Traditional Grazing System and Seasonal Pasture Use in Upper Mustang, Nepal

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Abstract

This research was undertaken from March 2006 to October 2006. The main aim of this research was to analysis the grazing system and seasonal pasture use in the selected VDCs of Upper Mustang. Ground truthing data of the two VDCs were collected to identify the seasonal pasture type and units. The pasture units were delineated in Topographic map by observing the pastures from vantage points. Key informants were consulted at field for this pupose. In addition, focal group discussion and interviews were taken with the village elite, herders and grazers for assessing grazing rights and use patterns. The result of this study reveals that the pastures lying in political boundary of one VDC are not necessarily being used by the same VDC. People have been practicing the traditional use right irrespective of the political boundary. On the basis of seasonal use, 7 different seasonal pasture types have been identified in the pastures used by Chhoser VDC and 6 different seasonal pasture types in Chuksang VDC. Livestock compositions in the two VDCs are different. The density of livestock in Chhosher VDC is 35.74 per sq. km. whereas it is only 15.69 per sq km. in Chhuksang VDC. The grazing system and the use of resources are also different in these two pastures.

Keywords: Conservation, Grazing system, Pasture conflicts, Rangeland, Seasonal pasture use

Introduction

Upper Mustang has its own significance in terms of socio-cultural biological and geomorphologic diversity. Economically the people of Mustang rely on agro-pastoral system. However, agricultural production has been limited due to lack of sufficient water for irrigation and harsh climatic conditions (Kunwar, 2003). Animal husbandry is one of the main sources of earning livelihood. Grazing land comprises of 55.65% (Pokharel, 2006b). The average number of animals reared in 2002 in Upper Mustang was 36,503 (MIS, 2002). Cattle, vaks, dzos, sheep, goats, horses, mules and donkey are reared. Goat and sheep trading from China is also a common practice among the local population. The pastures available in the area

are the only feeding source for the animals. So it is very important to make plans for the rational use of the rangeland so that sustainable use of the resources can be achieved. Indigenous rangeland management activities are practiced in Upper Mustang like rotational grazing, levying of fines for herders caught grazing outside their designated village grazing areas. But the traditional management system alone is not adequate to produce more forage in overgrazed and overpopulated rangeland (Thapa, 1990). Researchers have identified that overstocking (overgrazing) in the rangelands is the main factor causing deterioration of rangelands (Miller, 1996; Schaller and Gu, 1994; Wang et al., 2002). In addition, in case of Upper Mustang, uprooting of shrubs of Caragana and Lonicera spp. instigated the degradation of the rangeland. According to Pokharel (2006), uprooting is practiced in 47.62% of the area and dung collection in 38.26% of the total area of pastures. Craig (1996) also stated that the traditional livestock management system in Upper Mustang tends to fall out side the carrying capacity concept. But till date no systematic study has been conducted to find out the exact area covered by the pastures of Upper Mustang. Unless the exact area covered by the pasture land is sorted out, accurate carrying capacity cannot be determined. Therefore, it is essential to conduct systematic research before proposing any interventions in the name of progress (Goldstein and Beall, 1990). The categorization of the rangelands based on seasonal use and grazing pressure in the study area provides essential base line information for developing future management strategy. The main aim of this paper is to analyse the seasonal pasture use and grazing rights of the two VDCs in Upper Mustang. This type of research has not been reported elsewhere and is a part of boarder research on pasture mapping in Upper Mustang.

Study Area

The present study was conducted in the two selected VDCs (Chhuksang and Chhosher VDCs) of Upper Mustang (Figure 1). Chhuksang VDC lies between 28°47'51.11"-29°02'37.81"N and 83° 32'53.24"-84°03'6.57" E whereas Chhosher VDC lies between 29°04'33.07"-29°18'3.18"Nand 83°57'39.83"-84°12'10.60"E in Mustang district. Chhuksang VDC receives more precipitation compared to Chhosher VDC in terms of rainfall. The climate of the area is cold, desiccated by strong winds and high solar radiation. The climate is

sub-alpine, and has a maximum temperature of 18° C in July and a minimum of -12° C, in January. The whole area remains under snow for 4-5 months from November to March. Total annual rainfall is less than 200 mm and more than half of the total precipitation occurs as snow during the winter months (Chetri and Gurung, 2004).

Materials and methods

The pasture units (patches of pasture with specific name given by locals) used by the VDCs were identified by observing from the vantage points and the corresponding boundaries were delineated in the Topographic map published by the survey department of HMG. Nepal in 2001. Local names of the units based on key informant's information were recorded. The information so obtained was cross checked with reference to 3-D model of the VDC prepared by the project. Map of the pasture units was prepared using the GIS softwares: Cartalinx. Arc view 3.2 and Arc GIS. The boundary of the pasture units delineated on topographic map in the field was digitized on screen using digitized topographic map of the area from secondary source in Arc view 3.2. It was then imported in Cartalinx and the map was edited and finalized. Again by exporting it to Arc view 3.2 and Arc GIS, the attributes of each of the pasture units gathered in field were joined and area calculation was done. Area calculation of the pasture units was done following the political boundary and the use right of the VDCs. Information regarding the pasture rights and use patterns were collected through focal group discussion and key informants.

Results and discussion

Traditional Grazing System

People in Upper Mustang have been practicing their own traditional rotational

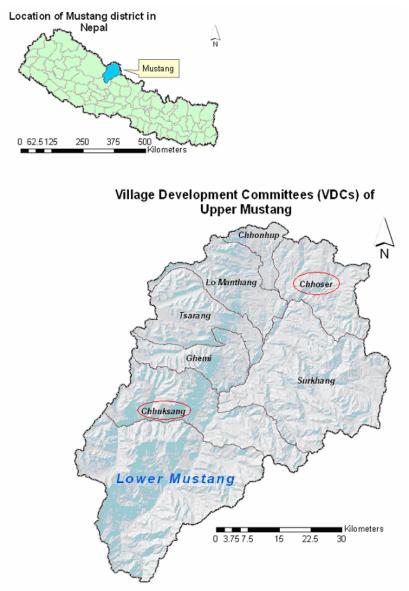


Figure 1. Location of the VDCs of Upper Mustang



Figure 2 Seasonal pasture units used by Chhosher VDC

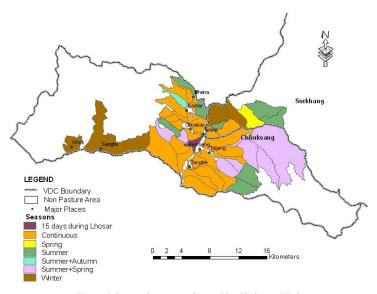


Figure 3 Seasonal pasture units used by Chuksang VDC

Table 1. Seasonal pasture types used by VDCs

	Chh	Chhosher		Chhuksang		
Seasonal pasture type	Area (sq km)	%	Area (sq km)	%	pasture area of two VDCs (Area sq km)	%
15 days during Lhosar*	-		2.06	0.80	2.06	0.48
Autumn+Spring	3.79	2.20	-	-	3.79	0.88
Continuous	41.97	24.36	102.39	39.89	144.36	33.65
Spring	3.59	2.08	6.01	2.34	9.6	2.24
Summer	65.65	38.11	35.51	13.83	101.16	23.58
Summer+Autumn	0.26	0.15	2.71	1.06	2.97	0.69
Summer+Spring	-	-	64.55	25.15	64.55	15.05
Summer+Winter	18.46	10.72	-	-	18.46	4.30
Winter	38.56	22.38	43.45	16.93	82.01	19.12
Total	172.28	100.00	256.68	100.00	428.96	100.00

^{*} Lhosar festival is observed in January.

Table 2. Area and livestock density on the pastures

			Pasture		Area of	% of		
		VDC	area	% of	pasture	pasture		Livestock
		Area	within	pasture	used by the	area used		density
		(sq	the VDC	area in	VDC (sq	by the	Livestock	(number/sq
SN.	VDCs	km)	(sq km)	VDC	km)	VDC	number	km)
1	Chhoser	345.67	326.79	94.54	172.28	12.06	6,157	35.74
2	Chuksang	491.74	217.25	44.18	256.68	17.97	4,028	15.69

Table 3. VDC areas and other users of the pastures

	User VDC							
Location VI	OC	Chhoser	Chuksang Lomanth		Surkhang	Total		
	Area							
	(sq km)	32.41	-	-	-	70.25		
Chhonhup	%	46.13	-	-	-	-		
	Area							
	(sq km	139.87	-	152.74	34.18	326.79		
Chhoser	%	42.8	-	46.74	10.46	-		
	Area							
	(sq km)	-	217.25	-	-	217.25		
Chuksang	%	-	100	-	-	-		
	Area]						
	(sq km)	-	39.43	-	-	472.57		
Surkhang	%	-	8.34	-	-	-		
Total	Area (sq km)	172.28	256.68	258.91	461.83			

grazing practices. Each VDC has their own system and a set of rules and rights for the use of pastures that has been set already from last few generations. Mukhiya system still prevails in the area. Mukhiya is known as Dhongba in local language. The role and responsibility of the Dhongba is being defined within the set of rules provided by their forefathers. The tenure of the Dhongba is generally of one year and recruited according to rank, based on seniority in the village. Mukhiya has the rights in leveying taxes for grazing in the pastures. Depending on the livestock types, taxes vary and the herders/owners have to pay on monthly or annual basis. Rotational grazing rules exist in all the VDCs. However they are not strictly followed in some VDCs by the villagers. But such rules are strictly followed by the nomads. Nomadism is an age old practice existing in the high altitude pastures of Upper Mustang. Presently 9 families of nomads are residing in the area. Total population is 44 with an average household size of 5. They move to different pastures in different seasons: summer, autumn, winter and spring. Nomads do not need to pay any tax to the VDC for using the rangeland but they are not allowed to use winter pasture (Pokharel 2006a). Their livestock freely roam in the pastures without any herders and are monitored at least once in a month. Herders who use the pasture of other VDC without any permission from the Dhongba of the concerned, have to face penalty as decided by the Dhongba. But the punishment is relatively less severe in case of people of same village. In this regard the traditional grazing system is becoming weak day by day. Traditional rotational grazing system if followed seriously can be an effective tool for maintaining the rangeland health and biodiversity that thrive in the area.

Pasture units and seasonal pasture

On the basis of seasonal use, nine different seasonal pasture types have been identified in the study area (Table 1). In Chhosher VDC, the highest proportion (65.65%) of the pasture is used during the summer (65.65%). In comparison to other pasture use patterns least area are reserved for spring and summer plus autumn. In comparison to summer pasture area, the winter pasture is low. This has caused a serious problem in the food shortage for livestock during the winter. Caragana and Lonicera spp. are uprooted by the villagers to meet the energy demands. This has also reduced the bush layer in the pasture which is the food for sheep and goats for the winter. In case of Chhuksang VDC, the highest proportion of the pasture is open to all seasons (39.89%). It was interesting to note here that one pasture unit of Chuksang VDC is used only for 15 days during the Lhosar festival which is observed in January. Of the total area of the two VDCs. higher proportion of the pasture are utilized for continuous grazing (33.65%) and a low proportion (19.12%) are utilized for the winter grazing. Looking at the overall area of the pasture of Upper Mustang (1428.33 sq km), Pokharel (2006b) estimated that the highest proportion is shared by the summer pasture i.e. 40.97% followed by winter pasture, 21.96%. Overall assessment of the pasture also indicates that there is a shortage of winter pasture area in upper Mustang. However, the utilization and the division of the pasture vary according to VDCs.

Pasture used by Chhosher VDC vs. Chhuksang VDC

In Chhoser VDCs, bulk of the livestock population comprises of sheep and goats. The population of yaks is very low in comparision to other livestock. But in Chhuksang VDC, Yaks are not reared by the local communities. Table 2 represents the livestock density (number/sq km) of the two VDCs. In comparison to area, higher number of livestock is reared by the local people of Chhosher VDC. This is mainly due to limited agricultural land to sustain. In addition, the quality of pasture land in Chhosher VDC is as good as majority of the pastures abutting to the border of Tibetan Autonomous Region, China. Livestock distribution and types also vary among the VDCs. Pokharel (2006b) estimated the average livestock density in the whole pastures of seven VDCs in Upper Mustang is 26.64 per sq km.

Chhoser VDC uses 29 pasture units (Figure 2). The sum total of the pasture land in the political boundary of this VDC is 326.79 sq kms which constitutes 94.54% of the VDC area. Of this area, 42.80% is used by Chhoser VDC, 46.74 by Lo Manthang VDC and 10.46% by Surkhang VDC (Table 3). The total area covered by the pasture used by the VDC is 172.28 sq kms which account for 12.06% of the total area of the pastures of Upper Mustang. The livestock density is 35.74 per sq. km (see Table 2). Along with pasture within the VDC boundary, it also uses some areas of Chhonhup VDC (see Figure 2 and Table 3).

Chuksang VDC uses 51 pasture units (Figure 3). The total area covered by the pasture used by the VDC is 256.68 sq kms which accounts to 17.97% of the total area of the pastures of Upper Mustang (Pokharel, 2006b). The total area of the pasture land within the boundary of this VDC is 217.25 sq kms which constitutes 44.18% of the VDC area and the livestock density is 15.69 per sq. km (see Table 2). Beside the pasture

lying within the VDC, it uses some area of Surkhang VDC (see Figure 3 and Table 3).

Altogether 80 different pasture units have been recorded to be used by the two VDCs. People have been following the traditional use right irrespective of the political boundary in using the pastures. So a number of pasture units lying within these VDCs are used by other VDCs. Description of each of the units is given in Annex 1.

Conclusion

The rangeland in Upper Mustang region is unique in the sense that it is directly correlated with the annual climatic patterns. Timely rainfall and snowfall always make rangeland visibly green and productive. However, within a week the pasture may get changed if the northern wind blows continuously for few days. Highly variable climate makes the area more and more fragile and this has direct impact on the rangelands. In addition, the weakening of the traditional rotational practices and uprooting of shrubs for fulfilling energy requirements is another crucial issue. The use of pasture varies according to VDCs and has been practicing the traditional use right irrespective of the political boundary. Pastures lying in political boundary of one VDC are not necessarily being used by the same VDC. On the basis of seasonal use, nine different seasonal pasture types have been identified. Future studies which will document the carrying capacity for ensuring range production sustainable biodiversity conservation are felt necessary.

Acknowledgements

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Annex 1: Pasture unit profile of Chhoser and Chhuksang VDC Pasture units used by Chhoser VDC

SN	Pasture Name	Location	Total area	Grazing	User	Animal type using the
514	(Local name)	VDC	1 otal al ca	season	VDC	pasture
1	SAKAU	Chhoser	3.41 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep,
1	SAKAO	Cilliosci	3.41 Kili	Continuous	Ciliosci	Donkey
2	GHOMBO LHA	Chhoser	8.57 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep
3	BHUMBA RAHA	Chhoser	8.88 Km ²	Continuous	Chhoser	Goat, Sheep, Horse
4	KIMBU	Chhoser	8.02 Km ²	Continuous	Chhoser	Goat, Sheep, Horse
5	CHHEGAM	Chhoser	14.45 Km ²	Summer	Chhoser	Goat, Sheep, Horse
6	NGILE KARCHUNG	Chhoser	19.02 Km ²	Summer	Chhoser	Goat, Sheep, Horse
7	KAMLUNG	Chhoser	4.70 Km ²	Winter	Chhoser	Goat, Sheep, Horse
8	SETE RHAWA	Chhoser	11.88 Km ²	Winter	Chhoser	Goat, Sheep, Horse
9	TUNG	Chhoser	9.73 Km ²	Winter	Chhoser	Goat, Sheep, Horse
10	JHIMJHANG	Chhoser	12.89 Km ²	Winter &	Chhoser	Goat, Sheep, Horse
10	JHIMJHANG	Cilliosei	12.89 KIII	Summer	Cilliosei	Goat, Sileep, Hoise
11	MAATHI GHYAMO	Chhoser	0.53 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep,
11	WINDERTHI GITTALVIO	Cimosci	0.55 Km	Continuous	Cimosci	Horse
12	SEUTHANG	Chhoser	12.25 Km ²	Winter	Chhoser	Goat, Sheep, Horse
13	RHAJUNG	Chhoser	5.57 Km ²	Winter &	Chhoser	Goat, Sheep, Horse
10	1411110110		0.07 12	Summer	Cimosei	Goui, Sheep, Horse
14	CHHYUKU MHAU	Chhoser	7.31 Km ²	Summer	Chhoser	Goat, Sheep, Horse
15	CHHOYALING	Chhoser	1.54 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep
16	GIBU CHHIRE	Chhoser	1.61 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep,
						Horse
17	SALINDE	Chhoser	3.75 Km^2	Continuous	Chhoser	Goat, Sheep
18	BHAAMAMO	Chhoser	3.79 Km ²	Autumn &	Chhoser	Goat, Sheep, Horse
				Spring		
19*	KHUKYU	Chhoser	1.98 Km ²	Summer	Chhoser	Goat, Sheep, Horse
19*	KHUKYU	Chhonhup	1.58 Km ²	Summer	Chhoser	Goat, Sheep, Horse
20	PHORA	Chhonhup	6.16 Km ²	Summer	Chhoser	Yak, Goat, Sheep,
	GHYAPCHA PANG		2			Horse
21	CHHORTEN	Chhonhup	13.98 Km ²	Summer	Chhoser	Yak, Goat, Sheep
	MARKOK			-		
22	CHHYAMKI	Chhonhup	1.18 Km ²	Summer	Chhoser	Yak, Goat, Sheep,
	THANKA	611 1	0.5475 2	a .:	CI I	Horse
23	KYUCHHU	Chhonhup	0.54 Km ²	Continuous	Chhoser	Yak, Goat, Sheep,
2.1	NAAMA	611 1	0.0675 2	~ ^	CI I	Horse
24	NAMA	Chhonhup	$0.26~\mathrm{Km}^2$	Summer &	Chhoser	Goat, Sheep, Horse
25	DHONGDHONG	C1.1 1	2.50 15 2	Autumn	CI I	W 1 G + G1
25	JHOGLE	Chhonhup	3.59 Km ²	Spring	Chhoser	Yak, Goat, Sheep,
26	CHVALANC	Chhanh	1.02 Km ²	Continuous	Chhoser	Horse Lulu, Goat, Sheep
20	GHYALANG	Chhonhup	1.02 KM	Continuous	Cnnoser	Luiu, Goai, Sneep
27	BHAAMA MAATANG	Chhonhup	1.51 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep,
21	RINGMA	Cnnonnup	1.31 KIII	Continuous	Chhoser	Lulu, Goat, Sheep, Donkey
28	DHEELU KHOLA	Chhonhup	0.33 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep
29	KIRI	Chhonhup	2.25 Km ²	Continuous	Chhoser	Lulu, Goat, Sheep
29	KIM	Cilioniup	2.23 KIII	Commuous	Cilloser	Luiu, Goat, Sheep

Pasture units lying in Chhoser VDC but used by other VDCs

\mathbf{S}	Pasture Name (Local	Total area	Grazing	User VDC	Animal	Remarks
N	name)		season		type using	
					the pasture	
1	MARCHUNG (Sakau)	2.37 Km ²	Winter	Lo Manthang	Goat, sheep,	-
					horse, lulu	
		2			cow	
2	DHARCHONGOMB A	3.91 Km ²	Winter	Lo Manthang	Goat, sheep	-
3	RHIJIPHUWA	24.46 Km ²	Winter	Lo Manthang	Yak, goat,	Political boundary of
					sheep	Chhoser VDC but Lo
					_	Manthang nomads are using
4	CHUJUNG (Yaja)	52.08 Km ²	Summer	Lo Manthang	Yak. goat.	Political boundary of
4	CHUJUNG (Taja)	32.06 KIII	Summer	Lo Manulang	Yak, goat, sheep	Chhoser VDC but Lo
					sneep	Manthang nomads are
						using
5	MUKCHUNG	34.08 Km ²	Summer	Lo Manthang	Yak	Political boundary of
5	Moneroro	31.00 1411	Summer	Lo mananang	I un	Chhoser VDC but Lo
						Manthang nomads are
						using
6	MARCHA	1.75Km ²	Spring	Lo Manthang	Yak, goat,	-
			'		sheep	
7	DHALUNG	34.09 Km ²	Summer	Lo Manthang		Political boundary of
						Chhoser VDC, used by
						Chhoser horses as well,
						traders' route, conflict
						between Samjung and
						Nomads of Lo
						Manthang and also
						Chinese nomads
8	MUKCHUNG	13.58 Km ²	Summer	Surkhang	Yak	-
9	TAAPKE PEKANG	15.41 Km ²	Summer	Surkhang	Yak, Dzopa	-
10	PANGA	4.06 Km ²	Summer	Surkhang	Yak	-

Pasture Units used by Chuksang VDC

S	Pasture Name	Location	Total area	Grazing	Animal type	Remarks
N	(Local name)	VDC		season	using the	
					pasture	
1	CHHYUME	Chuksang	7.19 Km ²	Continuous	Lulu, Goat,	Keep goth in
	DANDA				Sheep, Horse,	summer
					Mule, Dzopa	
2	CHHYUME	Chuksang	4.27 Km ²	Continuous	Lulu, Goat,	Keep goth in
	THANKA				Sheep, Horse,	summer
					Mule, Dzopa	
3	SANO CHHYUME	Chuksang	6.64 Km ²	Continuous	Lulu, Goat,	Goth in Winter. Jhong
					Sheep, Horse,	of Muktinath VDC
					Mule, Dzopa	also uses this pasture.
4	THULO	Chuksang	3.57 Km ²	Continuous	Lulu, Goat,	Goth in Winter.
	CHHYUME				Sheep, Horse,	Jhong of Muktinath
	(MIULA)				Mule, Dzopa	VDC also uses this

		Т			ı	I
						pasture.
5	NHERIK DANDA	Chuksang	5.70 Km ²	Summer	Lulu, Goat, Sheep, Horse, Mule, Dzopa	Jhong also uses this pasture. Litting fire is not allowed while keeping goth.
6	PUMCHI DANDA	Chuksang	2.56 Km ²	Continuous	Goat, Sheep, Horse, Mule, Dzopa	Tetang also uses but goth keeping is not allowed.
7	KYONJEGHANG A	Chuksang	4.04 Km ²	Continuous	Lulu, Goat, Sheep, Horse, Mule, Dzopa	-
8	DHOBANANG	Chuksang	0.61 Km ²	Continuous	Goat, Sheep, Horse, Mule, Dzopa	-
9	CHUMBAK	Chuksang	3.63 Km ²	Summer+Spr in	Goat, Sheep, Horse, Mule, Dzopa	-
10	TOMAGHYAM	Chuksang	4.23 Km ²	Continuous	Lulu, Goat, Sheep, Horse, Mule, Dzopa	-
11	IKJUPHU	Chuksang	2.96 Km ²	Summer	Lulu, Goat, Sheep, Horse, Mule, Dzopa	Ghyakar can also use for grazing but goth with fire is not allowed. Ghyakar uses for dung collection.
12	KHERKU	Chuksang	2.06 Km ²	Summer+Spr ing	Lulu, Goat, Sheep, Horse, Mule, Dzopa	-
13	KHOLAPARI GOTH / BAN	Chuksang	3.86 Km ²	Continuous	Lulu, Goat, Sheep, Horse, Mule, Dzopa	-
14	GHELDHUNBUK	Chuksang	13.84 Km ²	Continuous	Lulu, Goat, Sheep, Horse, Mule, Dzopa	-
15	JHONG	Chuksang	2.06 Km ²	15 days during Lhosar	Lulu, Goat, Sheep, Horse, Mule, Dzopa	-
16	GHUNSA	Chuksang	26.05 Km ²	Winter	Goat, Sheep	-
17	GHOK	Chuksang	4.97 Km ²	Winter	Yak, Lulu, Goat, Sheep, Horse, Mule, Dzopa	Sangta village shifts here in winter. Way to Dolpo.
18	NHARIK	Chuksang	6.48 Km ²	Summer	Lulu, Goat, Sheep, Horse, Mule, Dzopa	Jhong also uses occasionaly for grazing but keeping goth and litting fire is not allowed. Nomads used in the past.
19	GHEYUK	Chuksang	2.28 Km ²	Summer + Spring +	Lulu, Goat, Sheep, Horse, Mule, Dzopa	Goth is in cave

Spring Sheep, Horse, Mule, Dzopa					Τ		
21 KYUTEN Chuksang 2.52 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa	20	KYUHEN DANDA	Chuksang	5.20 Km ²	Summer +	Lulu, Goat,	-
21 KYUTEN					Spring		
Sheep, Horse, Mule, Dzopa Lulu, Goat, Sheep, Horse, Mule, Dzopa						Mule, Dzopa	
22 NUNKHANI DANDA	21	KYUTEN	Chuksang	2.52 Km ²	Continuous	Lulu, Goat,	-
22 NUNKHANI DANDA			_			Sheep, Horse,	
Chuksang							
DANDA Sheep, Horse, Mule, Dzopa 23 HASISICHYA Chuksang 7.70 Km² Summer+Spr ing Sheep, Horse, Mule, Dzopa 24 TAKCHENEN Chuksang 7.87 Km² Summer + Goat, Sheep, Horse, Mule, Dzopa 25 SUKCHINEN Chuksang 35.81 Km² Summer + Goat, Sheep, Horse, Mule, Dzopa 26 CHEPTIGHANG Chuksang 1.20 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa 27 BHRIGULHA Chuksang 8.66 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa Chaile can also to for grazing to cannot collect dun Chuksang Continuous Chaile can also to for grazing to cannot collect dun Chaile c	22	NITINIZUANI	Chukeana	4.74 Km ²	Continuous		
Mule, Dzopa Lulu, Goat, Sheep, Horse, Mule, Dzopa	44		Chuksang	4./4 KIII	Continuous		-
23		DANDA				I * '	
ing Sheep, Horse, Mule, Dzopa				2			
TAKCHENEN Chuksang 7.87 Km² Summer + Spring Goat, Sheep, Horse, Mule, Dzopa	23	HASISICHYA	Chuksang	7.70 Km ²			-
TAKCHENEN Chuksang 7.87 Km² Summer + Spring Horse, Mule, Dzopa					ing		
Spring							
Dzopa Dzop	24	TAKCHENEN	Chuksang	7.87 Km ²	Summer +	Goat, Sheep,	-
Dzopa Dzop			_		Spring	Horse, Mule,	
25 SUKCHINEN Chuksang 35.81 Km² Summer + Spring Horse, Mule, Dzopa					1 0		
Spring	25	SUKCHINEN	Chuksang	35.81 Km ²	Summer +		_
Dzopa Dzopa Dzopa Dzopa Dzopa Dzopa Dzopa Dz	23	BORCHINER	Charsang	33.01 Km			
Cheptighang Chuksang Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa					Spring		
Sheep, Horse, Mule, Dzopa Lulu, Goat, Sheep, Horse, Horse, Mule, Dzopa Cannot collect dum	26	CHERTICHANG	Charles	1 20 V2	Cantinua		
27 BHRIGULHA Chuksang 8.66 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dum Sheep, Horse, Mule, Dzopa Cannot collect dum Cannot collect	26	CHEPTIGHANG	Cnuksang	1.20 Km	Continuous		-
27 BHRIGULHA Chuksang 8.66 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dum 28 CHYOGAAM Surkhang 3.26 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dum 29 TARAHAUWA Surkhang 6.94 Km² Winter Lulu, Goat, Sheep, Horse, Mule, Dzopa 30 SANGBA Surkhang 1.64 Km² Summer Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dum 31 POGO CHHYUME Surkhang 4.78 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dum 31 POGO CHHYUME Surkhang Surkha							
Sheep, Horse, Mule, Dzopa cannot collect dun Sheep, Horse, Mule, D							
Mule, Dzopa cannot collect dun	27	BHRIGULHA	Chuksang	8.66 Km ²	Continuous	Lulu, Goat,	Tetang can also use
28 CHYOGAAM Surkhang 3.26 km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dun 29 TARAHAUWA Surkhang 6.94 km² Winter Lulu, Goat, Sheep, Horse, Mule, Dzopa 30 SANGBA Surkhang 1.64 km² Summer Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dun 31 POGO CHHYUME Surkhang 4.78 km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dun 31 POGO CHHYUME Surkhang Surkhang Surkhang Surkhang Continuous Cannot collect dun 32 PUNAMLHE Surkhang Sur						Sheep, Horse,	for grazing but
Sheep, Horse, Mule, Dzopa cannot collect dum 29 TARAHAUWA Surkhang 6.94 Km² Winter Lulu, Goat, Sheep, Horse, Mule, Dzopa 30 SANGBA Surkhang 1.64 Km² Summer Lulu, Goat, Sheep, Horse, Mule, Dzopa cannot collect dum 31 POGO CHHYUME Surkhang 4.78 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa cannot collect dum 31 POGO CHHYUME Surkhang 5.49 Km² Winter Lulu, Goat, Sheep, Horse, Mule, Dzopa cannot collect dum 32 PUNAMLHE Surkhang 5.49 Km² Winter Lulu, Goat, Chaile can also to Sheep, Horse, Mule, Dzopa cannot collect dum 33 PUNAMLHE Surkhang 5.49 Km² Winter Lulu, Goat, Sheep, Horse, for grazing the Sheep, Horse, Sheep, Horse, for grazing the Sheep, Hors						Mule, Dzopa	cannot collect dung
Sheep, Horse, Mule, Dzopa Cannot collect dum	28	CHYOGAAM	Surkhang	3.26 Km ²	Continuous		Chaile can also use
Mule, Dzopa cannot collect dun			~			,,	for grazing but
29 TARAHAUWA Surkhang 6.94 Km² Winter Lulu, Goat, Sheep, Horse, Mule, Dzopa 30 SANGBA Surkhang 1.64 Km² Summer Lulu, Goat, Sheep, Horse, Mule, Dzopa Chaile can also use the pasture of the past							
Sheep, Horse, Mule, Dzopa 30 SANGBA Surkhang 1.64 Km² Summer Lulu, Goat, Sheep, Horse, Mule, Dzopa 31 POGO CHHYUME Surkhang 4.78 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa cannot collect dun Sheep, Horse, Sheep, Horse, For grazing the Sheep, Horse,	20	TADAHAHWA	Curlchona	6.04 V m ²	Winter		
SANGBA Surkhang 1.64 Km² Summer Lulu, Goat, Sheep, Horse, Horse, Mule, Dzopa Surkhang 1.64 Km² Summer Lulu, Goat, Sheep, Horse, Horse, Horse, Mule, Dzopa Surkhang 4.78 Km² Continuous Lulu, Goat, Sheep, Horse, Horse, Mule, Dzopa Surkhang	29	IAKAHAUWA	Surkilalig	0.54 KIII	Willer		
Sangba Surkhang 1.64 km² Summer Lulu, Goat, Sheep, Horse, Mule, Dzopa Cannot collect dum Surkhang 4.78 km² Continuous Lulu, Goat, Sheep, Horse, Horse, Mule, Dzopa Cannot collect dum							pasture
Sheep, Horse, Mule, Dzopa cannot collect dum 31 POGO CHHYUME Surkhang 4.78 Km² Continuous Lulu, Goat, Sheep, Horse, Mule, Dzopa cannot collect dum 32 PUNAMLHE Surkhang 5.49 Km² Winter Lulu, Goat, Chaile can also to Chaile can also to Chaile can also to Sheep, Horse, for grazing to Chaile can also to Sheep, Horse, for grazing to Chaile can also to Chaile can also to Sheep, Horse, for grazing to Chaile can also to							
Mule, Dzopa cannot collect dun 31 POGO CHHYUME Surkhang 4.78 km² Continuous Lulu, Goat, Sheep, Horse, for grazing by Mule, Dzopa cannot collect dun 32 PUNAMLHE Surkhang 5.49 km² Winter Lulu, Goat, Chaile can also use Sheep, Horse, for grazing by S	30	SANGBA	Surkhang	1.64 Km ²	Summer		
31 POGO CHHYUME Surkhang 4.78 km² Continuous Lulu, Goat, Sheep, Horse, for grazing by Cannot collect dung Surkhang 5.49 km² Winter Lulu, Goat, Sheep, Horse, for grazing by							
Sheep, Horse, Mule, Dzopa cannot collect dun 32 PUNAMLHE Surkhang 5.49 Km² Winter Lulu, Goat, Chaile can also u Sheep, Horse, for grazing by						Mule, Dzopa	cannot collect dung.
Mule, Dzopa cannot collect dun 32 PUNAMLHE Surkhang 5.49 Km² Winter Lulu, Goat, Chaile can also u Sheep, Horse, for grazing b	31	POGO CHHYUME	Surkhang	4.78 Km ²	Continuous		Chaile can also use
Mule, Dzopa cannot collect dun 32 PUNAMLHE Surkhang 5.49 Km² Winter Lulu, Goat, Chaile can also u Sheep, Horse, for grazing b						Sheep, Horse.	for grazing but
32 PUNAMLHE Surkhang 5.49 Km ² Winter Lulu, Goat, Chaile can also u Sheep, Horse, for grazing b							cannot collect dung.
Sheep, Horse, for grazing b	32	PUNAMLHE	Surkhang	5 49 Km ²	Winter		Chaile can also use
	"-		Curkining	2.17 18111			
	22	HOVICHIVIDAD	C1-1	6 01 V 2	Ci		Chaile can also use
	33		Surknang	0.01 Km	Spring	,,	
		A					,
Mule, Dzopa goth	\square						U
34 IMBUK Surkhang 7.28 Km ² Summer Lulu, Goat, -	34	IMBUK	Surkhang	7.28 Km ²	Summer		-
Sheep, Horse,						Sheep, Horse,	
Mule, Dzopa						Mule, Dzopa	
35 JHACHIU Surkhang 4.93 Km ² Summer Lulu, Goat, Tange also uses by	35	JHACHIU	Surkhang	4.93 Km ²	Summer	Lulu, Goat,	Tange also uses but
							not allowed to keep
Mule, Dzopa goth.							
	26	VVIITEN 1	Chuksona	1.15 Km ²	Continuous		Chaile can use and
	30	KIUIENI	Cnuksang	1.13 KIII	Continuous		
							can also keep goth
Mule, Dzopa						Mule, Dzopa	

	CITITI DICI		2 55 75 2	1 0		
37	CHHUNSI	Chuksang	3.55 Km ²	Summer	Lulu, Goat,	Chaile can use and
	DANDA				Sheep, Horse,	can also keep goth.
					Mule, Dzopa	Near to Chhunsi
			2			Gomba.
38	TAMSYAL	Chuksang	0.92 Km ²	Continuous	Lulu, Goat,	Chaile can use and
					Sheep, Horse,	can also keep goth.
					Mule, Dzopa	Location of old
						chuksang village.
39	CHHYUME	Chuksang	3.69 Km ²	Continuous	Lulu, Goat,	Chaile can use for
					Sheep, Horse,	grazing and cutting
					Mule, Dzopa	fuelwood.
40	VENYA	Chuksang	2.10 Km ²	Continuous	Lulu, Goat,	Chaile can use for
					Sheep, Horse,	grazing and cutting
					Mule, Dzopa	fuelwood.
41	TALLO VENYA	Chuksang	0.86 Km ²	Continuous	Lulu, Goat,	-
					Sheep, Horse,	
					Mule, Dzopa	
42	RUWARUWA	Chuksang	2.06 Km ²	Continuous	Lulu, Goat,	-
	110 111110 1111	Chansang	2.00 12	Commuous	Sheep, Horse,	
					Mule, Dzopa	
43	GHOKETHANG	Chuksang	1.59 Km ²	Continuous	Lulu, Goat,	_
73	GHOKETHANG	Chuksang	1.37 Kili	Continuous	Sheep, Horse,	⁻
					Mule, Dzopa	
44	KHELCHYANG	Chuksang	1.64 Km ²	Continuous	Lulu, Goat,	_
44	KHELCHYANG	Chuksang	1.04 KIII	Continuous		-
					Sheep, Horse,	
45	LUNGSUNG	Charlesses	1.92 Km ²	Continuous	Mule, Dzopa Lulu, Goat,	-
43	LUNGSUNG	Chuksang	1.92 Km	Continuous		-
					Sheep, Horse,	
16	CHRIANABRIO	G1 1	0.04 77 2	G .:	Mule, Dzopa	
46	GHYAKARKHOL	Chuksang	0.84 Km ²	Continuous	Lulu, Goat,	-
	A				Sheep, Horse,	
	CTT L D CTTTDTT	GI I			Mule, Dzopa	
47	SYAPCHIPU	Chuksang	1.54 Km ²	Continuous	Lulu, Goat,	-
					Sheep, Horse,	
			2 2		Mule, Dzopa	
48	CHYOHAR	Chuksang	2.71 Km ²	Summer +	Lulu, Goat,	-
				Autumn	Sheep, Horse,	
					Mule, Dzopa	
49	HYULKI PANGA	Chuksang	5.18 Km ²	Continuous	Lulu, Goat,	-
					Sheep, Horse,	
					Mule, Dzopa	
50	TAALAM	Chuksang	3.82 Km ²	Continuous	Lulu, Goat,	-
					Sheep, Horse,	
					Mule, Dzopa	
51	PIRI	Chuksang	2.96 Km ²	Summer	Goat, Sheep,	Commonly used by
					Horse, Mule,	Chuksang and
					Dzopa	Ghami VDC. The
					_ `	word PIRI implies
						common in local
						language.
	L		1	1		56

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