and Nê and is consistent as *prau mrip* and given that it is consistent across the four Kurtöp varieties I propose the Proto form to be considered as **prau mrip*, even though respondents from the two varieties couldn’t identify the term.

Varieties of sugarcane (*Saccharum spp.*) is grown in the Kurtö region. The generic name for sugarcane is however consistent and clear as **nampa* and is proposed to be reconstructed as such. Zhamleng, Shawa and Nê varieties however add an adjective *buram* preceding the word *nampa*. *Buram* literally means ‘sugar’ ‘candy’ or ‘sweets’ so it’s a modifier specifying the obvious ‘sweetness’ of the sugarcane. *Nampa* as the base term is consistent.

One variety of sugarcane is called *kanampa* and is consistent in Dungkhar, Zhamleng, Shawa and Gangzur varieties. However, respondents in Nê and Tangmachu couldn’t identify this variety. Nonetheless given that it is consistent in four varieties of the language I propose

to reconstruct as **kanampa*. What *ka* stands for cannot be deciphered at this stage. The next species of sugarcane is called *khashi nampa*, literally ‘Muntjac or Barking Deer’s sugarcane’. This species is however inedible, and locals say it is consumed by cattle and barking deer and thus the name. This variety is identified by all the respondents of the six varieties of the language and is consistent and thus easy to reconstruct as **khashi nampa*. The third species of sugarcane is called *bjaunampa* where *bjau* is the shortened form of *bjauya* ‘bird’ and thus *bjaunampa* means ‘bird’s sugarcane’. However, unlike *khashi nampa* this is edible and is sweetest of all the species of the lot. The term is also consistent throughout the varieties of the language and thus the reconstruction is proposed as **bjaunampa*.

The term for grapes (*Vitis vinifera*) is consistently represented across all the dialects. This uniformity suggests a stable lexical items and can be easily reconstructed as **gundrum*. The consistency across the dialects also indicates the cultural significance of this fruit. While the English is glossed as ‘grapes’ the one in reference here in the communities is a variety of grapes that is normally dried and used as an ingredient in the making of a culturally significant dish called *dêsi*²⁰.

The next entry in this section is a type of sour fruit used in the yarn dyeing process and not consumed as a fruit. The English common name and scientific name are unknown at this stage. It is used in conjunction with the dyes to help hold the colour. In Dungkhar it is known as *khomang curpo* and can also be shortened as *khomang*. In Zhamleng and Shawa, respondents referred to this as *sacurpo*. In Nê people called it *mentsela*. In Gangzur respondents agreed with both *khomang curpo* and *sacurpo*. The Tangmachu variety also recorded as *khomang curpo*. Given the variety, it is hard to propose a reconstruction. What is evident though is *curpo* which means ‘sour’ is a likely borrowing from Chocangaca since the Kurtöp word for ‘sour’ is *chun* so something that is sour will be called *chunkhanla* ‘the thing that is sour’. Etymologically *sa* in *sacurpo* as referred to in Zhamleng and Shawa is not helpful as it means ‘earth’ or ‘soil’ and since this fruit grows on a tree it doesn’t throw any significant light on its

²⁰ *Dêsi* is a culturally significant dish that plays an essential role in nearly every celebration, whether large or small. It is typically served alongside *Suja*, which is the traditional ‘butter tea’. *Dêsi* consists of saffron rice, butter, sugar, and grapes. Today other dried fruits such as almond, cashew nuts are added. Commonly referred to as *Suja Dêsi*, this dish is a staple at all important occasions. It is also one of the items included in *Zhugdrel Phuensum Tshogpa*, an elaborate prayer ceremony held to commemorate significant events.

significance in the word. Hence, considering these factors I propose to reconstruct the word for this sour fruit variety as **khomang*, though the etymological meaning of this word also cannot be deciphered at this stage.



Image 17: *khomang*, a sour fruit.

Credit: Karma Choden

The final entry in this section on wild fruit is no longer consumed today and is associated with lower social and economic status or poverty. There is a saying “*tokti losum songrung deng dang phate maza*” which means even if one goes hungry for three years don’t eat *deng* and *phate*. However, this saying is in Chocangaca indicating that this fruit was perhaps consumed among the Chocangaca speaking communities. Not many among the Kurtöp communities know of this or have even seen it today though they claim they have heard about it. It is known as *deng phate*²¹ in Dungkhar, Zhاملeng, Shawa and Tangmachu but *deng phade*

²¹ This used to be consumed in the past, but overtime got associated with ‘food of the poor’ and looked down upon. This is evident in the saying *tokti losum songna deng dang phate maza*, meaning “even if one goes hungry for three years, don’t consume *deng* and *phate*’. This saying is in Chocangaca though.

in Nê with voiced dental /d/ as opposed voiceless /t/ in the above other dialects. However, interestingly in Gangzur its *phatsa deng*. Considering that *deng phate* occurs across most dialects and that voiceless to voiced is an observed occurrence across many dialects, I propose to reconstruct to Proto Kurtöp **deng phate*. I infer that *phatsa deng* is perhaps a distortion of *deng phate* and this is possible since this fruit is not consumed now and also not easily available. It may be noted that *phatsa* is also a Kurtöp word that refers to a ‘woven sling bag’.

5.10 TREES

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
willow tree	cangma	cangma	cangmiseng	cangmaseng	cangmaseng	cangmaseng
castor oil plant	camaling	camaling	camaling seng	camaling	camaling	camaling seng
tree type	kinseng	kinseng	kinseng	kinseng	kinseng	kinseng
tree type	shingmar seng	shingmar seng	shingmar seng	shingmar seng	shingmar seng	shingmar seng
tree type	'nyomseng	'nomseng	'nomseng	'nomseng	'nomseng	'nomseng
oak tree	piseng	piseng	pising	pising	pising	pising
alder tree	kesengma	kesengma	kesengma	kesengma	kesengma	gama seng
tree type	bramseng	branseng	bramseng	bramseng	branseng	branseng
champ tree	kharseng	kharseng	kharseng	kharseng	kharseng	kharseng
tree type	mangkong	mangkong	mangkongseng	mangkongseng	hakpadungseng	anggonng seng
tree type	'riseng	'riseng	'riseng	'riseng	'riseng	'riseng
walnut tree	khuciseng	khuciseng	khuciseng	khuciseng	khuciseng	tarka seng
rhododendron	zhinseng	zhinseng	zhinseng	zhinseng	zhinseng	zhingseng
tree type	bumseng	bumseng	bumseng	bumseng	bumseng	bumseng
tree type	'merwa	'merwa	'merwaseng	'merwaseng	'merwaseng	'merwaseng
tree type	drapseng	drapseng	drapseng	drapseng	drapseng	drapseng

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tree type	zimseng	zimseng	zimseng	zimseng	zimseng	zimseng
tree type	zimdom	zimdom	zimdom	domseng	zimdom	domzim seng
Layered Acorn Oak	phangkui	phangkui	phangkhoi seng	phangkhoi seng	phangkwe seng	phangkhe seng
Rising Cupped Oak	sela	sela	selaseng	sela seng	sela seng	sila seng
tree type	phagdom	phagdom	phagdom	phagdom	phagdom	khakpadung seng
tree type	khashaling	khashaling	khashaling	khashaling	khakshaling	khakshaling
tree type	char	char	char	charseng	char	char
tree type	wangseng	wangseng	wangseng	wangseng	wangseng	wang seng
tree type	peseng	peseng	peseng	peseng	peseng	peseng
tree type	kirang	kirang	kirang	kirang	kirang	kirang
tree type	triseng	triseng	triseng	triseng	triseng	Triseng
tree type	yalingma	yalingma	yalingma	yalingma	yaliseng	yaliseng
tree type	phu sirkaling	phu sirkaling	phu sirkaling	phu sirkaling	phu sirkaling	phu sirkaling
tree type	da sirkaling	da sirkaling	da sirkaling	da sirkaling	da sirkaling	da sirkaling
tree type	phrumseng	phrumseng	phumseng	phumseng	phumseng	phumseng
hairy fig tree	khongdiseng	khongdiseng	khongdiseng	khongdiseng	khongziseng	khongdiseng
coral tree	tshintshin	tshingtshing	tshingtshing	tshintshin	tshintshin	thraser seng
cypress tree	tsantsan	tsantsan	tsantsan	tsantsan	tsanzan	tsanzan
pine tree	dokseng	dokseng	dokseng	dokseng	dokseng	dokseng
chirpine	tshakseng	tshakseng	tshakseng	tshakseng	tshakseng	tshakseng
tree type	brumba	brumba	brumba	brumba	brumba	brumba
tree type	chopjaling	chopjaling	chopjaling	chopjaling	chopjaling	chopjala
tree type	sakhwe	sakhwe	sakhwe	sakhwe	sakhwe	sakhwe
tree type	bema	bema	bema	bema	bema	bema

tree type	'namshiwa	'namshiwa	'namshiwa	'namshiwa	namshiwa	namshiwa
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Table 137: Trees.

Kurtöps, like most native people across Bhutan, live in harmony with nature, where nature provides almost everything that they require for their survival, from food to clothing to shelter. The local people thus have an extensive understanding of the surrounding environment and possess impressive indigenous knowledge of edible plants, fungus, fruits, flowers, animals as well as detailed knowledge of identifying all types of trees and how valuable they are depending on what they are functionally used for. Wood or timber used for carpentry/construction are valued more and referred to as *zoseng* 'carpentry wood' and are categorized by the government also as 'special class timber'. Among the preferred *zoseng* are *phagdom*, *kharseng*, *khuciseng*, *wangseng*, *peseng*, *dokseng*, *tshakseng*, *zhinseng*, *sirkaling* and *kesengma*. The other use of timber is for *kawa* and *phurwa* 'poles/fencing poles' and the trees preferred for this purpose are *bramseng*, *bumseng*, *merwaseng*, *yalingma*, *tshintshin*, *drapseng*, *brumbaseng*, *sakhwe*, *cangmaseng*. The next use of trees is for *thapseng*, literally 'stove wood' meaning firewood for cooking. While all timber can be used as *thapseng* local people preserve the good ones for their functional purposes and the rest are consumed as firewood and the most common being *zimseng*, *phangkui*, *triseng* and *sela*. There are also timber preferred for specific purposes such as for making *tayu* 'axe handle' and *kok-yu* 'spade handle' and these trees are *phangkui*, *sela*, *piseng* and *sakhwe*. The next purpose is as *tiya* 'fodder' for cattle and leaves of trees such as *khongdi* and *jursengma* are preferred. Then there is a particular tree/timber used for making *tongshe* 'milk churner' and that is *Kirang*. *Kirang* is also used for construction and carpentry purposes.



Image 18: *Bumseng* used as *phurwa* ‘fencing pole’.

Seng as we know is the generic term for tree but as also evident from data discussed so far some of the varieties of the trees are referred to by their name such as *cangma*, *kesengma*, *phagdom* etc while some are referred to together with the generic name ‘*seng*’ for trees such as *kinseng*, ‘*riseng*, *zhinseng* etc. Generally, when the tree name is dissyllabic or more the *seng* is omitted while when it is monosyllabic the name is retained. However there are exceptions to this rule as in Table 137 as in the examples for *shingmar seng* and *khuci seng*. I propose to use this condition as a constant for reconstruction and with this understanding we move to the reconstruction of the individual entries.

The word in Kurtöp for willow tree (*Salix babylonica*) doesn’t show notable variation and is quite consistent. It is *cangma* in Dungkhar and Zhamleng; and *cangmaseng* in Nê, Gangzur and Tangmachu. The Shawa variety however has it as *cangmiseng* where the vowel ‘i’ is a genitive form as observed by Hyslop (2007) where it is found in a place of a word final vowel in the noun as in *cangma*. Therefore, since *seng* is the generic term for tree in Kurtöp and *cangma* is consistent throughout, I propose to reconstruct the word for willow as **cangma*.

Castor oil plant (*Ricinus communis*) is also consistent throughout the Kurtöp varieties as *camaling/camaling seng*. Thus, I propose to reconstruct the Proto Kurtöp word as

**camaling*. Back in the past, this plant was a source of oil for consumption but now the Kurtöps no longer extract oil from this plant. Today the Kurtöp's extract oil from the fruit of few trees though its only in small quantity and for personal consumption. One tree is *kinseng* (*English common name and scientific name unknown*). *Kinseng* is consistent throughout the varieties, and I propose to reconstruct the Proto Kurtöp word as **kinseng*. It may be noted that the seed of this tree that is used for extraction of oil is also called *kin* and oil extracted from it is called *kinmar* 'oil from *kin*'.

The second tree is called *shingmar seng* (*English common name and scientific name unknown*) which literally means 'tree butter tree', *shing* being the word for butter in Dzongkha. The oil extracted from the seeds of this tree is yellow in colour and smells like that of leather. Locals boil and consume it to get relief from back pain and it is also fed to cattle and horses to improve their appetite. Today the extraction of oil from the seeds of this tree is non-existent. The term is consistent throughout the varieties of Kurtöp and the Proto form is reconstructed as **shingmar seng*. Though it is disyllabic, *seng* is proposed to be retained as *shingmar* on its own is misleading given its literal meaning as 'tree butter'.

Another tree whose seeds were used in the past for oil extraction is a plant that looks like dogwood. The oil however is slightly bitter, and locals no longer extract it. It's called '*nyomseng* (*English common name and scientific name unknown*) with the palatal nasal in word onset position in Dungkhar but as '*nomseng* with the alveolar nasal in word onset position in all the other varieties. There is no data to confirm this sound change of nasal palatalisation from the other Kurtöp varieties to that of Dungkhar and thus applying the rule of majority I propose to reconstruct the Proto-Kurtöp word as '*nomseng*.



Image 19: 'nomseng. A type of tree.

Credit: Gwendolyn Hyslop.

The word for oak tree (*Quercus griffithii*) is *piseng* in Dungkhar and Zhamleng but *pising* in the other varieties. The *pising* in the varieties of Shawa, Nê, Gangzur and Tangmachu looks like a case of vowel assimilation however I have not encountered across data to show this as a regular sound change but in this case vowel assimilation leading to the subsequent variation. Considering *seng* as the generic word for tree I propose to reconstruct the Proto Kurtöp word for oak tree is **piseng*.

The word for alder tree (*Alnus glutinosa*) is consistent throughout the varieties and easy to reconstruct as **kesengma*. The Tangmachu variety *gamashing* is a clear borrowing from Dzongkha. The bark of this tree is chewed as a substitute for *doma* 'bettle nut'.

There is a little variation in the word for the next species of tree (*English common name and scientific name unknown*). The tree bears white flowers which subsequently turn red. The Dungkhar, Shawa and Nê varieties have it as *bramseng* with the bilabial nasal /m/ in word final position in the root word as compared to *branseng* in Zhamleng, Gangzur and Tangmachu with the alveolar nasal /n/ in the word final position in the root word. This seems to be a case of nasal assimilation or a phonological process where nasal /m/ shifts to /n/ and I thus propose the

Proto Kurtöp word as **bramseng*. However, I haven't been able to attest such assimilations elsewhere in Kurtöp.

Champ (*Magnolia champaca*), known in Dzongkha as *khâshing* is timber variety sought after in construction as well as for furniture making. It is also categorized as a special class timber under the forest regulations in Bhutan. It is therefore not a surprise that its term in Kurtöp is consistent throughout the varieties and thus easy to propose the Proto-form as **kharseng*. Another hard wood variety of tree used extensively for construction purposes is *Quercus semiserrata*, Asian species of trees in the beech family *Fagaceae*. This is also consistent throughout the varieties of Kurtöp and thus propose the reconstructed Proto Kurtöp form as **'riseng*.

Walnut tree (*Juglandaceae spp*) is consistently known as *khuci seng* throughout the Kurtöp varieties except for Tangmachu where they call it *tarka seng*. This lexical replacement in Tangmachu is an influence or borrowing from Chocangaca where walnut is called *tarka* and which in turn is a borrowing for Dzongkha word *tâgo*, written as *stargo* in Dzongkha orthography. However, interestingly the word for tree is retained as *seng* and not replaced as *shing* as in Chocangaca or Dzongkha. Therefore, the Proto Kurtöp word for walnut tree is proposed for reconstruction as **khuci seng*.

The term for rhododendron tree (*Rhododendron spp*), known as *eto meto* in Dzongkha, is consistent throughout the Kurtöp varieties and easy to reconstruct as **Zhinseng*. Another tree that looks similar to rhododendron, but another species, *Lyonia ovalifolia* (*English common name unknown*), is also consistent throughout the Kurtöp varieties and the Proto-Kurtöp form can be proposed as **bumseng*²². Both *zhinseng* and *bumseng* are preferred to be used as *phurwa* 'poles' for fencing or for *norgi brangsa* 'cow shed'. Another tree type used mainly for *phurwa* is 'merwa or 'merwa *seng* (*English common name and scientific name unknown*) and I propose to reconstruct as **'merwa*. **Drapseng* (*English common name and scientific name unknown*) is another species of tree used mainly for *phurwa* and also consistent and easy to reconstruct as such. This tree is a hardwood species that grows in lower altitude and also bears fruit though the fruit is not consumed.

²² *Bumseng* also flowers similar to *Zhinseng* but it flowers downwards and thus considered inappropriate to be offered to gods, such as during *priu*.

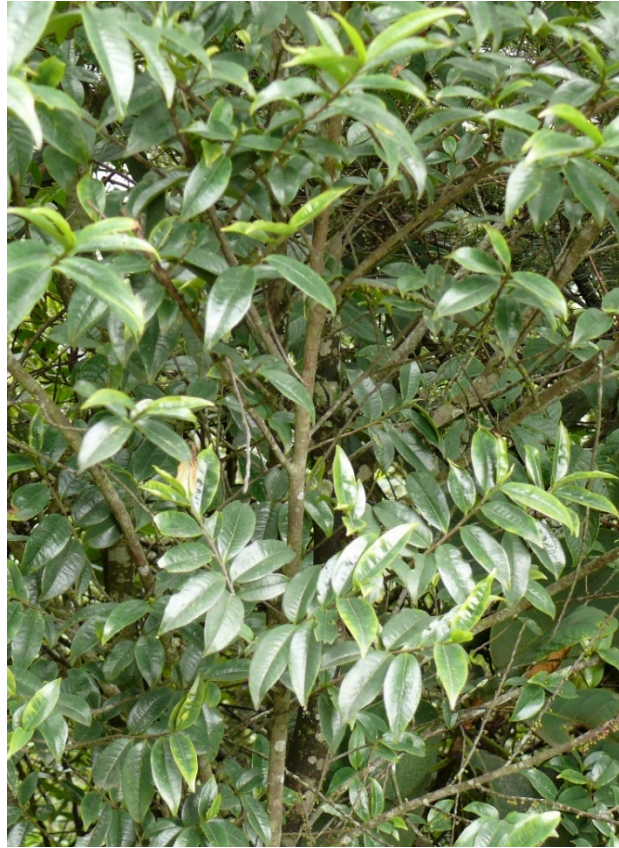


Image 20: 'merwa, type of plant.

Credit: Gwendolyn Hyslop.

The next species of tree is called *zimseng* (*English common name and scientific name unknown*) and is consistent throughout the varieties of Kurtöp and easy to reconstruct to Proto-Kurtöp as **zimseng*. The tree is mainly used for firewood, but the leaves are used in traditional yarn dyeing and gives the yellow colour. The next species of tree (*English common name and scientific name unknown*) is known by three different names- *zimdom* in Dungkhar, Zhamleng, Shawa and Gangzur but as *domseng* in Nê and *domzim seng* in Tangmachu. By applying the rule of majority I propose to reconstruct the Proto Kurtöp word for this species of tree as **zimdom*. *Domseng* in the Nê variety is likely a shortened version of *zimdomseng* which is a mouthful and *domzim* is an alteration of the syllabic position of the two words.

The next species of tree is Layered Acorn Oak (*Quercus lamellose*) shows more phonological variation and complexity. Dungkhar and Zhamleng varieties have it as *phangkui*, Shawa and Nê as *phangkhoi seng*, Gangzur as *phangkwe seng* and Tangmachu as *phangke*

seng. As the tree name is disyllabic the generic name *seng* is omitted for the purpose of reconstruction. This tree is valued for firewood and for making handles for spade and axe. The *phang* in the initial syllable is common across the varieties. *Phangke* in Tangmachu variety is a borrowing/influence from Chocanganca and the Gangzur version is also influenced as such. The Proto version is most likely *phangkui* or *phangkhoi*. However, the occurrence of the velar voiceless aspirated stop /*kh*/ being followed by a diphthong is rare and thus I propose that the Proto Kurtöp word for Layered Acorn Oak as **phangkui*.

Rising Cupped Oak (*Quercus glauca*) is consistent through the Kurtöp varieties save for the inclusion and exclusion of the generic term *seng*. Consistent with prior data Dungkhar and Zhاملeng varieties have it as *sela* while Shawa, Nê and Gangzur as *sela seng*. Tangmachu tends to reflect a phonological drift with *sila seng* with fronting the vowel but the sound change is not consistent. In keeping with the considerations made earlier I propose to reconstruct the Proto-Kurtöp word for Rising Cupped Oak as **sela*.

Phagdom (English common name and scientific name unknown) as it is known in all Kurtöp varieties except a significantly different term *khakpadung* in Tangmachu variety. This tree is also categorised as a special class timber prized for its use in construction as *zoseng* ‘carpentry timber’. Applying the majority rule and that most distinct variation in Tangmachu variety could be an influence from Chocangaca, I propose to reconstruct the Proto Kurtöp form as **phagdom*.

The tree *khashaling zimseng* (English common name and scientific name unknown) is consistent across four Kurtöp varieties of Dungkhar, Zhاملeng, Shawa and Nê but the initial consonant cluster changes slightly in Gangzur and Tangmachu varieties to *khakshaling*. The leaves of this tree/plant is used to wash wounds as an antiseptic and the flowers are also used in cooking. Etymologically *khasha* means ‘barking deer’ and *ling* means a ‘vast land’. In comparison *khaksha* has no etymological meaning though this doesn’t mean it couldn’t be the sole basis for its disregard as the Proto form. However, given that four of the six varieties refer to it as **khashaling* I propose to reconstruct the Proto-form as such.



Image 21: *khashaling*. A type of plant.

Credit: Gwendolyn Hyslop.

The term *char* (*English common name and scientific name unknown*) is consistent throughout the varieties except in Nê where it goes with the suffix for tree as *char seng*. This tree is valued for its use for shingle roofing in the past but now almost every house uses CGI sheets. This tree when cut oozes out a water like liquid and this is perhaps why it is preferred for roofing as it doesn't soak as much water. Though five of the six Kurtöp varieties refer to it as *char*, keeping it consistent with the general observation across the tree species where monosyllabic names are attached with the suffix *seng*, I propose to reconstruct the Proto-form for this tree as **charseng*.

Another tree species valued for its use as shingles for roofing is *wangseng* (*English common name and scientific name unknown*) and is consistent throughout the varieties. It is therefore easy to propose the reconstruction as **wangseng*. **Peseng* (*English common name and scientific name unknown*) is also used for roofing and is consistent throughout the varieties and easy to reconstruct. Shingle roofing was the most common roofing option back in the past and it is not surprising that the names of trees used for this purpose are consistent throughout the Kurtöp varieties. Those who couldn't afford shingles for roofing chose bamboo or leaves such as that of banana.

Kirang (English common name and scientific name unknown) is a species of tree with similar leaves as that of *peseng*. It is used for construction purposes but also valued for its preferred use in making *tongshe*. *Tongshe* is the traditional milk churner as in the picture below. It is consistent throughout the varieties as **kirang* and thus easy to reconstruct as such.



Image 22: *tongshe* ‘milk churner’.

Credit: Gwendolyn Hyslop

The next species of tree is called *triseng* (English common name and scientific name unknown) throughout the varieties and thus easy to propose reconstruction of the proto form again as **triseng*. This tree species is prized for its burl which is used in production of *dapa* and *guku* ‘wooden bowl with lids’ and ‘wooden cups’ made from the tree burl. Otherwise, the tree itself is mainly used for firewood.

The next species of tree has a white smooth trunk and is known as *yalingma* (English common name and scientific name unknown) in Dungkhar, Shawa, Zhamleng and Nê varieties but as *yaliseng* in Gangzur and Tangmachu. The etymology of the word cannot be deciphered and nor can the difference between the two conclusively established at this stage. However, since four of the six varieties refer to it as **yalingma* I would like to propose the reconstructed Proto Kurtöp word for this species of tree as such.

The next species of tree is called *sirkaling* (*Litsea elongata*.) and is consistent across all the varieties of Kurtöp suggesting again the widespread recognition of this tree across the communities. Two species of the tree has been distinguished based on where it is grown. *Phu sirkaling* for the species that grows at a higher altitude and *da sirkaling* for the one that grows

at a lower altitude. The *phu* and the *da* prefixes refer to ‘upper or high up in the valley’ and ‘down or lower in the valley’ respectively. Given that it is consistent, I propose to reconstruct the Proto Kurtöp word as **sirkaling* and for the two species as **phu sirkaling* and **da sirkaling*.

Another species of tree is called *phumseng* (*English common name and scientific name unknown*) in Dungkhar and Zhamleng and as *phumseng* in the four other varieties. The word *phrum* likely comes from the flower of the tree that looks like *phrum* ‘cheese’ (here referring home processed local cheese) while *phum* tends to have no etymological meaning. *Phrum* is also ‘cheese’ in Bumthap and has significance in that sister East Bodish language as well. Given this, even though *phumseng* occurs across four varieties of the language, I propose **phumseng* as the Proto Kurtöp word. This is also compounded by the fact that consonant cluster onsets tend to be simplified over time.



Image 23: *phumseng*, a type of plant.

Credit: Gwendolyn Hyslop.

Hairy fig tree (*Ficus hirta*) is consistent across five varieties of Kurtöp as *khongdiseng* while Gangzur has a slight variation as *khongziseng*. The variation in Gangzur may indicate

a phonetic adaptation but no minimal pairs or consistent sound change has been observed. That this is an influence from Chacangaca also cannot be ascertained. In view of this and considering that it is consistent in five of the six varieties, I propose to reconstruct the Proto Kurtöp word as **khongdi*. Note that *seng* is omitted keeping it consistent with observation that it is only used consistently in monosyllabic names and avoided in normal conversation for disyllabic and polysyllabic names.



Image 24: *khongdi seng*, hairy fig tree.

Credit: Gwendolyn Hyslop

The Kurtöp word for coral tree (*Erythrina arborescens*) shows some variation with *tshintshin* appearing in three varieties of Dungkhar, Nê and Gangzur while Zhamleng and Shawa varieties have it as *tshingtshing* with the velar nasal in place of the alveolar in coda position in both the syllables. The Tangmachu variety has an interesting entry as *thrasher seng*. Etymologically *thraser* means ‘gold pattern’ where *thra* means ‘pattern’ and *ser* means ‘gold’. Owing to this pattern it is a preferred tree for masking masks. This is also because it is hollow inside which also makes it the preferred material for making serving bowls for cattle and other domestic animals. The reconstruction is a choice between *tshintshin* and *tshingtshing* as *thrasher seng* is more of a descriptive word and unlikely as the Proto word. Based on observation of the

construct of several other words, the alveolar nasal is more common in the coda position and I would like to propose the Proto Kurtöp word for this tree as *tshintshin.

Cypress (*Cupressus cornéana*) is *tsantsan* in Kurtö, Zhamleng, Shawa and Nê varieties but *tsanzan* in Gangzur and Tangmachu. Cypress is a culturally important tree not only because it is the national tree of Bhutan but also holds strong spiritual significance. It is mostly seen at important landmarks such as around temples or important community places. It is also the most preferred tree for *lhadhar* ‘god’s flag’ – a tall flagpole hoisted prominently in front of temples and dzongs or even prominent households though this is increasingly being replaced by metal poles now. The *Pcha* festival in Tabi, for instance, is performed at *Pchai Phodrang* which is a community festival ground surrounded by cypress trees all around. Given this strong cultural context it is surprising that *tsantsan* is not consistent in Gangzur and Tangmachu varieties but the difference is most likely an influence from Chocangaca. Given that it is consistent across four varieties I propose to reconstruct the Proto Kurtöp word for cypress as *tsantsan.

The term for pine tree (*Pinus bhutanica*), known as *tongphu* in Dzongkha, is *dokseng* in Kurtöp and is consistent throughout the varieties. Pine trees grow commonly across all the Kurtöp speaking communities and thus the lexical stability is not surprising either. The Proto form is thus easy to propose as **dokseng*. Another variety of pine (Chirpine- *Pinus roxburghii*) that grows in comparatively lower altitude is *tshakseng* and this is also consistent throughout the varieties. Both the species have pointed needle like leaves, but the latter has thicker and taller in comparison. This is also therefore easy to reconstruct as **tshakseng*. Both these trees are also widely used in construction and preferred for flagpoles as they grow straight and tall.

The next species of tree is called *brumba* (*English common name and scientific name unknown*) and is not to be mistaken with *brumba* which also means burr (discussed under plants/shrubs/weeds below). *Brumba* the tree is mainly used for *phurwa* ‘post’. It flowers and bears fruit as well but the fruit is not consumed. The term is consistent throughout the varieties and Proto form is considered as *brumba.

The next on the list of trees is *chopjaling* (*English common name unknown*) but locals in Dungkhar identify two species *riu chopjaling* (*Castanopsis ianceifolia*) and *camaling chopjaling* (*scientific name unknown*). *Riu chopjaling* is valued more as a carpentry timber and the fruits are believed to be consumed by *riu* ‘pheasant’ and hence the name. The other species called *camaling chopjaling* has broad leaves like banana and are used for wrapping butter and

cheese. The wood itself is only used as firewood and not preferred for other uses. The term *chopjaling* is consistent throughout the varieties except in Tangmachu where it takes the nominalizer form as *chopjala*. Given that it is consistent across five varieties of the language **chopjaling* is proposed as the Proto form.

Sakhwe (*Quercus leucotrichophora*) is a hardwood type that grows in the lower altitude and is mainly used for planks in *bancang* ‘balcony’ and other normally wet or damp places. As in the name it has high *khwe* ‘water’ content and not preferred for other uses. It also bears fruits but are thorny and thus advised not to walk bare feet under this tree in fall when the fruits fall. Locals consider this information important as people walked bare foot in the villages till recent times. The term **sakhwe* is consistent and thus considered as the Proto form.

Bema (*Quercus semecarpifolia*) is also hard wood preferred for *tayu* ‘axe handle’ and *kokyu* ‘spade handle’ but otherwise mainly used for firewood. But this wood is particularly preferred for making *tshu* ‘plough’ for ploughing as mud doesn’t stick to it easily. Given its important functional utility it is not surprising that the term is consistent throughout the Kurtöp varieties and easy to propose reconstruction as **bema*.

The final tree on the list is called ‘*namshiwa* (*Celtis tetrandra*) and is consistent throughout the varieties except the high tone is lost in Gangzur and Tangmachu. Given that its consistent across majority of the varieties with the high tone I propose reconstruction to Proto form as **’namshiwa*. This tree is also mainly used as firewood and not useful for other purposes. *Silimu* and *chimu* mushrooms grow on this tree.

6.11 PLANTS/SHRUBS/WEEDS

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
nettle (all types)	kuli	kuli	kuli	kuli	kuli	kuli
nettle type	mikuli	mikuli	mikuli	mikuli	mikuli	mikuli
nettle type	bakuli	bakuli	bakuli	bakuli	bakuli	bakuli
burr (all types)	brumba	brumba	brumba	bumba	brumba	pit'man

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burr type	ta brumba	tai brumba	tai brumba	tai brumba	tai brumba	tai pit'man
burr type	kempa brumba	kempi brumba	nap brumba	kempi brumba	kempi brumba	kawala pit'man tengtengmi pit'man /
burr type	drebrumba	dreibrumba	dreibrumba	dreibrumba	dreibrumba	
plant type	ron khashaling	ron khashaling	ron khashaling	ron khashaling	ron khashaling	ron khakshaling
wormwood	dungmin	dungmin	dungmin	dungma	dungmin	dungmin
mariwana	'na'lingpa	'nalipa	'na'limpa	'na'limpa	'nalumpa	'nalumpa
fern type	tabri	tabri	tabri	tabri	tabi	tabri
plant type	khimsengma	khimsengma	khimsengma	khimsengma	tshintshin'ngon	khinsengma
weed/grass type	chonge dorji	nyimi 'ngon	nyimi 'ngon (mongarpi 'ngon)	cakharpi 'ngon	cakharpi 'ngon	cakharpi 'ngon
weed/grass type	dret	dret	dret	dret	dret	dret
weed/grass type	trashy jamtsho	trashy jamtsho	trashy jamtsho	trashy jamtsho	trashy jamtsho	trashy jamtsho
weed/grass type	'mangma	'mangma	'mangma	'mangma	'mangma	'mangma
weed/grass type	se'yap	se'yap	se'yap	se'yap	se'yap	Se'yap
weed/grass type	ratsi'ngon	ratsi'ngon	ratsi'ngon	ratsi'ngon	ratsi'ngon	ratsi 'ngon
weed/grass type	'rapola	prapola	'rapola	'ragola	'rapola	
weed/grass type	targola	targola	targola	targola	targola	
weed/grass type	zhungzhungma	zhongroma	zhongruma	zhongruma	zhungzhungma	zhongar seymo
weed/grass type	dunrongka	dunrongma	dunrumin	dunzungma	dunrongka	'nyalu
weed/grass type	barikphelang/ga nmithre	khwii thre	khwii thre	barikphelang	barikphelang	barikphelang
weed/grass type	têdroima	têdroima	têdroima	têdroima		
weed/grass type	khimshingma	khimshingma	khimshingma	khimshingma	khimshingma	khimshingma
weed/grass type	bashi panglep	bashi panglep		bashi panglep		

weed/grass type	tsindaling ‘ngon	tsindaling ‘ngon	tsindaling ‘ngon			
weed/grass type	bjacola	bjacola	bjacola	bjacola	bacola	bacola
plant type	shampa	shampa	shampa	shampa	shampa	shampa
plant type	chumpa	chumpa	chumpa	chumpa	chumpa	chumpa
weed/grass type	kupi tsa	kupi tsa	kupi ‘ngon	kupi ‘ngon	kupi ‘ngon	kupi ‘ngon
weed/grass type	‘mâji dongdro	‘mâji dongdro	‘mâji dongdro	‘mâji dongdro	‘mâji dongdro	mâji dongdro
weed/grass type	‘makcama	‘makcama	‘makcama	‘makcama	‘makcama	‘makcama
plant type	kwastumpa	kwastumpa	kwastumpa	kwastumpa	kwastumpa	kwastumpa
weed/grass type	tsaramba	tsaramba	tsaramba	tsaramba	tsaram	tsaram

Table 138: Plants, shrubs, weeds.

In this section I look at plants, shrubs and weeds. The first is the common stinging nettle (*Urtica spp*) known as *z’ocha* in Dzongkha. This is the generic name for all types of nettles and is consistent throughout the Kurtöp varieties as **kuli* and thus easy to propose reconstruction to Proto Kurtöp as such. This complete consistency across the varieties without any phonetic or morphological changes suggest a stable form and that the nettle plant could have been an important plant across the region. This is true as nettle was most likely the first fibre used for textile weaving in the country²³ though it has now lost its relevancy and use

²³ A weaver in Kurtöp narrated a story about how the term *Kishuthara* was coined and why Khoma, a village in Lhuentse, is doing brisk business selling textiles.

The legendary Tshongpon Norbu Zangpo is believed to have frequented Khoma to sell his goods, and overtime fell in love with a local damsel. The damsel wove a piece of textile cloth (*thara*) as a gift for him. The cloth was woven from nettle fibres (locally known is *kî* or *kui*) and *shu* is probably the name of a pattern and thus the name *Kishuthara* – ‘the textile pattern woven from nettle’.

Tshongpon Norbu Zangpo conducted his business on a large flat stone in the centre of Khoma village and as a gratitude to the kind locals he wished that the community be blessed with many 'buyers and sellers'. And to this day Khoma, otherwise a remote and isolated village in Lhuentse, see many 'buyers and sellers', thanks to its popularity as the land of *Kishutharas*, and locals do brisk business selling mostly textile products.

owing to easy and cheap availability of machine-made fabrics. Nettle yarn was traditionally used for all sorts of bowstring, mats, and long-lasting ropes (*Bhutan Textiles*, 2024), even to this day though efforts are now on with input from many civil society organisations to revive the art of weaving using hand spun nettle fibres to produce varieties of textile products. There are two species of nettles *bakuli* and *mikuli* (*Urticaceae*), the former has wider and lighter green leaves compared to the latter. The names of both these species of nettle are also consistent across the varieties and I thus propose for their reconstruction as **bakuli* and **mikuli*.

Burr, known as *pcimbja* in Dzongkha is called *brumba* (*Xanthium sp.*) in five of the six varieties of Kurtöp except in Tangmachu where they call it *pitman*. However, *pitman* is a direct borrowing from Chocangaca and I thus propose to reconstruct the Proto Kurtöp word as **brumba*. This is the generic term for burr though and there are a few types of which three have been noted. The first variety is called *tai brumba* (*Xanthium sp.*) in Zhamleng, Shawa, Nê and Gangzur while as *ta brumba* in Dungkhar. The Tangmachu variety is *tai pitman* which is a borrowing from Chocangaca. In Dzongkha its called *tai pcimbja*. Etymologically *tai brumba* means ‘horses burr’ where *ta* means horse and the suffix *-i* is the genitive case marker. This is a larger burr plant that commonly gets stuck in the horse’s mane and thus the name. Given that its common with the genitive case marker across four varieties I propose to reconstruct the Proto Kurtöp form as **tai brumba*. The second species of burr plant *Bidens Pilosa* is called *kempa brumba* in Dungkhar, *kempi brumba* in Zhamleng, Nê and Gangzur, *nap brumba* in Shawa and *kawali pitman* and also as *tengtengmi pitman* in Tangmanchu. The name *kempa* is derived from the look of the burr which looks like a pair of ‘tongs’ or ‘pliers’. The *nap* in Shawa variety refers to comb and this also makes sense as it looks like a pair of teeth from a comb. The *kawa* and *tengtengma* in Tangmachu variety are interesting but we cannot decipher the reference. *Kawa* means ‘eagle’ and *tengtengma* is ‘fried and mashed corn’ but it is relevant to note that they use the genitive case. Maintaining consistency, I propose to reconstruct the Proto Kurtöp word for this burr as **kempi brumba*. The third species of burr is called *dre brumba* (*scientific name unknown*) in Dungkhar but *drei brumba* in Zhamleng, Shawa, Nê and Gangzur. This has not been identified by respondents in Tangmachu. Etymologically *dre* means ghost but the reference to this burr name cannot be deciphered. Nonetheless given that

**drei brumba* is common across four varieties and is consistent with using the genitive form I propose the Proto Kurtöp form as such.

The next species of plants is called *ron khashaling* (English common name and scientific name unknown) and is consistent throughout the varieties except in Tangmachu which has a slight phonetic variation as *ron khakshaling*. However, given that it is consistent across five other varieties I propose for reconstruction as **ron khashaling*. Etymologically *ron* is ‘wild/forest’ *khasha* is ‘barking deer’ and ‘*ling* is a ‘vast land’ though this has no relevance to why the plant is named so. The leaf of the plant is used to wash wounds as an antiseptic and some also use it in cooking.

Wormwood (*Artemisia absinthium*) known as *dungmin* in five of the six varieties. In Nê its called *dungma*. This plant grows abundantly in the region and is significant in ritual used as an optional material for *sang* ‘smoke offering’ and used in traditional medicinal practices as an antiseptic to wash fresh wound. It is therefore quite surprising that this is not consistent in Nê where the final consonant is dropped, and the vowel is lowered as well. Nonetheless given that is consistent across five varieties I propose to reconstruct the Proto Kurtöp word as **dungmin*.

Marijuana (*Cannabis sativa*) known as *kêha* in Dzongkha has distinct varieties across the Kurtöp dialects- '*na'lingpa* in Dungkhar, '*nalipa* in Zhamleng, '*na'limpa* in Shawa and Nê and '*nalumpa* in Gangzur and Tangmachu. These entries show variation in nasalisation as well as vowel shift in case of Gangzur and Tangmachu entries. While it is not easy to propose a reconstruction given that these variation and vowel shift are not observed to be consistent across the Kurtöp dialects, I propose to reconstruct the Proto Kurtöp word as **'na'lingpa* and treat others as simplification or nasalisation of the term. Marijuana is mainly used as a pig feed and otherwise a weed. Its cultivation or harvest is illegal in Bhutan.

The next entry is fern like plant called *tabri* (English common name and scientific name unknown). It grows wild and has wide fern like leaves and is used mainly as *nortan* meaning ‘mat for cattle’. Given that it is consistent throughout the six varieties it is indicative of its wide and common use across the communities and easy to reconstruct as **tabri*.

Khimsengma (English common name and scientific name unknown) is a plant whose leaves are used as cattle feed. It is consistent across four varieties of Dungkhar, Zhamleng, Shawa and Nê but a slight variation in Tangmachu where the bilabial nasal is replaced by the alveolar nasal and realized as *khinsengma*. In Gangzur though it is called *tshintshin* ‘ngon ‘*tshintshin* weed’ as it’s leaves look that of the tree *tshintshin*. Considering that it is common across four varieties I propose for its reconstruction to Proto Kurtöp as **khimsengma*.

The entries from here on in this section are ‘ngon ‘weeds’. The names of weeds are interesting in the sense that some are derived based on whose land it was first seen. This is also a way to understand how long they have been in the community. The following phrase in Kurtöp sums up the local sentiments towards the weeds: *Pharsong Trashi Jamtsho, se’yap Karma Lingpa, ‘mangma Rinchen Bumpa, Disum zompa jungna, lakpa meto bardo*. The phrase uses a mix of names in classical Tibetan as it is with most songs, religious texts and popular phrases. The essence is that when *trashi jamtsho, se’yap* and ‘*mangma* (meet) or grow in one field), the hands grow flowers (blisters), the three mentioned above being weeds.

The first among the weeds is an interesting entry and the English common name and scientific name unknown. It is called *chonyi dorji* in Dungkhar as locals attribute sighting this for the first time in Chonyi Dorji’s *leng* ‘field’ (Chonyi Dorji is name of a person). In Zhamleng it’s called *nyimi* ‘ngon ‘Nyima’s weed’, again attributing it to someone called Nyima. In Shawa, they call it *nyimi* ‘ngon but also as *mongarpi* ‘ngon attributing the origin to horsemen from Mongar. In Nê, Gangzur and Tangmachu they call it *cakharpi* ‘ngon meaning ‘Indian weed’ implying that this was not native. The timeline as to when this weed was first sighted is uncertain so attributing it to something alien to the local ecosystem I propose to reconstruct the Proto form for this weed as **cakharpi* ‘ngon.

The next few entries are consistent throughout the varieties and easy to reconstruct. The first one is **dret* (English common name and scientific name unknown), proposed for reconstruction as such. The second one is **trashijamtsho* (English common name and scientific name unknown) and proposed for reconstruction as such. Trashijamtsho is a man’s name and why the weed came to be known as such is not clear. Apparently as in the case of *chonyi dorji*, this weed has some connection to a persona called Trashijamtsho. The next are **mangma* (English common name and scientific name unknown) and **seyap* (English common name and scientific name unknown) and are again consistent without even minor variations and thus proposed for reconstruction as such. The next one is a weed that bears white flowers and is

called * *ratsi* 'ngon (*English common name and scientific name unknown*) which literally means 'goat's weed'. This is also consistent and proposed for reconstruction as such. The next entry is also fairly consistent. This weed is cooked and applied on the body when one feels itchy due to a rash or an allergy and has a good smell. It's called '*rapola* (*Plantago depressa*) in Dungkhar, Shawa, Nê and Gangzur but as *prapola* in Zhamleng while this couldn't be identified in Tangmachu. The Zhamleng variety is likely a distortion of '*rapola* since *prapola* is also a common nickname drawing from *pra* as in 'monkey'. I therefore propose the Proto Kurtöp form as **rapola*.

Targola (*English common name and scientific name unknown*) is a weed with a yellow flower and a foul smell. It is consistent throughout the Kurtöp varieties though it has not been identified in Tangmachu. I propose the Proto Kurtöp form as **targola*. The etymological meaning of the word cannot be deciphered.

The next entry has some variation in its name posing challenge for reconstruction. Its English common name and scientific name unknown as well. It's called *zhungzhungma* in Dungkhar and Gangzur, *zhongruma* in Shawa and Nê, *zhongroma* in Zhamleng and as *zhongar seymo* in Tangmachu. The etymological meaning of *zhungzhungma*, *zhongruma* or *zhongroma* cannot be concluded but *zhongar seymo* means 'the princess of Zhongar' though nobody knows why it is so. *Zhongroma* and *zhongruma* seems be a case of vowel assimilation but **zhungzhungma* is likely the Proto Kurtöp form preserved in Dungkhar and Gangzur and I propose as such.

The next entry is a little complicated for reconstruction, as well and its English common name and scientific name unknown also. This weed is known by the name *dunrongka* in Dungkhar and Gangzur, but as *dunrongma* in Zhamleng, *dunrumin* in Shawa, *dunzungma* in Nê and Tangmachu entry deviates significantly as '*nyalu*. The Tangmachu variety is likely an influence or a borrowing as it deviates significantly. The Gangzur variety looks like a description of the weed where *rumin* means 'long and stringy' referring here to the roots of the weed grass that are blackish and long. Apart from this the etymological meaning of the other entries cannot be deciphered. Therefore, considering that **dunrongka* is common across two dialects and the other entries are a variation through either vowel assimilation or a morphological deviation from /ka/ to /ma/ I propose the reconstruction as such.

The next entry is a weed called *barik phelang* (*English common name and scientific name unknown*) in Dungkhar, Nê, Gangzur and Tangmachu. In Dungkhar they also call it *ganmithre*. In Zhamleng and Shawa it's referred to as *khwii thre*. This weed looks like millet and therefore the reference to word *thre*. *Ganmithre* in Dungkhar literally means 'old lady's millet' and *khwii thre* means 'dog's millet'. Why they are referred to as such is not confirmed. The reference to it as *barik phelang* is due to its shape and appearance which is larger than the normal edible *thre* and looks like an 'oxen's forehead'. Given that it is common and stable across four dialects I propose for its reconstruction to Proto Kurtöp as **barik phelang*.

Couch grass (*Cynodon dactylon*) is consistent as *têdroima* across four varieties of Dungkha, Zhamleng, Shawa and Nê but couldn't be identified in Gangzur and Tangmachu. The term stems from two words *tê* meaning 'node' on the grass and *droi* meaning 'break or finish' and *droima* is the nominalizer form. It grows in the terraces and fields and is hard to remove as it keeps breaking from their nodes and hence the name. Since it is consistent across four varieties I propose **têdroima* as the Proto form.

Next is a grass type called *khimshingma* (*English common name and scientific name unknown*) and is easy to propose the Proto form as **khimshingma* as it is consistent across all the varieties. It looks like *brasma* 'bitter buckwheat' at sight and is not consumed today but locals say that this was cooked as a broth and consumed by those who couldn't afford proper food in the near past. It is therefore not surprising that the term is consistent.

The next entry is a weed type called *bashi panglep* which is consistent and identified across three varieties of Dungkhar, Zhamleng and Nê but couldn't be identified in the rest. Respondents said this is common in newly cleared and burned field called *saleng* and once this crop takes control the soil is rendered less fertile even after its removal. Even though it wasn't identified by respondents from the three varieties of Shawa, Gangzur and Tangmachu, it is consistent in the other three and I propose the Proto form as **bashi panglep*.

The next entry is again a weed *Pouzolzia hirta* (*English common name unknown*) and is only identified in the three varieties of Dungkhar, Zhamleng and Shawa while the respondents from the remaining three couldn't identify it. Respondents where it was identified though were very specific about identifying the weed through its leaves and how it expands every year by growing additional buds in the soil and how hard it is to remove them. Again,

considering that three varieties identify in great detail and that it is consistent among the three I propose to consider the Proto form as **tsindaling* 'ngon.



Image 25: *tsindaling*, type of plant.

Credit: Gwendolyn Hyslop.

Bitter vine (*Mikania micrantha*) is a plant type that grows on other trees as a vine and is used as a cattle feed. It is consistent across four varieties of Dungkhar, Zhamleng, Shawa and Nê as *bjacola* while it is *bacola* in Gangzur and Tangmachu. What these words mean or originate from is unclear and given that it is consistent across majority of the varieties I propose to reconstruct the Proto Kurtöp form as **bjacola*. Another plant that is used as a cattle and pig feed is *shampa* (Nepal dock, *Rumex nepalensis*) and is consistent across all varieties of Kurtöp and hence easy to reconstruct as **shampa*. The root of this plant is also cooked and used for dyeing yarns orange, like turmeric. *Chumpa* (*Persicaria dolichopoda*) is also a cattle feed and grows on the sides of the field. It is also consistent without any variation across all the varieties and hence considered for Proto form as **chumpa*.

The next has a slight variation with influence from Dzongkha and interestingly this time the influence is on Dungkhar and Zhamleng varieties as opposed to gangzur and Tangmachu which is usually the case. It is called *kupi tsa* in Dungkhar and Zhamleng with *tsa*

being the Dzongkha word for grass but the other four varieties have it as *kupi 'ngon* (*Osmunda japonica*) where *'ngon* is the Kurtöp word for grass. *Kupi* means Eurasian Cuckoo but it is not clear why it is called so. Since *tsa* is a Dzongkha word the proposed Proto Kurtöp form is **kupi 'ngon*. Locals say this grows like *zhima* ‘fiddlehead’ when young but then grows leaves when mature and is used to clot blood after being bitten by *pât* ‘leech’. Another plant that takes the Dzongkha word *tsa* ‘grass’ is *tsaramba* (*Pennisetum clansdestinum*) and is a direct borrowing from Dzongkha where it is called *tsaram*. Gangzur and Tangmachu varieties have it as *tsaram* as expected. The Proto Kurtöp form is not proposed for this grass since it’s a direct borrowing.

The next entry is a plant type that also grows like a *zhima* ‘fiddlehead’ when young but grows leaves similar to *kupi 'ngon* when mature. It is used in the cowsheds as mat for **bauyas* ‘calves’. Its called *'maji dongdro* (*Plagiogyria pycnophylla*) across five varieties but Tangmachu is slightly different without the high tone initial as *maji dongdro*. Since the high tone initial form is consistent across five varieties I propose the Proto form as **'maji dongdro*.

The next entry is *'makcama* (*Gleichenia gigantea*) and is consistent across all the six varieties. This is not surprising considering that this plant was widely used in construction to strengthen mud to build mud partition walls as well as floors. It is known to hold mud together giving it extra strength and prevents from falling apart. Given it is consistent I propose to consider **makcama* as the for in Proto Kurtöp.

Lemongrass (*Themeda arundinacea*) is called **kwastumpa* and is consistent across all varieties and thus proposed for reconstruction to Proto Kurtöp as such. Today lemongrass is used to extract oil but in Kurtö it is mainly used as a broom.

6.12 BAMBOOS

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
bamboo	ruï	ruï	ruï	ruï	ruï	rî
bamboo type	phan	phan	phan	pchan	phran	phran
bamboo type	su	su	su	su	su	su

bamboo type	lim	lim	lim	lim	lim	lim
bamboo type	phî	phî	phî	phî	phî	phî
thorny-jointed.bamboo	rawa	rawa	rawa	rawa	rawa	rawa
bamboo type	‘nyûma	‘nyûma	‘nyûma	‘nyûma	‘nyûma	‘nyûma
bamboo type	‘mê	‘mê	‘mê	‘mê	‘mê	‘mê

Table 139: Types of Bamboos.

Bamboo is a useful non-wood forest product and is an integral part of Bhutan’s ecological and cultural landscape. According to (Wangmo et. Al., 2022). Bhutan is home to over 30 species of bamboos with over 10 species thriving in the temperate region in which most of Kurtöp speaking communities fall. Bamboo serves several purposes such as in construction (often dubbed as poor man’s timber (Bahadur, 1974) for construction of houses, roofing but most commonly in Kurtö region for cowsheds and temporary structures); in agriculture (for fencing); as a source of fodder for livestock; as food in many places in Bhutan such as in Zhemgang though this is not common or popular in the Kurtöp communities; and as handicrafts and traditional crafts (baskets, hats, bamboo plates etc). The cultural significance of bamboos is also evident in its use for weaving the conical hats for women in Laya (Dorjee et al., 2022), Merak and Sakteng where the hat is an important component of the local costume. Though not as culturally prominent as the conical hat worn by the women in the highland, hats are woven out of bamboo in the Kurtöp communities and are called *mokaling* and worn as protection against sun.

Eight species of bamboo have been identified by the respondents across the six varieties of Kurtöp speaking communities. Its cultural and economic significance and widespread use is evident in its consistent use of terminology across the six varieties of Kurtöp.

The first species is called *rui* (*Borinda grossa*). This species grows as a bunch like *su* but at higher elevation and is harder in comparison. It is preferred for its use in weaving *bi* ‘bamboo mat used for drying’, *tshang* ‘basket used for carrying’, *mong* ‘bamboo mats mainly

used for roofing’ and *chur* ‘bamboo fence with large holes in between the weaves’. It is easy to propose reconstruction to Proto Kurtöp as **rui*.

Phan (*Drepanostachyum annulatum*) is the next variety and the only species that displays some variation in terminology. It is called *phan* in Dungkhar, Zhamleng and Shawa, *pchan* in Nê and *phran* in Gangzur and Tangmachu. While the Gangzur and Tangmachu variety is a borrowing from Chocangaca, the Nê variety is a distortion caused over time. In comparison, *phan* is consistent and stable across three varieties of Dungkhar, Zhamleng and Shawa but considering that complex onsets were common in the language and simplified over time, I propose for reconstruction as **phran*. *Phran* is mainly used for weaving *tshang* ‘baskets for carrying’ and for *rithma* ‘fencing’.

Su (*Bambusa spp*) is a larger bamboo species which is not native to the region according to the people. It grows as a bunch and local identify two types depending on the distance between the nodes. The ones with longer nodes are used for making *tongshe* ‘milk churner’ and *dop* ‘bucket’ and the shorter ones are used for *rithma* ‘fencing’. They are also used for making *limi* ‘traditional bamboo bow’ but today these bamboos are also substitute for flag poles. This terminology for this species is consistent throughout the varieties and thus easy to propose reconstruction as **su*.

The next species of bamboo is called *phî* (*Arundinaria racemosa*) and is also consistent throughout the varieties and thus easy to propose reconstruction as **phî*. Like other bamboo species it can be used for general purposes such as weaving baskets, fencing etc but back in the past before advent of modern medicine it had a specific purpose- the bamboo was used as a blade to cut the umbilical cord during childbirth.

Lim (*Pseudostachyum polymorphum*) is the next species of bamboo grown in Kurtöp region. It also grows as a bunch and is mainly used for weaving *tshang* ‘basket for carrying’ and *mong* ‘mat for roofing’. It is consistent throughout the varieties and easy to propose reconstruction as **lim*.

Rawa (*Chimonobambusa callosa*) is a thorny jointed bamboo mainly preferred for its use in constructing *bancang* ‘veranda’ normally attached to the house and sometimes also a resting raised resting place at strategic points such as *tâ bancang* ‘upper veranda’ and *wâ bancang* ‘lower veranda’ on the traditional foot trail between Lhuentse and Dungkhar, and also for *chur* ‘bamboo fence with large holes in between the weaves’. This word is also

consistent throughout the Kurtöp varieties and thus easy to propose reconstruction to Proto Kurtöp as **rawa*.

Nyûma (Dendrocalamus sikkimensis) is the next variety and holds special cultural and spiritual importance. It is used for making *datar* which are ceremonial arrows having ribbons of different colours fastened to it. They are usually used during *puja* ‘religious prayer ceremony’. Back in the past before the introduction of modern pens this bamboo was also used to make ‘*nyugu* ‘bamboo pen’ used for writing by dipping in colour (gold or silver and even soot’). This bamboo also features in many traditional Bhutanese song as an analogy for a lady with perfect figure since the nodes of this bamboo are of even size and evenly placed (*kuzu tsari* ‘*nyûma* – body like the ‘*nyûma* from Tsari- a place in Tibet, *zhelre karsel dawa* – face like the radiant moon’). The term for this is consistent as well and easy to propose reconstruction to Proto Kurtöp as **nyûma*.

The final species of bamboo identified in the Kurtöp speaking communities is called ‘*mê* (*English common name and scientific name unknown*). However, I have not been able to identify the scientific name. The leaves of his bamboo are used to make broom. This lexical entry also is consistent throughout the Kurtöp varieties and thus I propose for reconstruction to Proto Kurtöp as **mê*.

5.13 FLOWERS

English	Dungkhar	Zhamleng	Shawa	Nê	Gangzur	Tangmachu
rhododendron	zhinseng meto	zhinseng meto	zhinseng meto	zhinseng meto	zhinseng meto	zhinseng meto
chrysanthemum	dungmin meto	dungmin meto	dungmin meto	dungmin meto	dungmin meto	dungmin meto
	phagdom meto	phagdom meto	phagdom meto	phagdom meto	phagdom meto	phagdom meto
	mangkong meto	mangkong meto	mangkong meto	mangkong meto	hakpadung meto	anggong meto
rose	taktshel meto	taktshel meto	taktshel meto	taktsheli meto	taktsili meto	taktshili meto

sunflower	nyima meto	nyima meto	nyima meto	nyimi meto	nyimi meto	nyima meto
hollyhock	halo meto	halo meto	halo meto	halu meto	halo meto	halu meto
	jaling meto	jaling meto	jaling meto	jaling meto	jaling meto	jaling meto
Himalayan.rhubarb	chukar meto	chukar meto	chukar meto	chukar meto	chukar meto	chukar meto
	utumbari meto	???	???	utumbari meto		udumbari meto
	ulum meto	'ulum meto	'ulum meto	'ulum meto		'ulumba meto
	priu meto	priu meto	priu meto	priu meto (bumseng meto)	priu meto	priu meto
	namnampi meto	namnampi meto	namnampi meto	namnampi meto	namnampi meto	peytsi meto
	brumba meto	brumbi meto	brumbi meto	bumbi meto	brumba meto	pit'man meto
	bumseng meto	bumseng meto	bumseng meto	bumseng meto	bumseng meto	boomseng meto

Table 140: Types of Flowers.

There are no significant findings regarding indigenous names for flowers in Kurtöp. The term for flower itself is *meto*, which is a borrowing from Dzongkha and Classical Tibetan, with no apparent native equivalent in Kurtöp. Flowers associated with specific trees and plants simply take on the names of those trees or plants rendering separate terms for these flowers unnecessary such as *zhinseng meto*, *dungmin meto*, *phagdom meto*, *bumseng meto* etc. Other flowers are referred to by their Dzongkha names, such as *udumbari meto* and *taktshel meto*, *halo meto*, *jaling meto*, *chukar meto* etc., suggesting an absence of unique local names for these species in Kurtöp. Sunflower for instance is *nyim gangshar meto* in Dzongkha and Kurtöp has it as *nyima meto/nyimi meto* and doesn't even take the Kurtöp term for sun which is *ne*. Rose is *taktshel meto* in Dzongkha and some Kurtöp varieties have a little innovation providing a genitive form as *taktsheli meto*. For the mythological flower *udumbara* in Dzongkha, Kurtöp has a slight variation with devoicing of the alveolar stop in the initial syllable but a direct borrowing nonetheless. *Priu meto* seems to be the only flower with an indigenous name but this doesn't refer to a particular plant and refers to a few that flower during the *priu* season and

thus used as an offering then. *Priu*²⁴ is a local festival celebrated all across the Kurtöp communities as well as in the neighbouring district of Bumthang. It is celebrated on the 10th day 4th Lunar month, consider the monkey month, and thus the name *priu* is derived from the classical Tibetan word *triu* that refers to monkey. This lack of indigenous terminology for flowers is a notable aspect of the language.

²⁴ Guru Rinpoche who is revered as the second Buddha and attributed for introducing Buddhism in Bhutan is believed to have been born on the 10th day of the fourth month (monkey month according to lunar calendar) in the year of the monkey and *priu* is thus a celebration of his birthday. While the grand traditional celebration has faded in most part, the Jasabi village in Dungkhar still celebrate with great fanfare keeping the tradition alive and vibrant.

6. RECONSTRUCTIONS IN A COMPARATIVE CONTEXT.

6.1 DRUNAGU- THE NINE STAPLE CERAL CROPS OF BHUTAN

The names of the ‘*drunagu*’ in Dzongkha, the national language of Bhutan, with their corresponding names in English and Kurtöp are listed in the table below:

English	Scientific name	Dzongkha	Proto Kurtöp	IPA
paddy	<i>Oryza sativa</i>	bjâ/rê	*mras	mɾɛs
maize, corn	<i>Zea mays</i>	gêza	*bacukpa	bɛcukpɛ
wheat	<i>Triticum aestivum</i>	kâ	*go	go
barley	<i>Hordeum vulgare</i>	nâ	*nas	nɛs
taro	<i>Colocasia esculenta</i>	bjo/jare	*bjo	bjo
millet	<i>Eleusine coracana</i>	mömja	*thre	tʰɾe
peas	<i>Fabaceae</i> or <i>Leguminosae</i>	sem, boesem	*nêmin, *shauling	nêmin, ʃɛuliŋ
oilseeds	<i>Brassica napus</i>	pêka	*rû	rû
amaranth	<i>Amaranthus hybridus</i> .	zhimtsi	*‘nam	ńɛm

Table 141: *Drunagu*- the nine main cereal crops of Bhutan.

In this section I compile the reconstructed names of all the entries covered in this research with their equivalent English gloss, Dzongkha names and scientific names where available or where it was possible to identify. Where I have not been able to identify English common names or scientific names or equivalent Dzongkha names, I have left it blank. The unavailability is mainly because these species are native and indigenous to the Kurtöp community and not been explored and researched so far.

6.2 RECONSTRUCTED WORDS FOR GRAINS AND PSEUDO-CEREAL CROPS

English gloss	Scientific name	Dzongkha	Proto Kurtöp	IPA
sweet buckwheat	<i>Fagopyrum esculentum</i>	gere	*cara	cɛrɛ
bitter buckwheat	<i>Fagopyrum tartaricum</i>	gere	*brasma	bɾɛsmɛ
maize, corn	<i>Zea mays</i>	geza	*bacukpa	bɛcukpɛ
wheat	<i>Triticum aestivum</i>	kâ	*go	go
barley	<i>Hordeum vulgare</i>	nâ	*nas	nɛs
paddy	<i>Oryza sativa</i>	bjâ	*mras	mɾɛs
husked rice		rê	*mras	mɾɛs
polished rice		chum	*chung	çʰuŋ
cooked rice		zhêgo, to	*ipa	ipɛ
finger millet	<i>Eleusine coracana</i>	mömja,	*thre	ʈɾɛ
foxtail millet	<i>Setaria italica</i>	khe	*ran	rɛn
broomcorn millet			*yon	jon
shorter bean type	<i>Fabaceae</i> <i>Leguminosae</i> or	sem	*shauling	ʃɛuliŋ
amaranth	<i>Amaranthus hybridus.</i>	z'imtsi kâp	*'mon	món
perilla	<i>Perilla frutescens.</i>	z'imtsi 'nâm	*'nam	nâm
pea	<i>Fabaceae</i> <i>Leguminosae</i> or	sem, b'ösem	*nêmin	nêmin
oilseeds	<i>Brassica napus</i>	pêka	*rû	rû

Table 142: Reconstructed terms for grains and pseudo cereal crops.

The above shows the reconstruction for grains and pseudo cereal crops. As evident from the data it was possible to compare and avail the English common names, Dzongkha names and scientific names for all the species except for broomcorn millet and a shorter bean type known as *shauling* in Kurtöp. This shows that all these crops have been or are cultivated widely across the country.

6.3 RECONSTRUCTED WORDS FOR DOMESTICALLY GROWN VEGETABLES

English gloss	Scientific Name	Dzongkha	Proto Kurtöp	IPA
chilli	<i>Capsicum annum</i>	ema	*banggala	bɛŋgɛle
crow's beak	<i>Cyclanthera pedata.</i>	ola choto	*chidula	ch'idulɛ
radish	<i>Raphanus sativus</i>	laphu	*muya	muje
potato	<i>Solanum tuberosum</i>	kewa	*ki	ki
turnip	<i>Brassica rapa</i>	öndo	*yumang	jumɛŋ
spinach	<i>Amaranthaceae</i>	höntshö	*'ngotshot	ŋots ^h ot
beans	<i>Fabaceae or Leguminosae</i>	semcum	*shepen	ʃepɛn
bean type		pata semcum	*gwan shepen	g ^w ɛn ʃepɛn
bean type			*moringmi shepen	moriŋmi ʃepɛn
bean type			*sangbalingte shepen	sɛŋbɛliŋte ʃepɛn
bean type			*shepen patangringkula	sɛŋbɛliŋte ʃepɛn
garlic	<i>Allium sativum</i>	cagop	*chacu	ch ^h ɛcu
scallions	<i>Allium spp.</i>	gop	*'tsong	t ^h soŋ

high altitude chives	<i>Allium wallichii</i>	kicuram, cicuram, lagop	*matma	mətme
egg plant	<i>Solanum melongena.</i>	dolom	*dolom	dolom
carrot	<i>Daucus carota</i>	laphu ‘marp	*muya zhintila	muje z ^h intile
scallion type		cicu ram	*kiuya	kiuje
pumpkin	<i>Cucurbita pepo</i>	kakuru	*laushar	leuʃer
taro	<i>Araceae.</i>	d’ougi ra	*bjo	bio
green vegetable type		bj’akha	*brekha	b ^r ek ^h ɛ
ginger	<i>Zingiber officinale</i>	saga	*saga	sɛgɛ
turmeric	<i>Curcuma sp.</i>	yungka	*yongka	joŋkɛ

Table 143: Reconstructed terms for vegetables traditionally grown in the community.

The above table shows the reconstructed terms for vegetables that have been traditionally grown in the communities for at least as long as the respondents could remember, spanning two generations. Except for the varieties of beans, I have successfully compiled the English common names, scientific names as well as Dzongkha equivalents. The scallion type known as *kiuya* is most likely a wild garlic or leek type and looks similar to German Bärlauch (*Allium ursinum*) but cannot be confirmed with certainty at this stage. The English common name as well as scientific name for *brekha* is unknown as well at this stage though the Kurtöp term is a modification of the Dzongkha term *bj’akha* indicating that the vegetable was perhaps not native to the Kurtöp region in the first place.

6.4 KURTÖP WORDS FOR RECENTLY INTRODUCED/GROWN VEGETABLES.

English	Scientific Name	Dzongkha	Kurtöp	IPA
bitter gourd	<i>Momordica charantia</i>	khatem	khaktima	k ^h ɛktime

Broccoli	<i>Brassica oleracea var italica.</i>	kopi höm/brokali	brokali	b'okəli
cauliflower	<i>Brassica oleracea</i>	mito kopi	metokopi	metokopi
cabbage	<i>Brassica oleracea var. capitata.</i>	dâma kopi	kopi gurkhanla	kopi gurk ^h enle
asparagus	<i>Asparagus officinalis</i>	nyakhacu	nyakhacung	ɲək ^h əkcuŋ

Table 144: Reconstructed terms for vegetables introduced and grown in recent times.

The above are recently introduced vegetables, within reasonable memory of the respondents and I have not proposed for reconstruction but noted their Kurtöp names as of today. Kurtöps tend to add a vowel at the end of the word when modifying a Dzongkha or English words to Kurtöp and examples have been shared earlier. However, it is not the case in case of *nya khacung* and it will be interesting to see if it's the case with words ending in a nasal in general.

6.5 RECONSTRUCTED WORDS FOR WILD FORAGED VEGETABLES.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
fiddlehead	<i>Diplazium esculentum</i>	nâke	*zhima	z ^h ime
orchid type	<i>Orchidaceae spp.</i>	'ola tshä	*cungka meto	cuŋkə meto
autumn fern/fat fern	<i>Matteuccia struthiopteris?</i>	kêm	*gwan zhima	g ^w en z ^h ime
banana blossom	<i>Musa spp.</i>	ngâlha b'om	*bakshaling	bəkʃaliŋ
plant with broad leaves		damru	*damburu	demburu
yam	<i>Dioscorea</i>	kethö kewa	*ron ki	ron ki
cane		patsha	*pacha	pəç ^h ə

sweet potato	<i>Ipomoea batatas.</i>	kewa 'ngâm	*jan ki	jenki
orchid type (bigger leaves)	<i>Orchidaceae spp.</i>	'ola tshä	*ola choto	ole c ^h oto

Table 145: Reconstructed terms for wild harvested vegetables.

The above shows the reconstruction for vegetables foraged from the wild for consumption. As evident from the data I have successfully compiled the English equivalent names, scientific names and Dzongkha equivalents for this section as well. This is also an indication that these vegetables are foraged and consumed across the country. Except for ‘cane’ known as *pacha* in Kurtöp and *patsha* in Dzongkha, ‘a leafy wild plant’ known as *damburu* in Kurtöp and *damru* in Dzongkha and the ‘ola’ in Kurtöp and Dzongkha in reference to ‘orchids’, the rest of the terms in Kurtöp are unique indicating that these are more indigenous to the community. The term for both the orchid types in Dzongkha are *'ola tshä* while Kurtöp makes distinction between the two as *cungka meto* and *ola choto*. ‘ola’ in Dzongkha means ‘crow’ while the term for crow in Kurtöp is *kawling* so its usage in reference to orchids is strange. Interestingly, the *ola choto* in Dzongkha refers to the vegetable ‘crow beak’ which is called *chidula* in Kurtöp.

6.6 RECONSTRUCTED WORDS FOR HERBS.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
type of edible herb		'namda	*sorburu	sorburu
type of edible herb			*pojama	poʃeme
a plant with buckwheat like leaves			*'ret	ret
type of edible herb			*gonzuru	gonzuru
type of edible herb			*zenguru	zeŋgeru
type of edible herb			*tanglungma	təŋluŋme

mint	<i>Mentha spp.</i>	ushula	*ushula	ufule
coriander	<i>Coriandrum sativum</i>	yösi	*yoisi	joisi

Table 146: Reconstructed terms for herbs.

In this section on herbs, except for coriander and a mint called *ushula*, I have not been able to place the scientific names for the rest of the entries nor the Dzongkha equivalent names. *Sorburu* is *namda* in Dzongkha but again the scientific name is unknown at this stage.

6.7 RECONSTRUCTED WORDS FOR MUSHROOMS.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
mushroom type	unknown		*kawamu	kəwəmu
Black Wood Ear type	<i>Auricularia auricula-judae</i>	bj'ili 'namco	*chimu	ç ^h imu
Black Wood Ear type	<i>Auricularia auricula-judae.</i>	bj'ili 'namco	*zhimbulina	z ^h imbuline
mushroom type			*tabrimu	təb ^r imu
chanterelle			*silimu	silimu
mushroom type			*binamu	binəmu
mushroom type			*pisingmu	piɕiŋmu
mushroom type			*trotpamu	t ^r oɕpəmu
mushroom type			*pegarmu	peɕərmu
mushroom type			*jumu	ju ^m u
mushroom type			*threphimu	t ^h reɕ ^h imu
mushroom type			*praina	p ^r əine

Table 147: Reconstructed terms for wild harvested mushrooms.

The above table shows the reconstructed terms for wild mushrooms consumed among the Kurtöp communities. However, these are seasonal and I assume there are more species/varieties. As evident from the table, except for the two types of black wood ear mushrooms both known as *bj'ili 'namco* in Dzongkha, rest seem to be indigenous to the community. Kurtöp inventory is richer differentiating these two types as *chimu* and *zhimbulina*. I have consulted mushroom experts in Thimphu at the National Mushroom Centre but they have not been able to identify the Dzongkha equivalent names and hence the scientific names are also unknown at this stage. It is likely that most of these species of mushrooms are endemic to the Kurtöp region.

6.8 RECONSTRUCTED WORDS FOR SICHUAN PEPPER.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
sichuan pepper	<i>Zanthoxylum spp.</i>	thinje	*chawa	ʈʃɛwɛ
sichuan pepper type	<i>Zanthoxylum nitidum</i>	'menchu thinje	*'man chawa	mɛn ʈʃɛwɛ
sichuan pepper type (human pepper)	<i>Zanthoxylum armatum</i>	thinje, 'yüthi	*mi chawa	mi ʈʃɛwɛ
sichuan pepper type (monkey pepper)	<i>Zanthoxylum acanthopodium</i>		*pra chawa	pɾɛ ʈʃɛwɛ
sichuan pepper type (bear pepper)	<i>Zanthoxylum oxyphyllum.</i>		*wam chawa	wɛm ʈʃɛwɛ
sichuan pepper type	<i>Zanthoxylum ovalifolium</i>		*gang chawa	gɛŋ ʈʃɛwɛ
sichuan pepper type	<i>Zanthoxylum spp.</i>		*ya chawa	jɛ ʈʃɛwɛ

Table 148: Reconstructed terms for types of peppers.

Kurtöp inventory for the types of Sichuan pepper is also richer with six species while Dzongkha seems to only contain two words ‘*menchu thinye* for ‘*man chawa* and *yüthi* for *mi chawa*.

6.9 RECONSTRUCTED WORDS FOR DOMESTICATED FRUITS.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
pomelo	<i>Citrus medica</i>	humpa	*kapula	kəpule
orange	<i>Citrus reticulata</i>	tshêlu	*tshalum	tʃʰelum
banana	<i>Musa spp.</i>	ngala	*caya	cəjə
mango	<i>Mangifera indica</i>	’amcukuli	*amcukuli	əmçukuli
apple	<i>Malus domestica</i>	apple	*epali	epəli
peach	<i>Prunus persica</i>	kham	*lî	li
sugarcane	<i>Saccharum spp.</i>	g’uncha	*buram nampa	burəm nəmpe
a sour fruit		’mensala	*khomang	kʰoməŋ
peach type	<i>Prunus spp.</i>		*losum khambu	losum kʰəmbu
peach type	<i>Prunus spp.</i>		*cakharpî lî	cəkʰarpi li
peach type	<i>Prunus spp.</i>		*philî	pʰilî
pear	<i>Pyrus pyrifolia</i>	’li	*’litong	lítoŋ
guava	<i>Psidium guajava</i>	bebsiu	*bebziu	bebziu
plum	<i>Prunus prunus</i>	culi	*culi	culi
pomegranate	<i>Prunica granatum</i>	sindru	*thalem	tʰələm
persimmon	<i>Diospyros sp.</i>	’angdre	*andre	əndə
cucumber	<i>Cucumis sativus</i>	g’öncu	*kawan	kəwən
pear		’li	*tong	toŋ

Table 149: Reconstructed terms for domestically grown fruits.

A look at the words for fruits in Kurtöp in comparison with Dzongkha as in the table above also gives us an idea of which fruits are more indigenous to the community, and which could have been introduced later through greater assimilation with other communities or through intervention and introduction of government agencies such as the Department of Agriculture. Pomelo, peach, sugarcane, cucumber, pear and banana have unique terms as compared to Dzongkha while rest are similar indicating borrowing from Dzongkha. The entry for pomegranate is interesting in this regard. Locals believe this fruit was also introduced later in the community but the term '*thalem*' is unique as compared to '*sindru*' in Dzongkha. This fruit is also not widely grown and consumed in the communities.

6.10 RECONSTRUCTED WORDS FOR WILD FRUITS.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
walnut	<i>Juglans regia</i>	tâgu	*khuci	k ^h uci
gooseberry	<i>Phyllanthus sp.</i>	'amla	*kut	kut
wild pear		'litong	*rontong	rontoŋ
banana	<i>Musa sp</i>	ngâlha	*ngala	ŋɛlə
berry type			*endaling/*'ngocung	endɛliŋ / ŋocuŋ
berry type			*mikchun	mikc ^h un
berries (all types)		tshe	*mrip	m ^r ip
berry type	<i>Vaccinium gaultheriifolium</i>		*jagala	ʒɛgɛlə
berry type			*tsher mirp	ts ^h er m ^r ip
strawberry	<i>Fragaria sp.</i>		*sa mrip	sɛ m ^r ip
berry type			*pang mrip	pəŋ m ^r ip
berry type			*simaling mrip	simɛliŋ m ^r ip
berry type	<i>Vaccinium sikkimense</i>		*la mrip	lə m ^r ip
berry type	<i>Lyonia villosa</i>		*prekpema	p ^r ɛkpɛmə
berry type	<i>Toddalia asiatica</i>		*prau mrip	p ^r əu m ^r ip
silverberry	<i>Elaeagnus Umbellata/parvifolia</i>	bji	*derkong	dɛrkoŋ
avocado (generic)	<i>Persea americana</i>	guli	*guli	guli
avocado		guli	*miguli	miguli
wild avocado (monkey)		guli	*pra guli	p ^r ɛ guli
wild avocado (bear)		guli	*wam guli	wɛm guli
dogwood	<i>Cornus capitata.</i>	phêtsi	*namnampa	nɛm ⁿ ɛmpɛ

sugarcane (general)	<i>Saccharum spp.</i>	g'uncha	*nampa	nempɛ
sugarcane type	<i>Saccharum spp.</i>	g'uncha	*sha nampa	ʃɛ nempɛ
sugarcane type	<i>Saccharum spp.</i>	g'uncha	*bjau nampa	bʲəu nempɛ
sugarcane type	<i>Saccharum spp.</i>	g'uncha	*khashi nampa	kʰɛʃi nempɛ
sugarcane type	<i>Saccharum spp.</i>	g'uncha	*ka nampa	kɛ nempɛ
grape/raisin	<i>Vitaceae spp.</i>	gündrum	*gundrum	gundʰum
sour wild fruit			*khomang	kʰomɛŋ
wild fruit type			*deng phate	dɛŋ pʰɛtɛ

Table 150: Reconstructed terms for wild fruits.

The table above shows the list of wild foraged fruits. There are several varieties (thirteen listed above) of berries in Kurtöp and corresponding names in Dzongkha for the most indicating again that they are endemic to the Kurtöp region perhaps. Kurtöps also identify three types of wild avocados as *mi guli*, *pra guli* and *wam guli* and *guli* as the generic term while the word in Dzongkha is *guli* for all types. Similarly, Kurtöp inventory contains terms for four types of sugarcane while again I have been able to confirm only the generic term in Dzongkha as *g'uncha*. It is also evident though to conclude based on linguistic data that some fruits have been collected and consumed for a longer duration as opposed to others. Walnut, gooseberry and wild pear are some of these given that the terms are unique and native to the community.

6.11 RECONSTRUCTED WORDS FOR TREES.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
tree		shing	*seng	sɛŋ
willow tree	<i>Salix babylonica</i>	cangma	*cangma	cɛŋmɛ
castor oil plant	<i>Ricinus communis</i>		*camaling	cɛmɛliŋ

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lacquer tree	<i>Rhus succedanea.</i>	seshing	*kinseng	kinseŋ
plant type, similar to namnampa.	<i>Viburnum cylindicum</i>		*'nomseng	ńomsəŋ
Griffith's oak	<i>Quercus griffithii</i>	sisi shing	*piseng	piŋseŋ
alder tree	<i>Alnus nepalensis</i>	gama shing	*kesengma	keŋseŋmə
tree type	<i>Rhus chinensis.</i>	coka shing	*bramseng	b'əmseŋ
champ tree	<i>Magnolia champaca</i>	khâshi	*kharseng	k'hərsəŋ
tree type			*mangkong	maŋkoŋ
tree type	<i>Quercus semiserrata</i>	'riseng	*'riseng	riŋseŋ
walnut tree	<i>Juglans regia.</i>	tâgu shing	*khuci	k'huci
rhododendron tree	<i>Rhododendron spp.</i>	'eto mito	*zhinseng	z'hinsəŋ
tree type	<i>Lyonia ovalifolia</i>		*bumseng	bumseŋ
tree/plant type			*'merwa	merwə
tree type	<i>Quercus sp.</i>		*zimseng	zimseŋ
tree type			*zimdom	zimdom
layered acorn oak	<i>Quercus lamellose</i>		*phangkui	p'həŋkui
ring cupped oak	<i>Quercus glauca</i>		*sela	selə
tree type	<i>Magnolia campbellii.</i>		*phakdom	p'həkdom
tree type			*khashaling	k'həʃəliŋ
tree type			*charseng	tʃarsəŋ
himalayan hemlock	<i>Tsuga dumosa.</i>		*wangseng	wəŋseŋ
tree type			*peseng	peŋseŋ
tree type			*kirang	kirəŋ
tree type			*triseng	t'riŋseŋ
tree type			*yalingma	jəliŋmə
tree type			*'lasumpa	ləsumpə

tree type	<i>Litsea elongata.</i>		*phu sirkaling	p ^h u sirkəliŋ
tree type	<i>Litsea elongata.</i>		*da sirkaling	də sirkəliŋ
tree type			*yalang	jələŋ
tree type			*balang	bələŋ
tree type			*phrumseng	p ^h rumseŋ
hairy fig tree	<i>Ficus hirta.</i>	baku shing	*khongdi	k ^h oŋdi
tree type			*jursengma	juerseŋmə
cypress	<i>Cupressus sp.</i>	tsende	*tsantsan	tsantsan
tree type			*chun	c ^h un
blue pine	<i>Pinus wallichiana.</i>	tongphu	*dokseng	dokseŋ
chir pine	<i>Pinus roxburghii/wallichiana.</i>	tongphu	*tshakseng	ts ^h əkseŋ
tree type			*shingmarseng	ʃiŋməseŋ
himalayan coral tree	<i>Erythrina arborescens</i>	chatshe	*tshintshin	ts ^h iŋts ^h iŋ
tree type			*drapseng	d ^h əpseŋ
tree type			*brumba	b ^h umbə
tree type	<i>Castanopsis lanceifolia</i>		*chopjaling	c ^h opjəliŋ
banjh oak	<i>Quercus leucotrichophora</i>		*sakhwe	sək ^{hw} e
bown oak	<i>Quercus semecarpifolia</i>		*bema	bemə
nilgiri elm	<i>Celtis tetrandra</i>		*‘namshiwa	ŋəmʃiwe

Table 151: Reconstructed terms for trees.

The above table contains the names of forty-eight trees identified and found in the Kurtöp region. As evident most names are unique to Kurtöp and this is a clear indication of how important forest and timber has been to the community. Kurtöp's like most native people across Bhutan live in harmony with nature where nature provides almost everything that they require

for their survival, from food to clothing to shelter. The local people thus have an extensive understanding of the surrounding environment and possess impressive indigenous knowledge of edible plants, fungus, fruits, flowers, animals as well as detailed knowledge of identifying all types of trees and how valuable they are depending on what they are functionally used for.

6.12 RECONSTRUCTED WORDS FOR PLANTS/WEEDS.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
nettle (general)	<i>Urtica sp.</i>	z'ocha	*kuli	kuli
nettle type			*mikuli	mikuli
nettle type			*bakuli	bəkuli
wormwood	<i>Artemisia absinthium.</i>	khempa	*dungmin	duŋmin
burr (general)		pcimbja, pcima	*brumba	bʷumbə
burr type	<i>Xanthium sp.</i>	tai pcimbja	*tai brumba	tei bʷumbə
burr type	<i>Xanthium sp.</i>		*kempi brumba	kempi bʷumbə
burr type			*drei brumba	d̪ei bʷumbə
burr type			*ron khashaling	ron kʰaʃaliŋ
weed type	<i>Caryophyllaceae</i>		*nyimi 'ngon	ɲimi ŋon
wild fern type	<i>Osmunda claytoniana</i>		*tabri	təbʲi
plant type	<i>Asteraceae</i>		*targola	tərgolə
marijuana	<i>Cannabis sativa</i>		*'na'lingpa	ne'liŋpə
plant type			*zhungzhungma	ʒʰuŋʒʰuŋmə
weed/grass type			*dret	d̪et
weed/grass type			*dunrongka	dunroŋkə
weed/grass type			*cakharpi 'ngon	çəkʰəpi ŋon
weed/grass type			*'mangma	məŋmə

weed/grass type			*trashī jamtsho	ʈɛʃi jəmʈsʰo
weed/grass type	<i>Plantago depressa</i>		*'rapola	ʀəpɔlə
couch grass type	<i>Cynodon spp.</i>		*barik phelang	bərik pʰeləŋ
weed/grass type			*se'yap	sejəp
weed/grass type			*drangtima	dɛŋtɪmə
couch grass	<i>Cynodon dactylon</i>		*têdroima	têdɔime
weed type			*khimshingma	kʰimʃiŋmə
eagle fern	<i>Pteridium aquilinum</i>		*bashi panglep	bɛʃi pəŋlep
weed/grass type	<i>Pouzolzia hirta</i>		*tsindaling 'ngon	ʈsindəlɪŋ ŋɔn
bitter vine	<i>Mikania micrantha</i>		*bjacola	bjəcolə
nepal dock	<i>Rumex nepalensis</i>		*shampa	ʃampɛ
plant type	<i>Persicaria dolichopoda</i>		*chumpa	çʰumpe
weed/grass type	<i>Osmunda japonica, Osmunda regalis.</i>		*kupi 'ngon	kupi ŋɔn
weed/grass type	<i>Plagiogyria pycnophylla</i>		*mâji dongdro	mâji doŋdɔ
weed/grass type	<i>Gleichenia gigantea</i>		* 'makchama	məkçəmə
lemongrass	<i>Themeda arundinacea</i>		*kwastumpa	kʷɛstumpɛ

Table 152: Reconstructed terms for plants and weeds.

Over forty types of plants/shrubs and weeds have been recorded. Most of these are again native to the community and their corresponding names in Dzongkha nor the scientific names could be confirmed. The local people's ability to identify these plants/shrubs/weeds to minute details such as description of leaves and roots is impressive and ascertains how they are integrated to their farming life, though for the nuisance that it brings!

6.13 RECONSTRUCTED WORDS FOR BAMBOO.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
bamboo type	<i>Yushania maling</i>	ba	*rui	rui
bamboo type	<i>Drepanostachyum annulatum</i>		*phran	p ^h ɾɛn
bamboo type	<i>Borinda grossa.</i>	pashi	*su	su
bamboo type	<i>Arundinaria racemosa</i>	hicu	*phî	p ^h î
bamboo type	<i>Pseudostachyum polymorphum</i>		*lim	lim
thorny-jointed.bamboo	<i>Chimonobambusa callosa.</i>	raw	*rawa	rɛwɛ
bamboo type	<i>Dendrocalamus sikkimensis</i>	‘nyûma	*‘nyûma	ǰûmɛ
bamboo type			*‘mê	mê

Table 153: Reconstructed terms for types of Bamboos.

The above table shows the Proto Kurtöp forms for the seven species of bamboo grown and consumed among the Kurtöp communities. The Dzongkha and Kurtöp words for two species *raw/rawa* and ‘*nyûma* are same/similar while the rest are unique though Dzongkha equivalent have not been identified for *phran* and ‘*mê* species. The scientific name for ‘*mê* is also unknown at this stage.

6.14 RECONSTRUCTED WORDS FOR FLOWERS.

English	Scientific Name	Dzongkha	Proto Kurtöp	IPA
rhododendron	<i>Rhododendron spp.</i>	’eto mito	*zhinseng meto	z ^h inseŋ meto

chrysanthemum	<i>Asteraceae</i>	khempa mito	*dungmin meto	duŋmin meto
	<i>Magnolia campbellii.</i>		*phakdom meto	pʰəkdom meto
			*mangkong meto	məŋkoŋ meto
rose	<i>Genus rosa</i>		*taktshel meto	təktsʰel meto
sunflower	<i>Helianthus annuus</i>		*nyima meto	ɲimə meto
hollyhock	<i>Alcea rosea</i>	halo mito	*halo meto	həlo meto
	<i>Malvaceae.</i>	jali mito	*jaling meto	ɟəlɪŋ meto
Himalayan.rhubarb		chukar mito	*chukar meto	cʰukər meto
			*utumbari meto	utumberi meto
			*ulum meto	ulum meto
	<i>Orchidaceae</i>		*priu meto	pʰriu meto
dogwood	<i>Cornus capitata.</i>	phetsi mito	*namnampi meto	nəmɲəmɲi meto
			*brumbi meto	bʰumbi meto
			*bumseng meto	bumseŋ meto
	<i>Daphne bholua</i>		*shokshometo	ʃokʃo meto

Table 154: Reconstructed terms for flowers.

The reconstruction for most flowers is same as the reconstruction for trees on which they bloom as evident in the table above. The only specific flower entries are *nyima meto*, *halo meto*, *jaling meto*, *chukar meto* and *utumbari meto* which all seem to be a direct borrowing or influence from Dzongkha. The only unique entries are *ulum meto*, *priu meto* and *shoksho meto*.

7. CONCLUSION.

This thesis has aimed to investigate the historical development and internal relationships of Kurtöp, an endangered language spoken in Bhutan. Through a detailed phonological, morphological, and lexical analysis of six dialects, this study has reconstructed Proto-Kurtöp terms with a particular focus on flora and fauna, shedding light on the linguistic and cultural history of the Kurtöp speech community. The findings provide insights not only into the structure and evolution of the Kurtöp language but also into the agricultural practices, biodiversity knowledge, and cultural heritage of its speakers.

By employing historical linguistic methods, I have proposed reconstructed terms for an extensive range of flora, including grains, pseudo-cereal crops, vegetables, fruits, and more. This effort not only underscores the linguistic diversity of Kurtöp but also reflects the rich ecological and agricultural traditions embedded in its lexicon.

Through analysis of linguistic data from six Kurtöp dialects, I have reconstructed terms for 17 grains and pseudo-cereal crops, providing a window into the dietary staples of the early community. These terms illuminate the agricultural innovations and crop cultivation techniques that sustained the population. Similarly, reconstructed terms for 22 domestically grown vegetables and 9 wild-harvested varieties reflect the community's resourcefulness and knowledge of their environment. These findings showcase the intricate relationship between the community's linguistic heritage and their subsistence practices.

The research has also extended into the realm of natural resources used for culinary and medicinal purposes. Reconstructed terms for 8 types of herbs, 12 varieties of mushrooms, and 6 species of Sichuan pepper reveal a nuanced understanding of the region's biodiversity. This lexicon offers a glimpse into the traditional uses of these resources, which were likely integral to the community's health and well-being. Terms for 18 domestically grown fruits and 29 wild varieties further illustrate the community's reliance on seasonal and ecological cycles for sustenance.

Beyond food resources, this study also highlights the community's interaction with their natural environment through the reconstruction of terms for 46 species of trees, 34 types of plants and weeds, and 8 species of bamboo. These terms suggest a multifaceted use of natural resources, from construction materials to household tools and agricultural implements.

This research not only contributes to historical linguistics but also provides valuable insights for ethnobotany and cultural heritage preservation. By reconstructing this lexicon, I offer a deeper understanding of the Proto-Kurtöp-speaking community's interaction with their environment. These findings highlight the importance of endangered language documentation, as languages serve as repositories of ecological and cultural knowledge accumulated over generations.

Furthermore, the study opens doors for interdisciplinary collaboration with fields such as botany, anthropology, and history. The reconstructed terms for plants and crops could inform contemporary discussions on biodiversity conservation and sustainable agricultural practices. By preserving this linguistic and ecological heritage, this research not only enriches our understanding of the past but also equips us with knowledge that could address present and future challenges.

Ultimately, the reconstruction of agricultural and ecological terms in Proto-Kurtöp underscores the interplay between language, culture, and the environment. It serves as a testament to the profound knowledge systems embedded in linguistic traditions and highlights the urgency of preserving such knowledge in the face of language endangerment. This work not only sheds light on the Proto-Kurtöp-speaking community's way of life but also offers a roadmap for integrating historical knowledge into modern applications, fostering a sustainable and informed relationship with the natural world.

Overall, the research highlights the remarkable coherence within Kurtöp dialects while acknowledging the influence of neighbouring languages on certain varieties, such as Gangzur and Tangmachu. These dialects, due to their geographical proximity to non-Kurtöp-speaking communities, exhibit notable borrowings and phonological distinctions. Despite such influences, the analysis has shown that the majority of Kurtöp dialects maintain significant phonological and lexical similarities, supporting the reconstruction of a unified Proto-Kurtöp. Tangmachu, however, emerges as the most distinct dialect, characterized by extensive lexical borrowings and unique phonological features.

This study also underscores the urgency of documenting and revitalizing Kurtöp, as the language faces declining intergenerational transmission despite positive attitudes toward its preservation. By reconstructing terms and examining the internal phylogeny of Kurtöp, this research contributes to safeguarding its linguistic heritage. It also enriches our understanding

of the East Bodish subgroup within the broader Tibeto-Burman language family, providing critical data for historical and comparative linguistic studies.

One significant limitation of my thesis was the challenge of obtaining accurate local names in Dzongkha and their corresponding scientific names for many species. This difficulty stemmed largely from the lack of prior research and available data on these species, particularly in the Kurtö region. Many species appeared to be endemic to Kurtö, making it challenging for experts from Dzongkha-speaking communities to provide reliable names or information, as they were unfamiliar with this region-specific flora. A potential solution would have been to bring together Dzongkha and Kurtöp speakers for collaborative fieldwork, which could have bridged the knowledge gap to some extent. However, logistical and time constraints made this approach unfeasible, limiting the depth of linguistic and scientific documentation in my study.

Future studies could extend the scope of reconstruction to other lexical domains. In conclusion, this thesis contributes to a growing body of work aimed at preserving endangered languages and their cultural heritage, offering both a scholarly and a community-oriented perspective on the linguistic and cultural legacy of Kurtöp.

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APPENDICES

APPENDIX 1: TRANSCRIPTION AND TRANSLATION OF CONVERSATION WITH AIYA TSHERING

This is a transcription and translation of an interview with Aiya (Grandmother) Tshering, an 80-year-old grandmother from Tabi, Kurtö. She is the oldest resident in the village and one of the last generation to have travelled to *Wenged* (Tibet as referred to by the Kurtöps. In this interview, she recalls her journey to Tibet using the old trade route. This trade route was closed in the early 1960s. She describes the length of the journey, the challenges they faced along the way, and the goods they carried from Kurtö for trade, as well as what they brought back. Aiya Tshering also reflects nostalgically on life during those times and how much things have changed since then.

Interviewer

tshe aiya wozi 'napa nganan 'Nétang enji nawal winim trongnang

‘now Grandma how was the situation like before in the village’

da dasum yampa enji gewo

‘how has it gone (changed) these days’

wotor jurce 'napata lâgapo ngamong kapo enjiti nawal winim da dasum yampata tshe yarge gizi

‘like how difficult it was in the past and how(we have) developed these days’

Aiya Tshering

'lama..danta 'napaning dara thungmota da sani namgi khebar jurmi

‘My god, there is the difference of sky and earth between then and now’

'napa katu akpa chutshangrang nerana langwali thamu tshe

‘Back then no matter how we struggled it was never enough (referring to food)’

da dasum yampata mira zhung kadrinche gam chongthung khwe chongthung ngak

‘These days, thanks to the government which brought out (provided) light and water’

tshe da kharangta miksiya mithung ta ip kengma ritara

‘Now we don't even see kharang (ground corn), only rice’

drakzhenya mu, thonmangya mu

‘No difference between high and low, rich and poor’

Interviewer

tshe enjishu 'napani tshe leng gapoyang ritaka thungtshukta dan mangsho thow darna tshe da

‘how is it, back then all the fields were cultivated, now most are fallow’

Aiya Tshering

wona... 'napa saleng gapo tshe, 'napa lenggap thungwi mechok saleng gapo tshe, bacukpani threri

‘Yes back then not just were the fields cultivated but also regularly cleared new fields (shifting cultivation) for (cultivation of) maize and millet’

Interviewer

tsheshang malangwal wenta wu?

‘even then not enough? (food)’

Aiya Tshering

wong, tsheshang tsampa melang na

‘Yes, still there was not enough food’

dani mira wo lenggap thow darshangra tsampa mira langna

‘Now, even if the fields are fallow, there is enough food’

ator ngawal winim mabran

‘I don't know how this is (laughs)’

Interviewer

mi mangwali shu 'napa mapa the tshe mi

‘Was it because there were more people in the past?’

Aiya Tshering

mi mangwalaya, miyang sisalonga nami tshe, daraya nâkhan nani nâ

‘There are as many people perhaps even today. Those who have, have (more people)’

ner nyingkhana nyingwal manto

‘While those of us who have less, have less (people)’

'napa wo nangzan koitak ngak, nangzan gapi 'molam lokpa tappana ngak samrata ngai ta

‘We had serfs back then and I think its perhaps their adverse wishes’

Interviewer

enjiyo tshe?

‘How?’

Aiya Tshering

bot katu chutmo ai tshe

‘They had a hard time, that’s why’

tsampa malango ngak 'molamdi lokpa tappana ngak (laughs)

‘They perhaps prayed for us to not have enough food today’

Interviewer

en...

‘Oh...’

Aiya Tshering

data...tshe gasayiya medota tshe 'lama kheno

‘Now, my god, we are more than happy’

Interviewer

wentawu da...

‘isn't it?’

Aiya Tshering

'napa thukpa nêma thong, kharangni chocan zu, dani düphosum ip kengma

‘Back then, we would have porridge, ground corn or dough, today we eat rice for all three meals’

kityang da kitta mitshe, 'napa wa

‘It’s even more peaceful now, compared to the past’

Interviewer

da thuntshon gesha garinatshe wuda

‘Now even to here and there (travel) we go by car’

Aiya Tshering

wong...thuntshon geshang da yamgor gosa mutle garina, yam kimti megota

‘yes even for travel we go by car and don't have to walk, not even a step’

da tothu phithuni ritarang thrüchungni woci ngak bîta

‘Now, flour is ground using machines’

data chung sathmin theyang tshomna 'mesopta migapo

‘Today, people don't use the pestle (wooden mortar and pestle) even to unhusk husked rice.’

Interviewer

Lhüntsi gemoya 'napa zhâ yamna dotsi gêko tshe wu

Back then, even to go to Lhuntse, you had to sleep on the way right?

Aiya Tshering

tshongi gemo Zhamleng mato methrâ

‘When (we) go from here (we) will only be able to reach Zhamleng’

Tongdalani 'lama damning jong mits huk jar damnang waksoksoni dektak wen

‘From Tangdala, hard to get out of the mud. In summer (your feet would be) this deep in the mud’

tshe yamsu yamjet rita patgi yü ramota

‘And on the upper and lower sides of the road,(filled with) leeches when it rains’

tshé woning thrara thrana Wamtanglaro thra, tshongi gemo

‘Then from there if (we can) we will reach Wamtangla, when going from here’

Interviewer

nen thenang?

‘In one day?’

Aiya Tshering

tshé Wamtanglani Lhuntsi zongnang

‘And then from Wamtangla, (reach) Lhuntse Dzong’

Interviewer

tshé mangi zhara chong gosál mapa tshé, zumal thongmal mangi chong goike?

‘Then from down what do we bring? Did you have to bring things to eat and drink (groceries)?’

Aiya Tshering

zumal thongmaleyang 'napatsham yau Wengini yoto, tshani wogapo

‘Things we ate and drank, earlier, it was from Tibet, like salt’

Interviewer

yangi zharang chongtaksu tsha...

‘What else did you bring out from up there? salt...’

Aiya Tshering

tsha, horthra, jalo, 'nambu, logo ritara yangi tshe

‘Salt, and hortha, jalo, 'nambu (textiles) and all clothes were from up’

Interviewer

en.. 'nambu ngakhan zhayo?

‘What is 'nambu?’

Aiya Tshering

(laughs) 'nambu ngakhan bägi karcang thuksi ra

‘(laughs) 'nambu is a plain weave from wool’

Interviewer

en...

‘Ok’

Aiya Tshering

wosi tshe yangi nwiz ot, tshô otsi tshe chôpa gapor zhinti co tshutna

‘That is bought from up there, brought here, and then for the monks (we) dyed red with madder’

tshener minakpo gaporo nyunti chuko chupa nyunti

‘And for lay people (dyed) black, black gho’

Interviewer

nyunti zhai cotakshu?

‘How did you dye black?’

Aiya Tshering

damthung ‘ngonthera andarmi ‘ngon ngak

‘(we used) mud and then there is a shrub called *andarmi ‘ngon*’

Interviewer

en...

‘ok’

Aiya Tshering

wo 'ngon thang ot tshenio dam 242on gak nyunti corgo

‘We pulled (collected) that shrub then add mud and make it black’

Interviewer

khira mapa kharti ratakyā?

‘the (piece) itself is white?’

Aiya Tshering

khira yangi bā kharti tshe

‘Yes the (piece) itself is white wool’

Interviewer

thuwalara ya? yangi otmora thuwal ya?

‘So it is woven? Woven when being brought from up?’

Aiya Tshering

yangi thuwal otmale nwizi

‘Yes we buy woven piece from up and bring’

tshongi tshut thang khorko

‘Frokm here we had to pull (collect) and take madder’

Interviewer

tshē neri tsho thuko mekhantak shu?

‘so we didn't know how to weave here?’

Aiya Tshering

neritshoya thrithâ thû

‘we wove on the horizontal loom here too

tshemo mira 'nambu yangira thuwal otta, 'mathra wogap ngan neri tsho thuktami, 'rotman cozi

‘but 'nambu was always brought woven from up, while (pieces) like 'mâthra were woven here, by making the yarns’

Interviewer

'rotman zhayi cotak shu?

‘What are the yarns made from?’

Interviewer

en...

‘Ok’

Aiya Tshering

'rotman bärang, yôgi bä

‘Yarns were wool, sheep wool’

Interviewer

thrithâ, pangthawa 'napa thritha nawalshu tshô

‘Was there horizontal loom before the back strap loom here?’

Aiya Tshering

thrithayang bartheni coshang, net cingbali gangna

‘Horizontal loom was made sometime in between, when I was young’

zhanta pangtharang

‘Otherwise it was the backstrap loom’

Interviewer

pangthata nawalya 'napanirang

‘So backstrap loom was here from before?’

Aiya Tshering

pangtha nawala, pangtha thû

‘Yes (we) had backstrap loom and wove on it’

tshemo 'mathra gapo thûmong 'ngat sumsum thunggo, 'natsum bjarko yau

‘When weaving 'mâthra (we had to) attached three heddle sticks’

wenri wense mekhan

‘Not everyone knew (the technique)’

dara weri ami khantami yau

‘Now, your mother knows, up’

Interviewer

eci matpal, eci otpalshutshe wo thritha thumalegi solthe

‘Who would have brought this culture of weaving on the horizontal loom?’

Aiya Tshering

thrithâ wo weng gap yangi thrakhala gapi comi wo weng trongna nawal wentami 'nambu thûkhan thritha

‘Horizontal loom was made by the Tibetans who came here, they have the loom in their village (on which they) wove the ‘nambu’

necithûta 'naparang 'nep Zomzopa ngakhanla thraksi woci coshang

‘In my place, for the first time it was made by ‘Nep Zomzopa who came here’

Interviewer

'nep Zomzopa ngakhanla yau botpa ya?

‘Nep Zomzopa is a Tibetan?’

Aiya Tshering

wong...Weng

‘Yes, Tibetan’

yangi yot razi tshe netni 'Nébu zong tshe neci mêdo nizi

‘Came from up and took shelter and stayed in our house’

tshé womira thrithayi seng gapo khî cozi tshé khî mira thâyang thukshang

‘And then he made the wooden parts for the horizontal loom and even wove on it here’

Interviewer

khî 'matpakla tsheni, phojaya khira?

‘So he taught? Was he a man?’

Aiya Tshering

phoja khira

‘Yes he was a man’

tsheni neci auwa wogaporo 'matsi tshé thrithana thukshang

‘And then (he) taught our sisters and then wove on the horizontal loom’

Interviewer

tshé pangthata 'napanira nawalshu

‘And backstrap loom was here from before?’

Aiya Tshering

pangthata 'napara thukta, nei branmebranara thukta

‘Yes we were weaving on backstrap loom from before, as far as I can remember (as a child)’

yangi bä otsi, pakpa otgotshe yangi, yôgi pakpa

‘Brought wool from there, (we had to bring) sheep skin’

tsho tsho ot sum, tsheni thro, sthe bä pizi

‘And then the skin is soaked, washed and then the wool was plucked’

Interviewer

yalama...

‘Oh my god!’

Aiya Tshering

tsheni sondalingnang khuidogo

‘And then (we had to) turn on the *sondaling*’

tshe khui, tsheni daru rîco, darung zhe

‘Then turn and then make lots and then again twist and turn’

tsheni manto tshe womi chuksi manto 'mâthra thumal mera

‘And only then could we weave the ‘*mâthra*’

(laughs)

Interviewer

'napa atsa gap pura bågira wenta tshe wu?

‘Back then all the clothing were from wool, right?’

Aiya Tshering

wen bāgi

‘Yes from wool’

Interviewer

yangi chongzi woyang pura

‘And that was all taken out (brought) from up?’

Aiya Tshering

tsheni yau weng yam chut thungkini tsheni tshagap mangi chongwala jani, Gudamani

‘After the road up there, Tibet, was closed then we brought salt from down, from Gudama’

Interviewer

'napa yangira wentatshe wu, 'napa yangirang

‘Earlier it was always from up?’

Aiya Tshering

'napa yangira wen tsha

‘Yes back then it was always from up, salt’

tsha tsheni tshilura gor waksokso

‘Salt, then fat, like a stone this size (shows with hand)’

yôgi tshilu 'yâgi tshilu gap

‘Sheep fat, yak fat and all’

Interviewer

tshôto?

‘Oil? (for cooking)’

Aiya Tshering

wong... wo nwiz ot, tsheni tshe tshôto wo wenta tshe wo tshilu

‘Yes we bought and that was the oil (for cooking), that fat’

tshô ot toksi tshomna toksi tshe cozi tsheni wo lipliphung cota tshilu tshotmanang

‘Brought here, grind in the pestle and then slices of it were used in the curry’

Interviewer

bamar mutleshu tshô tshe?

‘we had no cow butter, here?’

Aiya Tshering

bamar tsamtsamta ratshe, tshemo mi wenre wensako tshe nor mûtshe, wong tshilurang wen

‘We had little but not everybody had cattle so it was the fat’

mira mêcingkupa nangzan gapota tshilu gor sum ot 'nengthê langmal tshôto

‘The ones in smaller houses, like the serfs, they would bring three stones (pieces) of fat and that would be enough for a year’

Interviewer

tshilu gor sum ngamo enjiwo? shêngak ratak ya?

‘When you say three stones how is it? Is it in *shê* (Kurtöp measurement)’

Aiya Tshering

ra girgira woksokso cozi yangira

‘Yes round, like this size, made from up (shows with hand)’

wo sum ot ngak, wona tengtengma bre yangyang birgo

‘Would bring three and for that (we had to pay) five *bres* (Kurtöp measurement cup) each.’

wo tshilu dogor thek te na

‘For each stone of fat’

Interviewer

tshagap enji birgoiko rin

‘How did you pay for salt?’

tsha akpanang?

‘For how much salt?’

Aiya Tshering

tsha chung khedikti

‘Salt, twenty each of rice’

tsha khedina chung khedi, yau bre diksi

‘twenty rice for twenty salt, up there, measured by the *bre*’

Interviewer

zhâ akpa gedo goiko yungemo wengi yau

‘How many days (did you) have to go up to bring, from Tibet?’

Aiya Tshering

yau gemo zhâsum yamna darngak blengamo Sengriro thraktami

‘While going up, three nights on the way and then on the fourth night reach Sengri’

Interviewer

Sengri ngakhan khepo botpi trongna ya

‘Sengri is Tibetan village?’

Aiya Tshering

Sengri ngakhanla Wengni ner Drukpi santshamna wenta

‘Sengri is the border between Bhutan and Tibet’

Interviewer

Sengri

‘Sengri’

Aiya Tshering

tsheni woni gemo thrâ khomti lhakhango

‘And from there, go (and reach) Khomti Lhakang’

khomti lhakhangni otgosala ner

‘We had to bring from Khomti Lhakhang’

Interviewer

Aiyi thrawa yau Khomti lhakhang thrawal ya

‘Grandma, have you been to Khomti Lhakhang?’

dor akpa thraalyo 'napa

‘How many times?’

Aiya Tshering

thrakshang

‘(I have) been’

ngai dorti man mathra trendana thrakshang

‘I have only been there once, in the monkey month’

Interviewer

trenda ngakhan da

‘Monkey month? now’

Aiya Tshering

dau 'ngapana tshemota Namkhai 'Nyingpora yau Kharchuro zhukna

‘The fifth (lunar) month. That time Namkhai 'Nyingpo was in Kharchu’

Interviewer

Kharchu khepo auyo Khomti Lhakhangi chando ya

‘Where is Kharchu? Near Khomti Lhakhang?’

Aiya Tshering

Kharchu...Khomti Lhakhangni khako getgo

‘Kharchu, we have to go upwards’

yau Khomti Lhakhangni zarwana thrakta Kharchuro

‘From Khomti Lhakhang (you can) reach Kharchu by lunch.’

Interviewer

Namkhai 'Nyingpo kutshe gongma khepo wini darai 'napa khepo

‘The previous Namkhai 'Nyingpo right? The one before the present one’

Aiya Tshering

wona gongma khepo

‘Yes, the senior one’

tshemo yau trenda jetgewala net

‘That time we went to witness the Trendera(Festival in the fifth month)’

Interviewer

neri tshongi ecira thrawashu yau Khomti Lhaxhang gapon

‘From here, who all have been up? To Khomti Lhaxhang and all’

Aiya Tshering

'lama ritak thrawala tshe yau ta

‘My god, everyone has been (from her generation)’

rita Wenget getgotshe phojani mojani

‘Everyone had to go to Tibet, all men and women’

da mathraklhanra aiya wogap wini ninti aidani wogapo

‘(laughs) The only one who haven’t been perhaps your grandmother and all’

zhanmata ritak thrawala

‘Others, everyone has been’

Nurpi nangzan pongya ritak thrawala

‘All the serfs of Nurbi have also been’

phoja gaporo jakhedi sumsum

‘The men (had to carry) three twenties (60) of *Ja* (measurement)’

wen khor jami diksi

‘Was their load, measurement on the *jam* (measurement)’

Interviewer

jam khedi sum sum

‘Three twenties each of jam?’

en bot kermaligi khor

‘Oh, so that was their load to carry’

Aiya Tshering

bor kemaleki tshe woci jedotshe bori jace tshe

‘Yes their load, and on top their own ration’

Interviewer

tshe borako woci jedo kutsi ot gosalya

‘And for themselves they had to carry over this?’

Aiya Tshering

tshe daru boriki tsamtsamba khor tshe yangi tshong otmaleki tengtengma wotola

‘And for themselves they will take some over it, like beaten maize, for themselves to bring back’

tshemo moja gapor jam khedikti

‘The women had to carry one twenty of *jam*’

Interviewer

jam khedi nganan kg akpa raishu

‘How many kgs is twenty *jam*?’

Aiya Tshering

kg khezon wentami tshe jam brengbrengna kg gwagwa

‘Two twenty (40) kgs. One *jam* is two kgs.’

Interviewer

en paw

‘Oh wow’

Aiya Tshering

moja gaporo wotor kut tshe..jaumutkhan gapota drow beyta ri

‘That much for the women, and then ones who were not strong enough were tortured’

Interviewer

wentatshe 'lama...

‘Yes, my god.’

Aiya Tshering

(laughs)

(laughs)

Interviewer

tsheni neri tshongi khakto zhara khortakyotshe da tengtengmaning...

‘What did we take up from here? Beaten maize and....’

Aiya Tshering

tengtengma chung mrali tengteng toksi khor

‘Beaten maize, rice, beaten rice’

tshenitshe bangala 'ngokamco zhinti

‘Then, chilies, dried green and red’

Interviewer

tshutya khortakya khako

‘oh madder was also taken up?’

Aiya Tshering

tshé tshut tshé

‘And then madder’

Aiya Tshering

tshut khor tshut 'nambu otmale

‘Yes madder was taken to bring (back) 'nambu’

tshé nangzan gapo nen yanyang logona brekgo

‘The serfs had to be given five days each for their annual clothing’

neri mekoido borako logo otmaleki

‘We had to keep them free so that they can bring back clothes for the year.’

tshé tshut thangosaltshe nen yangana tshut khorti myang

‘So they had to collect madder. in five days they could collect one load of madder’

Interviewer

'nengthena nen yanga ya

‘Five days in one year?’

Aiya Tshering

wong tshe wo tshut yau Wengedo khor

‘Yes and the madder is taken to Tibet’

tshe wome chonti bori logona chutmal khorti khako khormaleki

‘And one load is kept for their clothing, to take up’

tshe wokhor tshe yangi 'nambu khorti ot

‘So they take that and then from up they bring a load of *'nambu'*

tshe logo wo wen

‘And that was the clothing for the year’

'napa Wenge namota 'lama miya duwala

‘Back when there was Tibet (meaning route was open), people also had a hard time’

Interviewer

yam nganan angi getakshu tshe tshongi nganan da

‘Which way do we go from here?’

Aiya Tshering

tshongi nganan wo 'rôtoksi wen wo kurkhwe thundo ph[√] tshondo pha ngak

‘From here, you follow the *Kurkhwe* (Kuri River), cross this side, cross that side....’

Interviewer

wo Nalengni khakto ngaksi

‘Upwards from Naleng?’

Aiya Tshering

wong woye Pemthangni khako ngak Nelengpi jêni khako wen

‘Yes that Pemthang, upawards from Naleng’

Interviewer

nen dangpana authrak ko zhâ

‘Where (would you) reach on the first day for the night?’

Aiya Tshering

nen dangpana mêning gemo phetsegini wudi Wawepi tronggi jûna mau Broksarngak nawala wudigapona nîta

‘On day one, when going from home, some stay in a place called Broksar at the base of Wawe village’

phetsegi Pemthang thrâ

‘Some make it to Pemthang’

tshé woning gemo audi Khapcakor thraktakiri audi Gedganggo thraktak ngak

‘Then from there reach somewhere called Khapchak and then Getgang’

namira gemal (laughs) neri Drukpi zam chau'niri mi

‘There were places like that.. (laugh). The Bhutanese (built) 12 bridges’

Wenggi zam chau'ni khwe thundo pha tshondo pha ngak

‘The Tibetans (built) 12, you keep crossing the river, this side and that side....’

Interviewer

yau thrathranang

‘Till you reach up?’

Aiya Tshering

woye Tshoje zam ngakhannangta neri mêtôzon thrangori

‘In the place called Tshojet Zam, it is said the climb was almost about two floors’

wong zam khako kâhungzi

‘Yes bridge, built like a ladder’

kâdangzon nawalari thêgi kwekpana thê natsi

‘Two levels of ladder, one on top of the other’

Interviewer

en paw

‘Oh wow’

Aiya Tshering

tshé phetseta khwenaya getami Bumthangpathê geshang neibrando

‘And some fall in the water. I know of a Bumthangpa who fell’

Interviewer

ya'lama wenta khorkerzi wentatshe daru wu

‘My god, and (you had to walk) with the load’

Aiya Tshering

Wong Wenge gemo (laughs)

‘Yes when going to Tibet (laughs)’

kakkwekpani 'nguktamo mau khwe mikthungmo enjiri siktari

‘When looking from the top of the ladder and you see the water, you shiver (with fear) they say’

Interviewer

en...

‘Oh I c.’

Aiya Tshering

(laughs)

(laughs)

net Yungmi acigimira yangiyot ramo mêdo thrawala sunla

‘Our brother from Yungma made it home in one day, for the night, while returning from up’

Interviewer

yau Khomti Lhakhangni ya

‘From Khomti Lhakhang?’

Aiya Tshering

wong

‘Yes’

Interviewer

ya'lama khorkerzi wini darutshe

‘My god, and must be with the load’

Aiya Tshering

khor mutle khir wotor khor yoizi tongpa ramo

‘No load, empty when returning’

tshe khor mutshang yôtona zhâzon dartiki tshe yamna

‘But even without load, it normally took) two nights on the way back down’

Interviewer

en..

‘Ok’

Aiya Tshering

tshe khakona Sengrir chamna zhâsum Sengrir zhâthengamo zhâble yanga ngakisutla Khomti Lhakang thrakna mi

‘While going up, till Sengri is three nights, one night in Sengri makes four and then on the fifth night (you) reach Khomti Lhakang’

'napa khor ritara Sengrir shurgo tshongi khako

‘First all the load had to be carried till Sengri’

tshé Sengrir doka shus zatpani tshenibe Khomti Lhakhango shumaletshe Sengrining

‘Then once everything is in Sengri then you move them to Khomti Lhakhang, from Sengri’

Interviewer

'napa dorti yau yoi... Sengrir yoizi

‘So first you reach (all the loads) to Sengri?’

Aiya Tshering

wong

‘Yes’

tshemo Sengrining khor japzonzon thrakta ngakta mira

‘From Sengri they say you can do two trips (of loads a day)’

'ngazi 'nganman yangi yungra tshé japta yau zarwana yoibrek daru yot taprangak sunla japti thrakta ngakta

‘Early morning you come from up to get once, take once for lunch and then you can do one more trip till the night’

Interviewer

Khomti Lhakhango zhanawalshu mapa Lhakhang nawalya

‘What is there at Khomti Lhakhang? A temple?’

Aiya Tshering

Lhakhang nâ 'Nyumi Lhakhangngak

‘Yes a temple. A temple called 'Nyûmi Lhakhang’

Lhakhang jikpalthe nâ wo Lhakhang butnikhako khambuiseng jikpalthê nâ

‘A big temple and from the centre was a big peach tree’

khambu zacasa yau wenta kwepana pangkap jêdo

‘The fruits bore on the top, above the roof’

Interviewer

Lhakhang nangi ngakya seng khepo

‘The tree (grew) from inside the temple?’

Aiya Tshering

Lhakhang nangi khako

‘From inside the temple’

tshemong 'lamakheno jinlap zhutak ngaksi wo khambuiseng pakpa khokkhoksi yau woyena thrakna yau camna

‘But my god, people kept talking the barks of the tree as a blessing and the tree (had lost its barks) till the ceiling’

mangkhak pakpa khokkhok migapi khorzat

‘Kept taking the bark by people from below’

tsheshang khambu meramna mira

‘But still the peach (tree) didn’t die’

tshé Lhakhang dâpangak ponthêra nami yau

‘And there was a King called Lhakhang Dâpa’

Interviewer

en..tshé neri tshongi khorkhan khepo woyenang yoigosal tshé

‘So what we take from here must be reached there?’

Aiya Tshering

wona woina

‘Yes there’

Interviewer

tshé boingaksi 'muitakya nerako tsheni cala

‘And then they sell for us?’

Aiya Tshering

Woinangtshé Brokpa thraktak wentami yangi yoto ngwikhan

‘There the Brokpas come from up to buy’

tshemo neri 'nebugapo wenta breje thungkhan

‘Then, that time it was our hosts who did the measurement.’

tshé breje thungmokha khêdi gemo tshé 'nebura borak brengbengri mitshe talingak

‘When doing the measurement, for every twenty the host got one as *tali*’

Interviewer

en..

‘ok’

Aiya Tshering

breje 'nêburira thungnami

‘The host had to do the measurement’

tshé 'nebuna breje thung mayamnan 'nêbu meyamrimi Wengri

‘And if the hosts were not given to do the measurement, they wouldn't host’

(laughs) *wo tali mutlengak*

‘(laughs) because then there is no *tali*’

Interviewer

tali ngakhan zhalaptakyo

‘What is *tali*?’

Aiya Tshering

tali ngamotshe la wenpanamitshe wome

‘*Tali* is the charges, perhaps’

khêdi gemo brebrenng boako yongak

‘For every twenty, they took one’

chung dikshang tengteng dikshang

‘Whether it was rice, or beaten maize or...’

Interviewer

tali ngakhan Wenggi khanaya

‘*Tali* is in Tibetan?’

Aiya Tshering

wenta

‘Yes’

zarwa dikshang 'neburai yânira dik gosala

‘Or when measuring the puffed rice, it had to be done through the host's hand’.

Interviewer

tshē khedikti ngamo borak bre brengbreng

‘So for every twenty they got one each’

Aiya Tshering

wong

‘yes’

Aiya Tshering

tshemo 'nēbu phetsegita yupyupsi atorti thungmo 'ngâm chatgeta ngakta

‘But some hosts are careless (not honest) and there will be much shortage’

phetse wotor yupyupsiri mithungtak wenta

‘Some didn't do that’

Interviewer

rangrangi 'nēbu sosososo ratak wenta wu

‘So each one had their own different host’

Aiya Tshering

'nêbu soso nawala net Dungkharpi 'nebu Samdru Tshering

‘Yes different hosts. Dungkharpa's host was Samdru Tshering’

Interviewer

Samdru Tshering

‘Samdru Tshering?’

Jasepi 'nêbu 'nêbu Samtenngak

‘Jasepi's host was someone called Samten’

tshê 'nêbu Jêpo ngakhanla mau Tapi 'nêbu

'Nêbu Jêpo was the host of Tapas

'nep 'Ujen ngakhanla Tsholengpi 'nêbu

‘Nep Ujen was the host of Tsholingpa’

'nébu rangrangsa

‘Each had their own hosts.’

APPENDIX 2: TRANSCRIPTION AND TRANSLATION OF CONVERSATION
WITH AIYA METO DEMA

In this recorded interview that has been transcribed and translated as reproduced below, Aiya (Grandmother) Meto Dema, 82, from the village of Zhamleng reflects on agricultural practices during her time. She talks about what was cultivated and how things have changed over the years. Aiya Meto believes that life was hard during her time, but they always had enough food for themselves and to share with others. In contrast, she notes that while life is easier today and people work less in the fields, they now only have enough to feed themselves. She also shares a saying from Kurtöp: "dangpo phamai gangi sersang gangi ngo, da butshai gangna câsang gangya mut," which translates to "something that was worth an ounce of gold back then during the parent's time is not even worth an ounce of iron today."

Aiya Meto Dema

da 'napata... sonamgi... latshe da

‘back then, when it came to agricultural works’

gongpo thre, thre kitakitshe, thre 'ngam ki, barinen chutsi

‘first crop millet, a lot of millet was grown, spanning days of work for oxens’

tsheni go jot tshe, barinen chutsi, nâ jot tshe

‘Then cultivated wheat, days of work for oxens, then cultivated barley’

bari nengi chutsi tshe 'lama konco

‘Spanning days of work for oxens, my goodness’

netta ha sumsum bleble kuzu sho da mem 'Nadoi ha ble kuzi tshe donggor wotor thung

‘We had to dig four lots, Grandpa 'Nado (made us)dig (and cultivate) four lots, facing each other like this’

goning nâgi 'lama ekocuksi

‘Wheat and barley, my goodness, jumbled up’(indicating a lot of work one after another)

tshe thre tshe thre har zon zon kizi

‘then millet, two lots of millets were grown’

datshe threni mikita

‘now millet is not grown’

goni mejotta, nâni mejotta, ya'lama kheno

‘wheat is not cultivated, barley is not cultivated, my goodness’

da wenshang minshang kham tshomaliki cahan the wenta

‘now it's only maize to cook and make ara’

tshewosi ipani tshewosi mira wosi kammra thung

‘and then for food some cultivate rice in dry land’

phetshe tshewosi 'napata mangi wenta, 'napa netong chung mutna

‘and some..., back then it was from down, back then for us there was no rice’

kharangni copmal chung wotor wentar parzi wotor thungzi, tshewosi kharang cangba zumaliki

‘to mix with kharang (ground maize), we had a fist of rice to mix, like this and then had to consume ground maize on its own’

tshewotsheda dangpoi migap tshewosi sönamcan wentami mira tshewosi

‘but then the people those days were blessed’

tshe da nere lungpigi tshe wocigi chukpo jurzi zezirang

‘in our area everyone has become rich’

datatshe chungzuna mirani ngwiz ot zu

‘now if (you) want to eat rice, you buy from others’

da barning darung tsam tsam tshe wo kammra thungzi zutami migap

‘now in between, again, some cultivate rice in dryland and consume’

'napani ta dasamu, 'napi yâ zhaya mengakta da, mu

‘it is nothing like in the past, no work like in the past is being done now’

da banggalayang 'napayang, netta banggala

‘now even chillies, we,’

mongkap chenga chedrodro kam thu thrima gaponna banggala kizi, 'lamakheno

‘(we) dried 15-16 bamboo mats of chillies, chillies grown in Thrima, my god!’

da banggalaya jim menyangta

‘now we dont get much chillies also’

da woning khakota myangya memyangi wentami tshe da zhongi tup thungzi zezirang tshe

‘now from hereon we may not get (much) also, since it is cut (attacked) by the insects’

'napata jeje briri tshe dangpoi migapo tshe da...

‘back then it was ample (harvested as much as we grew), people in the past...’

dangpo phamai gangna sersang gangi ngo ngak, da butshai gangna câsang gangi ngoyang mut ngak

‘back in the past what was worth a ‘sang’ of gold, is not even worth a ‘sang’ of iron today’

wo wenta dembarang tenten rang, da meraikina zhayang

‘this is true, exactly true, now there is hardly anything (any worth)’

da mi yâjim michuttamitse

‘now people don’t want to work much’

*datshe mira thuntshondo pecha 'lupkhan gewala schooli gewala tshe mēgapoyang wotor tongpa jongtami
la*

‘now people go out for studies, to schools and even houses are getting empty’

'napa pitata da mu, 'ngam nyamna

‘now its not like before, it has dwindled a lot’

da mēdo net pital wotor rakrokol darmotshe tshe wo zezira khattami thuntshondo zezirang tshe

‘now at home, its just useless people like us and we get moved here and there, all of us’

ya'lama kheno.... (chuckles)

‘my goodness (chuckles)’

wong, 'napata kawyang chutpala, drēbuyang tshoshangtshe aii...

‘yes, back then life was hard but there was result also’

(tsk tsk)

(laments)

ner zumalita phazhak mirak bimaleya râta tshe 'napani

‘not just for ourselves to eat, we had enough to give others too’

data cakpakamya, ner zumal trhikaman mu, wona

‘now its bullshit, we just have enough for ourselves to eat’

memyangkina, yâra mithungta

‘(we) will not get, (people are) not working’

dawo cakhan tsamtsam thungwal changju wenta

‘now this little cultivation of maize is just for production of alcohol’

ya'lama da kharangni mizutatshe mira chung mando, ipa

‘now people don't eat *kharang* (ground maize), only rice for food’

tai..wotor journatshe da (Chuckles)

‘look, it has become like this now...’

APPENDIX 3: TRANSCRIPTION AND TRANSLATION OF CONVERSATION
WITH AIYA TSHERING UDEN

In this recorded interview that has been transcribed and translated as reproduced below, Aiya (Grandmother) Tshering Uden, 87, from the village of Dungkhar reflects on agricultural practices during her time elaborating on process and type of work involved in the cultivation of paddy and maize. She talks about when these crops are cultivated, what types of works are done at what stages and in the end talks about how work has now become easier with machines.

Interviewer

Ya Aiyi da neri wozi trongnang mrâgi lâ ngamal namitshe wu

‘now Grandma here in our village we have this paddy (cultivation) work right?’

wo mrâgi lângamong lagi rimpa zharang nawal winim da sawan jotmalening gotsuksi jûdudu tshamna

‘when doing the paddy work, what are the sequence of work that must be done, now, starting from sowing the seed till completion..’

Chungna jurjur tshamna lâ zhara ngak gosai winim woci kornigi loju thê

‘till it turns to rice what works must be done, one account of this’

Aiya Tshering Uden

En yaya, da ‘napara sawan jotmal tshe da, sawan jotsi aring tshomale tshe da

‘ok, first the seeds are sown, once seeds are sown the field is ploughed’

Aring tshozi tshe sawan wer

‘once the terraced fields are ploughed then (we) weed the saplings’

Tsheni cangla thungmale tshe da, tsheni cangla thungzi tshe werza thungmale tshe

‘then rice cultivation is done and once rice cultivation is done then (next) we do weeding’

Tshe werza thungzi tshe mrâ phor, tshenibetshe nera chung toksi zumale

‘after the weeding then is harvesting and then only we can beat the (paddy grains) to get rice to eat’

kamzi, kam gosala tshe mrâ

‘dried, the paddy grain must be dried’

Interviewer

Chung matokwana

‘before the rice is beaten?’

Aiya Tshering Uden

Wong, Chung matokwana mrâ kamzi tsheni chung tômale tshe

‘yes, before the rice is beaten, the grains are dried and then beaten to (get) rice’

Interviewer

Tshe sawan wennan sawan dutshot akpaktina jociko?

‘so the seeds, when, timing, is it sown?’

Aiya Tshering Uden

Sawan dutshot.. dangbana jottami, daw dangpana wong

‘the seed (sowing) timing, its sown in the first, first month, yes’

Dangbai tsheda zatsi wo ngertana jotta

‘after completion of the *tshe* (till 19th day) in the first (month), sown around the *nger* (20-29th days)’

Interviewer

Tsheni werza ya?

‘then it’s the weeding?’

Aiya Tshering Uden

Wong, werza daratshe thungtakitshe sumpana

‘yes, werza now... its done in the third (month)’

Interviewer

Sumpana..en.. tshe werza dor akpa thungko gosal yo?

‘third...ok... so how many times must the weeding be done?’

Aiya Tshering Uden

‘ngon mutnan dorti nay a phat, ‘ngon nanan tsamtsam dor zozon camgota

‘if there is not much weed once will also do, but if there is weed it must be planned twice, little little’

Tshe waksoni dor zonning ta mebarta tsheni, ‘ngon mutnata dortima mebarta, phatta dortigi

‘then this much, not more than two times, but if there is no (not much) weed, only once is required, that is enough’

Tshe bacukpa ngana daw...tshe, ‘nyipana tshozi sumpana jottaki tshe

‘and when it comes to maize, (field) is ploughed in the second (lunar month) and sown on the third (lunar month)’

Bacukpa dor sum kuro gotami, tsangru dorti, barru dorti tshe sa phongmo dorti

‘maize, it takes three rounds of digging, initial, in the middle and then when soil is collected to create a mound’

Tsheni waksoni jûdusala tshe bacukupai yâ, tshe phaksi tshe neri mêdo otmale tshe

‘then this much completes the work for maize, then it is harvested and brought to our home’

Interviewer

Tshe bacukpa khepo tshe jotzacining lêngak magosal ya

‘so the maize, once it is sown there is no (other) work to be done?’

Aiya Tshering Uden

Lêngakgo wai dorsum ruko gotami, tsangru dorti, barru dorti tshe ner sa phongmal dorti

‘(there is) work to be done, three rounds of weeding must be done. The initial weeding, then one in the middle and then putting soil together to form a mound’

Interviewer

En.. bacukpanang lâ dorsum?

‘ok, three rounds of work for maize’

Aiya Tshering Uden

Wong, bacukpana lâ dorsum ngak gotamitshe

‘yes, three rounds of work required for maize’

Interviewer

Tshe mrâ wennani da sawan jot, werza thung ngakining tshening tshe aring gap kûtak wenta wu

‘then for paddy, seeds are sown, weeding is done and then only *aring* (terraced fields) are dug, is it?’

Aiya Tshering Uden

Wong, tshenibe aring kumal tshe cangla thungmal tshe

‘yes, then only fields are dug and then cultivation is done’

Interviewer

Tshe cangla dutshot akpana yo

‘and when is the cangla done in terms of timing’

Aiya Tshering Uden

Cangla dutshot tshe zhipa ‘ngapana tsham tshe, drukpana werza thungtak minla

‘cangla timing till fourth, fifth (lunar months) and then in the sixth (lunar month) weeding is done isn’t it?’

Interviewer

Daw drukpana

‘in the sixth month?’

Aiya Tshering Uden

Wong, drukpana werza thung, ‘ngapana cangla jûdutakitshe

‘yes, weeding done in the sixth, paddy cultivation work completes in the fifth (lunar month)’

Zhipani khako gotsuksi tshe cangla ‘ngapana tsham thungtami

‘begins from the fourth (lunar month) and then paddy cultivation works done till the fifth (lunar month),
yes’

Tsheni werza, werza ta drukpana, phetsegi zhipanaya werta mira

‘then weeding, in the sixth (lunar month), some even weed in the fourth’

Min, zhipanata mewer ‘ngapana werta

‘no, weeding not done in the fourth (lunar month) but in the fifth (lunar month)’

‘ngonnânan wotor werta mutnan wotor mewerta darung

‘if there is weed they do like this but if there is not then it is not done like this again’

Dorti man mewer werzata aring na, dortibe werza thungmal tshe ‘ngon mutnan

‘only one time weeding only in the terraced field, only one time weeding is done if there is no weeds’

Interviewer

Tshenitshe mrâ phormalbe ya tsheni

‘then only harvest, then?’

Aiya Tshering Uden

Tsheni mrâ phormalbe tshe, wong tshe phorzi tshe mêdo otsi kam go

‘then paddy is harvested, yes then after harvest bring home and must be dried’

Interviewer

Phormal khepo arwa zhiktak yo?

‘when does the harvest fall?’

Aiya Tshering Uden

Phormal khepo gupa cupana phortaki tshe

‘harvest... ninth (lunar month) tenth (lunar month) it is harvested’

Interviewer

En, tsheni mêdo otsi

‘ok, then it is brough home?’

Aiya Tshering Uden

Tshe mêdo otsi kamzi tshe nen zonzon sumsum kam gota tshe kaliphupa gapo ta

‘then brought home and then dried, Kaliphupas must be dried for two to three days’

Zhinti gapo nganan netshanani nen thekte kammo phatta, ne matshana nen zonzon kam gota

‘the red ones they only need to be dried for a day if the sun shines, but otherwise it must be dried for two two days’

Kaliphupata nen sumsum diksi kam gota

‘The Kaliphupa must be dried for entire three days’

Interviewer

Mrâ madaw zhara thungko tsho tshe, kaliphupa tsheni zhinti...

‘what different types of paddy’s are cultivated here? Kaliphupa? The red one then?’

Aiya Tshering Uden

Kaliphupa, zhinti,

‘Kaliphupa, the red one...’

Interviewer

Zhintina meng mutleya tshe

‘the red one doesn’t have a name?’

Aiya Tshering Uden

Zhintina meng...zhari da wosi laptshakhapa

‘the name for the red one...this...laptshakhapa’

Interviewer

Laptshakhapaya? En Laptshakhani oipa ramal wenta

‘Laptshakhapa? Oh it must have been brought from Laptshakha’

Aiya Tshering Uden

Wong, Laptshakhapa, sawan zhinti na

‘yes, Lapsakhapa, for the red seed’

Interviewer

Tshe zhanma zha thungko daru mrâgi rikni

‘then what others is cultivated, from the type of paddy?’

Aiya Tshering Uden

Tsheni Kaliphupatshe, tsheni darung migapi gangzurpa ngakhê thungta kharti, Gangzurni otpal wenpanami sawan

‘then Kaliphupa, and then people also cultivate one called Gangzurpa, white (type), the seed must have been brought from Gangzur’

Mrâta wo lhamba sumra wentami

‘paddy only these three type (I think)’

Interviewer

Tsheni tshe tômota data thruichungna wini tshe purara

‘then when unhusking (beating) now everything must be through machine’

Aiya Tshering Uden

Data pura thruichung man yâgi ngakhan brotheya metokta, ‘napangana yâgi tshomnang tokgo

‘now all in machine, not even a single (grain) is beaten (unhusked) with hand. Before it must be beaten in the pestle with hand’

Data tshom awyo ‘lamakheno migapi satminthêya tshomna mesopta (laughs)

‘now who unhusks in the pestle, even *satmin* (pieces of grain that misses unhusking in the machine) is not unhusked in the pestle (laughs)’

Kharangni khamkharang thêyang rangthena meserta thruichung na kutthungzi data

‘even *kharang* (beaten maize for consumption) and *khamkharang* (beaten maize for making local alcohol) also not ground by hand on *rangthe* (hand grinder) but on machine’

Interviewer

Wentawu data lâ jamta tshe

‘yes right, now work is easier’

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