

# The rhythms of life in the Himalaya: seasonality and sociality among the Gurung people of the Nhāson Valley



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**Abstract** The paper explores the linkage between ecological and social systems of the Gurung people in the Nhāson Valley of Nepal, accounting for the interconnectedness of social life and seasons. The main themes of the paper are the local people's understanding and experience of seasons, and the ways in which their social life moves according to those seasons. The paper is based on 9 months of ethnographic fieldwork undertaken from 2012 to 2018 in Nhāson, a small mountain valley located in the central Himalayan region of Nepal. Informal interaction and conversation with the local people were the key sources of understanding the seasonality and sociality. The findings reveal that a single cultural group has multiple frameworks for marking and counting the year which are contextual and culturally specific. Likewise, seasons and social life in the mountain region are closely interlinked to each other. Local people see that the transformation of seasons from one to the next is related to socio-cultural changes that reflect the rhythm of life. The social and ecological systems in this Himalayan region of Nepal are gradually being affected by climate change.

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## Introduction

In 2012, I began PhD fieldwork on knowledge and perception of and adaption to climate change from the ethno-perspective in Nhāson Valley. At the end of September of that year, I was at Wagreche pastureland (3600–3700 m above sea level), one of the high pasturelands of Nache village, where I met with a few herders and their herds. A friend took me to a herder's *goth* (temporary shelter), where we stayed. After dinner, herders usually gathered at such temporary shelters and talked about aspects of their herding life such as the availability of grass and water resources on pasturelands, threats to livestock and decisions facing them in the days to come. One evening, three herders, as well as my friend and I were sitting around the *goth's* hearth taking shelter from the cold. I was talking with them about the availability of grass for their livestock at the high pasturelands. When the eldest herder heard me, he exclaimed, “*Norusaiba* (here refers to dewfall that damages ground grasses and bushes) has almost begun at Wagreche.” I did not understand him, and then asked him about it. He narrated,

Look! The cold wind blows and the dewfall begins here. Along with it, the grass in the meadows will gradually turn brown and finally die. The leaves on the trees will start to fall. It [the season] is called *norusaiba*. It varies by altitude. It starts earlier at a high altitude, and later at a low altitude. With the beginning of *norusaiba*, herders also start to move their herds downhill to protect them from cold.” (G. Gurung, 63 years old).

A few days later, I came down from the high pastureland to the village. I saw two herders living at a *goth* at Kromche pastureland, located at an altitude of 3100–3200 m. I mentioned the term *norusaiba* that I had heard at Wagreche and asked them about the onset of *norusaiba* at Kromche because I wanted to know the interconnect- edness between physical seasonality and social seasonality. One herder said:

Compared to Wagreche pastureland, Kromche lies at down. Hence dewfall starts here only at the beginning of October. Thus, the grass does not turn brown as early as they do at Wagreche. [Here] The grasses begin to turn brown and will be almost dried up by mid-October. In the village, we have our own customary law that regulates the movement of livestock. It restricts cattle from entering the village and its surroundings before the first day of *Kartik* [approximately the sixteenth of October]. Therefore, we only move our herds from here on fourteenth or fifteenth of October. (S. Gurung, 51 years old)

Likewise, in mid May, 2013, while at Nache village (2200–2300 m), I sat with village elders on a big round stone at the center of the village and we conversed about the local naming system of the seasons and their associated changes. Pointing at the forest around the village, one of the elderly men remarked:

Look at the village and its surroundings [approximate altitude of 2,100–2,500 meters]! Everything is written there. Here, rhododendron flowers have been already withered and have almost all fallen. Now, they are blooming at Kromche and the surroundings [about 3,000 meters]. You know the flowering of the rhododendron tells us about the availability of grass. Now, you can find grasses at Kromche. Very soon, the village's herds will be there for grazing." (S. Gurung, 52 years old)

These three herders' anecdotes tell us that there is the unbreakable linkage of ecological systems (the dynamics of plant growth, the seasons, and the weather) and social systems (human activities including upward and downward mobility of livestock and operation of customary laws) in this Himalayan region of Nepal. Revealing the rhythms of life, both go together. The beginning of *norusaiba* and the flowering of the rhododendron are parts of the ecological system, but they are more than that for the herders of Nhāson; they are also part of the social system. The herders start to move their herds downhill at the onset of *norusaiba* to protect their livestock from the cold, and uphill, in conjunction with the flowering of the rhododendron, for grazing their herds in the high pastures. Such knowledge is a product of inhabiting the land, akin to what Basso (1996) terms "wisdom sits in places." Indeed, human adaptation to seasons and environment has been generated by the local people, through the observation of the local markers and acting accordingly, for ages (Ingold 2000; Ingold and Kurttila 2001; Berkes 2008).

Anthropologists started their research in Nepal in the 1950s when the government of Nepal followed an open-door policy for foreigners. Since then, this Himalayan region and its mountain communities have remained a central area of study, perhaps due to its good climate, unique culture and friendly people. Now it is a focus of study because of climate change. In the 1970s and early 80s, the human-nature relationship was one of the important themes of inquiry for anthropologists in Nepal (see von Fürer-Haimendorf 1980; Molnar 1981) and even today its popularity has not faded (see Bauer 2004; van Spengen 2010; Spoon 2011; Sherpa 2014; Poudel 2016). However, the interconnectedness of physical seasonality and social seasonality is still in the shadows.

Social and ecological systems are not separate entities for many indigenous people (Mauss 1979; Berkes and Folke 2000; Berkes 2008) including those of Nepal's mountains (Rhoades 1997; Jhoda 2000; Poudel 2020a). In this context, how physical seasonality and social seasonality in the mountain regions are interconnected is simple, though it is important to study academically if we want to understand the human-nature relationship in the mountain region.

Recently, global warming has become a worldwide issue. Evidence from the Himalayan region shows that warming has escalated over the last few decades (Vetaas 2007; Government of Nepal 2010; Shrestha and Aryal 2011; ICIMOD 2011; Shrestha et al. 2012), and rapidly affected the environment and peoples' livelihoods (Salick et al. 2009; Sherpa 2014; Pandit 2017; Poudel 2018, 2020a & 2020b). Climate change has not only threatened "the water tower of Asia", but it is also disrupting interconnectedness between social and ecological systems of the Himalayan region of Nepal from its past realities and affecting communities that did not take part in the process of creating such anomalies (Poudel 2018, 2020a).

## Anthropology of seasonality

Seasons, in general, are understood as the division of the year into parts based on different weather patterns during different periods. Yet it is not simply a division of the year, but also a socio-cultural phenomenon (Evans-Pritchard 1940; Mauss 1979; Harris 1998; Orlove 2003; Berkes 2008; Krause 2013; Poudel 2019a). Each cultural group has its own system of naming the seasons and understanding what is known as “ethno-seasonality.” In a review article Orlove (2003) states that a single culture may contain multiple frameworks for marking and counting years, by which it means there are no “seasons in general” for a single cultural group. In the context of Nhāson, where the people are predominantly of the Gurung culture, they have multiple frameworks for conceptualizing seasons and seasonality that are largely based on livestock movement and weather patterns.

Seasons and seasonality are not new subjects for anthropologists. Mauss’s work *Seasonal Variations of the Eskimo: A Study in Social Morphology* published in 1950 (the translation in English first published in 1979) was the first anthropological writing focused solely on seasons and social life. Before the publication of this masterpiece, Evans-Pritchard (1940) shortly described the seasons in his ethnographic writing. Even after the publication of Mauss’s work, seasons were rarely a key theme of inquiry for anthropologists until the end of twentieth century. Now, anthropogenic climate change has appeared as a dominant issue globally and seasons have also become one of the issues of study for anthropologists to understand climate change (Ingold and Kurttila 2001; Strauss and Orlove 2003; Orlove 2003; Poudel 2016, 2019a).

In the study of seasons and seasonality, two perspectives are found in anthropological literature. One perspective sees it as a process whereas another emphasizes folk taxonomy or classification. Both perspectives have different ontological and epistemological positions to by which to understand seasons. The followers of the first approach have focused on the relationship of human society and the seasons (Evans-Pritchard 1940; Mauss 1979; Harris 1998; Ingold and Kurttila 2001; Krause 2013). They see the socio-cultural life of the people as a kind of a regular rhythm that moves according to seasons. They do not see seasons and socio-cultural life as different entities. For instance, Mauss (1979) writes that the social life of the Eskimo—their forms of family, systems of law, moral codes, domestic economy, and religious life—reveals opposed forms in winter versus summer seasons. Their social life is stronger and there is a wider religious unity among Eskimo in the winter season, while it is sharply isolated and fragmented in the summer. Similarly, Evans-Pritchard (1940) has described that the Nuer of southern Sudan are with their herds that move from villages to ridges during the *tot* (rainy) season, and the herds are widely scattered during the *mai* (drought) season. The cases reflect that seasons and seasonality are the two sides of the same coin.

Like Mauss and Evans-Pritchard, Mark Harris looks at seasonality in the Amazonian context as embodied periodicity, produced by the attendance of

people to their environment (Harris 1998:66). This seasonality implies that life on the Amazon varies most radically between the river floods period and the river low discharge period. There are a limited number of kin visit in people's houses, and less happiness and less village festivals when the river floods the plain, while abundance relative presence in people's houses and more happiness, and more frequent village festivals during the low discharges period of the river.

Harris concludes that,

the periodicity of social life on the Amazon floodplain is neither due to pressure and necessity, nor to an environmentally-imposed social structure to which individuals conform. Instead, for Parúaros the annual rhythm is inherent in the process of social life. Seasonality is intrinsic to people's engagement with, and perceptual alertness to, a changing environment which, in turn, is integrated with the changing constellations of their social relationships (Harris 1998:79).

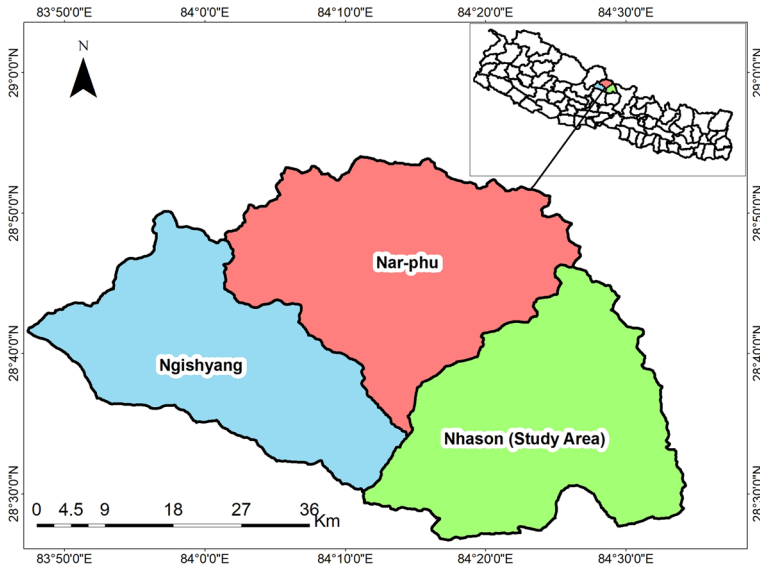
Krause (2013) also argues that seasons happen in time, not as a series of events that can be ordered along a uniform and external temporal trajectory, but instead, they are embodied and enacted, an integral part of the activity practiced or the process performed by the community. Therefore, seasonal variations are not only the parts of physical environmental variations, but are a central aspect of the Kemi river-dwellers' lives. In this way Krause also does not see seasons and lives of the Kemi river dwellers as distinct phenomena.

Unlike the process perspective, the followers of the ethno-taxonomy perspective see the seasons based on temporal dimensions. The root of the approach goes to ethno-taxonomies of colors, plants, animals, diseases etc. As such, it classifies the seasons based on temporal dimensions. Orlove (2003) has compiled 28 cases of local naming of seasons. The approach provides a detail naming systems of seasons, but it largely ignores intersection between socio-cultural activities and seasonality. Moreover, the approach does not see seasons as a part of the people's life-world.

The above-mentioned two perspectives propose different ways of understanding seasons. I argue that one approach cannot fully account for the complexity of human relations with the natural world including seasons and seasonality. Combining approaches can be a way to make anthropological theories more amenable to understanding human complexity (Chhetri 2008). In this paper, I investigate the nexus of both approaches to examine the relation between seasons and sociality which can help us to understand both in a holistic way.

## Study area and method

This study was carried out in the Nhāson Valley which lies in the central Himalaya region of Nepal. Two mountain ranges, the Annapurna and the Manasulu, are located in the southwest and the northeast of the valley correspondingly. Vertically, the valley is situated from 1645 to 8125 m above sea level (His Majesty of



**Fig. 1** Map of the Study Area

Government of Nepal 2000) which creates a wide diversity in weather patterns at any given time of the year at different altitudes. The spring season, for instance, comes first to the lower altitude, and later to the higher altitude. The fall season begins earlier at the higher altitude and later at the lower altitude (Fig. 1).

The name of the valley, “Nhāson,” which comprises several villages today, is derived from the combination of two words in the Gurung language, viz. *nhā* (villages) and *son* (three) - literally meaning “three villages.” Nhāson, therefore, traditionally denotes three villages, namely Tache, Nache and Tilche. In 2018, there were 16 settlements in the valley, located on the banks of two rivers, the Marshyangdi and the Dudhakhola (a tributary of the Marshyangdi River). The settlements are heterogeneous in terms of cultural groups. Ghale, Gurung, Lama, Tamang, Thakali, Kami and Damain are the main groups, although Ghale and Gurung are the predominant, and earlier, settlers of the valley (Poudel 2016). Oral history of Sapri-Ghale tells that human settlement began at the valley in the eleventh century.

Fieldwork in the Nhāson Valley was undertaken from 2012 to 2018 in different time periods. My earlier fieldwork focused on local knowledge, perceptions, and adaptation to climate change. As part of that study, I collected ethno-naming of seasons and the interpretation of seasons and seasonality in the local context. I talked with farmers and herders, walking with herders in pasturelands, engaging in agricultural activities with farmers, and observing physical environments and people’s socio-cultural practices in different seasons. In addition, I noticed weather patterns and the physical environment during my stay in the valley, which helped me to contextualize the issue in detail. Focusing on a single community and living with them for a long period helped me to contextualize the social and cultural meanings of seasons.

## Economic pattern of the Nhāson Valley

Agriculture, animal husbandry, and trade were and are the main pillars of livelihood for the people of Nhāson Valley. These activities are fundamentally interrelated to each other as well as the seasons. Every household raises livestock of one kind or another, including yaks, *chol/choamma* (yak-cow cross-breeds), cows, oxen, sheep, goats, and horses. Families move their livestock to meadows at different altitudes according to the seasons. In the summer, they move their livestock to high-altitude pasturelands and in the winter they move them back to villages and their surroundings and to the low altitude pasturelands located in a lower, adjacent district. Since 2016, the low altitude movement of livestock has nearly been halted due to the planting of cash crops within community forests and on private agricultural lands. This has brought challenges to herding, especially the herding of sheep and goats. The animal products consumed locally include meat, milk and milk products, dung, wool and animals' draft power. Yaks, sheep, and goats are for meat. Sheep wool is used as the basic raw material for blankets and clothes. Sometimes, people gift woolen items to their kin who reside outside Nhāson Valley. Draft power (of oxen) is necessary for crop production. Crossbreeds are raised for the cash earned by selling the animals to highlanders. However, animal husbandry is under a threat in the valley due to climate change, state policy, international policy, the market economy, and development intervention (Poudel 2019a, 2019b; 2020a). Recently, yak herding has flourished when Gurungs began to eat yak meat, keeping yaks as separate, Tibetan, cattle rather than as Hindu cattle.

The main crops grown in the valley are maize, naked barley, buckwheat, wheat and potatoes. In addition, *kolo* (Himalayan bean) and green vegetables are also grown. However, the growing of green vegetables has been difficult due to the climate in the past. In the last one and half decades, crop line has gradually moved upward with increasing temperature (Poudel 2020b). The agricultural calendar allows for a thrice in 2 years rotation based on seasons and agricultural lands. The rotational growing of crops on different agricultural lands in different seasons is essential to managing livestock in the winter.

Nhāson Valley was one of the centers of the salt-grain trade in the Himalayan region of Nepal by the mid twentieth century. On September 20, 1956, China and Nepal signed the agreement on maintaining friendship between the People's Republic of China and the kingdom of Nepal and on Trade and transportation between Tibet and Nepal. Thereafter, salt-grain trade came to end. In 1977, Manang re-opened to foreigners; tourism-based businesses were adopted for people's livelihoods in conjunction with the continuation of agropastoralism. In addition, the collecting of medicinal herbs is also a source of economic gain. Today, most households collect *yarshgumba* (*Ophiocordyceps sinensis*, caterpillar fungus), *satuwa* (*Paris polyphylla*, uncertain English name) and *banlasun* (*Allium ursinum*, wild garlic) to sell. In addition, some of the youth have gone abroad to the US, Europe, Korea, Japan, the Middle East, and India to earn their livelihood.



## Results and discussions

### Seasons and social life of farmers

In the Nhāson Valley, farmers name the seasons as follows: *ngosho*, *ergasho*, *sargasho* and *kuinsho* based on the weather patterns and the appearance of physical objects in their surroundings like warming days, misty rain, clear sky and *norusaiba* (blow cold wind and dewfall), snowfall. I noticed that farmers' everyday activities are shaped by the seasons, varying from one season to another. In some seasons, they are busy planting, weeding and harvesting crops, whereas they are rather free from those activities in other seasons. Farmers' activities are determined by the weather patterns, especially the climatic condition of the mountain region (Table 1).

The term *ngosho* consists of two Gurung words, *ngo* and *sho*. The term *ngo* means the flowering of plants and *sho* means season. The season starts in mid-February and ends in mid-May. Snow becomes rare, and days become warmer. Naked-barley and wheat planted in *kuinsho* begin to grow rapidly. Snow starts to melt in the highland and new plants start to germinate in the meadows. The local people also call the season *khalo-khali-ngije*, meaning the flowering of peach and walnut. Indeed, rhododendron, apple, walnut and peach and other flowering plants commence to blossom.

With the beginning of the season, farmers return to farms again due to quite warm weather. In the first quarter of the season, they prepare the field for potatoes, maize, Himalayan beans and soybeans, plant them in the mid-season, and weed them at the end of the season. *Ngosho* is dry. Water in springs, rivulets, and rivers decreases in volume and sometimes springs may dry up. Rains hardly fall in this season, but in mid-season, usually, though not always, stormy rain may suddenly fall that damages and destroys immature fruits of peaches, walnuts, apples, and plums.

**Table 1** The nomenclature of seasons and the relevant social activities of farmers

Seasons	English month	Ideal weather pattern	Activity
<i>Ngosho</i>	Mid-Feb to mid-May	Less snowfall and increasingly warmer days	Farming activities like planting and weeding of maize, potatoes, beans and soybeans; arrange community and household rituals
<i>Ergasho</i>	Mid-May to mid-Aug	Misty rain	Harvesting of winter crops; weeding of spring crops (maize and beans); planting of summer crops
<i>Sargasho</i>	Mid-Aug to mid-Nov	Clear sky, dewfall, occasional snowfall	Harvesting of spring crops (maize, potatoes, beans), and summer crops like buckwheat; arrange community rituals
<i>Kuinsho</i>	Mid-Nov to mid-Feb	Snowfall	Collecting of firewood; weaving of woolen blankets; harvesting of summer crops and planting of winter crops; moving livestock to low pasturelands

Source: Field study, 2012–18



In the valley, each settlement performs some rituals collectively and some rituals individually by household. *Töten, dobate, ramne, yankhuba, rheapaba, tön, ankhekutu, proprpra, nakaudanda* are the community rituals. *Töten, dobate, ramne, yankhuba, rheapaba* are common in all settlements of the valley whereas *tön, ankhekutu, proprpra, nakaudanda* are settlement specific (here I do not go in detail). These rituals are organized for the prosperity of the village and villagers, and for good crops and livestock. It is believed that they cannot grow good crops without, on the one hand, making their deities happy, and on the other, removing the bad spirits away from the household and village. Therefore, it is essential to both remove the bad spirits or “evil eyes” from the village or household for better productivity and to make their deities happy.

At the end of the season, winter crops like naked barley and wheat are almost ripe. Hence, the farmers arrange community rituals before harvesting the winter crops with the aim of giving thanks to the deities. It is believed that deities are the providers of good crops and agricultural productivity. Performing the community rituals before harvesting the crops are a thanksgiving ritual, whereby villagers offer respect to ‘the givers.’ Without first performing the ritual they do not consume food. If we look at the practice from an etic perspective, it regulates the behavior of the members of the village which is essential to govern the agro-pastoral system in the Himalayan region, in particular the Nhāson Valley.

*Ergasho* begins with the end of *ngosho*. *Ergasho* means rainy season. The season starts in mid-June and ends in mid-August. The sky is mostly covered with clouds; it rains and trails and roads become muddy. In this season, springs, rivulets, and rivers rise again due to the rains. At the beginning of the season, farmers are engaged in harvesting winter crops like wheat, naked barely, and potatoes, and they immediately start the planting of summer crops (buckwheat, summer maize,<sup>1</sup> naked barley, and wheat). Farmers weed the summer maize at mid-season and harvest spring crops (beans, potatoes, and maize) at the end. The villagers do not perform any community ritual in this season, although household rituals like *polefaliba* (removing of bad sprits) can be organized to benefit the household’s prosperity.

At the end of summer, the sky appears cloudless. The ground is covered with dew in the morning. This season is called *sargasho*. The term ‘*sargasho*’ is derived from the words, *sargo* and *sho*. The first means ‘clear sky’ and the later means ‘season’. Principally, rain does not completely stop in the earlier phase of the season, and the sky is not fully cloudless. Sometimes rainfall continues for the first 15 days of *sargasho*. As Vedwan (2006) notes, this indicates a transitional phase between two seasons which is typically over-determined and marked by the presence of several independent but related indicators i.e., rain and cloudy sky.

At the beginning of the season, buckwheat starts to flower, summer’s naked barley and wheat start to grow, and spring crops like maize and potatoes begin to ripen. Therefore, buckwheat, naked barley, wheat, and maize terraces begin to look pink, green or yellow. Farmers harvest all spring crops like maize, potatoes, and beans, and summer crops like buckwheat and naked barley during the season. At

<sup>1</sup>Only grown in low altitude villages like Tache, Unash, Ghyalanchok.

the end of the season, villagers again arrange some community rituals like *ankhekutu*, *proprapro*, *nakaudanda*, *töten*, etc., to give thanks to their deities for giving them bountiful productivity. At the end of the season, they also prepare some fields for winter crops. The two Hindu festivals Dashain and Tihar are performed.

The term *kuinsho* is composed of Gurung words *kui* (snow) and *sho* (season) meaning snow season. This season begins in mid-November and ends in mid-February. Snow begins to fall at the beginning of the season, increases in the middle and gradually decreases by the end of the season. Farmers harvest the summer crops and fodder before the start of *kuinsho*. If they cannot and do not harvest the crops and plant matter, they lose it permanently and face a food and fodder crisis in the future.

In *Kuinsho*, the social life of Nhāson farmers starts with the planting of winter crops like wheat, naked barley, and potatoes. Thereafter, there is no more agricultural activity throughout the season due to chilly conditions. Farmers are almost free after the harvesting of summer crops and sowing of winter crops. The free time is used for the collection of firewood. Moreover, women utilize the free time of this season to weave woolen blankets and mats. Young generation start to learn weaving by sitting and doing it with their mothers and elder relatives. This reveals that the season is a period of the transfer of knowledge and skill of weaving from the old generation to the young one, simultaneously cementing social fabric among old and young generations. However, weaving of woolen blanket and mats is a skill that is gradually fading out in the village due to the arrival of readymade carpets and blankets. In Nhāson Valley, weaving is not just the knotting threads to make a woolen blanket or mat; it is culture, indigenous knowledge, and skill as a means of creating social fabric. The displacement of weaving, therefore, has wider impacts on indigenous knowledge, culture and social fabric.

#### Gender division of labour in agriculture

A division of labour can be seen among men and women of Nhāson Valley in the sphere of agriculture, although it is possible to interchange most duties if necessary. Agriculture is the domain of women whereas men's duty is ploughing the field, carrying heavy loads, removing maize seeds from the cob, and the threshing barley and wheat (women also participate equally in this last task). Women's duties includes planting, weeding and harvesting of crops, carrying crop loads from field to house, husking of maize, cleaning grain, storing grain and seeds, bartering crops, buying and selling of crops, and the exchange of seeds and so on.

#### Seasons and social mobility

I saw how the mobility of the Nhāson people and the seasons are also closely embedded with each other. As compared to other seasons, temporary downhill movement of people is more likely in *kuinsho*. This is due to people's wanting to escape from chilly weather. Not all people, however, leave the village. Only members of wealthy families leave the village and go to Lamjung, Pokhara, and Kathmandu to protect themselves from the cold. They utilize the time for medical check-ups and

to visit to kin. This does not mean that they do not visit kin in other seasons, but that the frequency is higher in this season than in others. Thus *kuinsho* is a season to renew social fabric among kin who live beyond the village.

### Seasons and social life of herders

Seasons are not only changes in weather patterns and the changing dynamics of plant-growing for the herders of the Nhāson Valley. They are part of everyday life for them. The herders move their livestock to different pasturelands on a rotational basis according to the seasons. In winter, they move their livestock downhill and in summer they move them uphill. As to the movement of livestock, herders reckon principally two seasons—*torkhumsho* (also called *turkhumsho*) and *markhumsho*. The word *torkhumsho* is composed of the two words, *torkhum* and *sho* meaning ‘upwards’ and ‘season’. *Torkhumsho* begins on the first day of *Magha* (approximately on 16 January) and ends on the thirty-second day of *Asar* (approximately on 15 July). The latter word, *markhumsho* is consisting of the two words *markhum* and *sho*. The former refers to ‘downwards’ and the latter to ‘season’. Its onset is on the first day of *Shrawan* (approximately on 16 July) and ends on the thirtieth of *Paush* (approximately on 15 January). These two seasons are treated as polar opposites between which the life of the herders is differently constructed in the Nhāson Valley (Table 2).

A wider variation is recognized in the weather patterns, environment, plant behavior, animal behavior and human activities in *torkhumsho* and *markhumsho*. With the beginning of *torkhumsho*, days begin to be warmer; snow begins to melt; grasses begin to sprout out; wild animals and birds start to move gradually up to higher altitude and so forth. The socio-cultural life of the herders is also shaped by seasons. In *torkhumsho*, herders start to move their herds to high pasturelands at the second quarter of the season and they reach the highest pastureland at the end of the season. Herders and their herds spread out more widely in scattered camps in the course of the season. Only one herder is in each camp and his family lives in the village. It necessitates a break-up of family for a short period. It does not mean a herder totally lives alone throughout the season. His family members frequently visit the camp with foods drinks, and tobacco. Sometime two or more herders live together in a camp that is determined by the available grasses for livestock grazing.

In *torkhumsho*, herders exploit distant ecosystems where plentiful and nutritious grasses are available to feed the livestock. Moreover, the herd management system in Nhāson Valley also differs in two seasons. In *torkhumsho*, the small herds are managed jointly. Two or more households keep their herds together by hiring a herder. Including salary, each household contributes food and tobacco to the hired herder equally. It shows a strong social and economic cooperation among the small herders in *torkhumsho* to manage their herds.

In *markhumsho*, the weather pattern is not like that in *torkhumsho*. The early days of the season are not chilly. But after a month, days start to be chilly and reach a peak. Dew start to fall at higher altitudes and grasses turn brown and die. Birds and animals gradually start to move to a lower altitude. With the onset of

**Table 2** The nomenclature of seasons and the relevant social activities of herders

Seasons	Months	Environmental markers	Activity
Torkhumsho	Mid-Jan. to Mid-July	Onset of snow melting; warmer days; grasses sprout; birds and animals move towards higher altitude; rainy days begin at the end	Move herds to higher altitude, collective management of herds by small herders, break up of family, arrange community and household rituals
Markhumsho	Mid-July to Mid Jan.	Heavy rains at the beginning of season that stop later with the sky becoming clear; dewfall; grasses dry up and die; birds and animals move towards lower altitude, onset of snowfall and its climax	Move herds to lower altitude; individual management of herds by small herders, arrange community and household rituals; reunion of family,

Source: Field study, 2012–2018

dewfall, herders also start to move their livestock from a place of higher altitude to a lower one, and they finally reach the villages and their surroundings. In the Nhāson Valley, grazing lands are very limited at and around the villages. By this time, there is no more grass on the grazing lands. It is, therefore, very hard to manage a big herd because of huge amount of hay and fodder required. I did not see a great amount of hay for the livestock. Due to a lack of enough fodder and hay, it is very hard to manage the herds jointly. Therefore, each household separates his or her herd and keeps it separately. Herds are not only separated, but the sharing of food no longer occurs and the salary for hired herders no longer applies. It reflects that small herders again fragment their livestock into fairly independent herds in *markhumsho* for easier management of their livestock.

In the valley, the economic transition of livestock also occurs in *markhumsho*, something that can hardly be observed in *torkhumsho*. Wool is harvested during *markhumsho*; also at this time, livestock is sold. Each herder sells about one third of their livestock, especially goats and sheep, during the season. The selling of the livestock is sex specific—more males than females are sold since females are necessary for the herd's reproduction in the year to come. Females are sold only when the herd size needs reducing.

I have already mentioned that the people of Nhāson perform two types of rituals: i) household rituals and ii) community/village rituals. I did not see any relation between seasons and household rituals because such rituals are practiced or performed in any season as per the requirement of individual households. However, community/village rituals are fixed and closely interwoven with seasons. For example, the community festivals such as *aakhekutu*, *ramne*, *propopra*, *nakau-danda*, *dobate*, *tön*, *töten* and so on are arranged during the first and second quarters of *torkhumsho* or the third quarter of *markhumsho* when herders and their herds are at the vicinity of the village's settlement. Likewise, marriage ceremonies are also generally arranged at the end of *markhumsho*. At that time, most of the villagers are at home and herds are near the settlements. In this way, all villagers can

participate in and contribute to rituals and festivals. This reveals how community rituals and festivals of the Gurungs of the Nhāson Valley are interwoven with the seasons.

In the Nhāson Valley, I found that each household contributes cash and in-kind donations to arrange the community ritual. Those households that cannot be physically present in the ritual also contribute cash and goods. In a community ritual, a feast is arranged. Meat and cooked rice are the main items of food and locally brewed beverages and tea are consumed. Each household of the village collectively pays for the feast. Such a large amount of meat is required to feed the villagers that it is only fulfilled through either the slaughtering of fatty livestock or large number of livestock at once. From an adaptive perspective, the first is more rational than the later one. Moreover, each household also stores large amount of meat by slaughtering livestock in *markhumsho* rather than *torkhumsho*. In *markhumsho*, livestock are better fed, resulting in larger, fatter animals. Thus, villagers can acquire a large amount of meat from fewer animals—a strategy that is both economically sensible and ecologically adaptive.

If we look at the social life of the herders of the valley, two seasons like *torkhumsho* and *markhumsho* are not just divisions of a year, but are more than that. The data reveals that the socio-cultural and economic life of the herders is entirely distinct in each season, both of which are largely shaped by weather patterns and climatic variables. Social cooperation becomes strong in *torkhumsho* through collectively managing the herds to exploit a wider ecological niche, and it becomes weak in *markhumsho* due to limited resources available for livestock. However, economic transition and family integration are more prevalent in *markhumsho* than in *torkhumsho*. Moreover, community festivals and the seasons are also economically and ecologically interconnected in the valley.

#### Gender division of labour in livestock management

Like agriculture, there is a division of labour related to livestock management among men and women of the Nhāson Valley, although there is no fixed rule. However, the livestock management is generally the men's sphere. Men's work includes carrying the bamboo mats and heavy equipment needed for making the *goth* between pastures, cutting firewood, grazing livestock, supervising livestock breeding, making trips to new pastureland, buying and selling of livestock, milking of cattle, making of butter and cheese (rarely done in Nhāson), and the shearing of sheep. Women's duties include caring for livestock (collecting grass, watering, cleaning sheds) and harvesting straw (including maize, naked barley, wheat, buckwheat and sometimes grasses) to feed the livestock. Moreover, the spinning of wool and weaving of woolen blankets and mats are also women's duties. The harvesting of fodder or post-harvest plant material is done in *markhumsho*. In general, it is impossible to manage livestock without both wife and husband at home. The wife manages the fodder and the household (cooking, cleaning and caring for children and elderly people).

## Climate change as a driver for the disturbance of the rhythm of life in the Himalaya

The consequences of climate change are profoundly observed in the Himalaya; even it is a global phenomenon (Shrestha et al. 2012; Pandit 2017; Poudel 2018, 2020a & 2020b). For instance, the annual temperature growth rate is 0.06 °C in Nepal (Shrestha and Aryal 2011) and 0.118 °C/year in Manang (Government of Nepal 2017). The maximum temperature of the valley has increased (0.0334 °C/year), and minimum temperature has decreased (− 0.080 °C/year) considerably over the three decades, indicating that temperature extremes are prevailing in the valley (Poudel 2020b). The people of Nhāson have also experienced changes in weather pattern in their surroundings over the last few decades (see Table 3).

Some publications report that Nepal's Himalayan region is at high risk from climate change (Government of Nepal 2010; ICIMOD 2011; Thakuri et al. 2020). Climate change is disrupting the socio-ecological systems from its past state. Highly dependent on natural resources and the seasonal calendar, farming and herding have been facing critical challenges in the Nhāson Valley. Global warming has been displacing the ideal weather patterns, e.g., the timing and intensity of snowfall and rainfall. The snowfall has shifted to later and is less intensive than the past. Such shifted and less intensive snowfall means a delay in the growing of grass on meadows, less and lower quality of grass for livestock, changed movement of herds, especially yak herds, displacement from traditional habitat of livestock, and a threat to customary laws (Poudel 2018, 2020a).

Unlike herders, for the farmers of the Nhāson Valley, global warming means the growing days come earlier and the growing cycle must be faster. It means the harvesting period of crops is decreasing relative to the ideal time. It varies from crop to crop and from one agricultural season to another. The length of the agriculture calendar has decreased by about 1 month—more for winter growing crops (winter wheat and naked barley) and spring growing crops (maize, potatoes, beans) and about 15 days or less for summer crops (buckwheat, summer wheat, maize and naked barley). With a decreased growing period, farmers are able to harvest winter crops before onset of rainy season which is good for them. However, the shifting of spring crops to earlier

**Table 3** Ideal weather and present weather at the Nhāson Valley

Seasons	Seasons	English month	Ideal weather	Present weather (in 2012)
<i>Markhumsho</i>	<i>Ngosho</i>	Mid-Feb. to mid-May	Less intensive snowfall, a little rainfall in earlier part of day, increasing temperatures, stormy winds at the end of season	More frequent snowfall; dry; increasing temperatures, stormy winds at the end of season
<i>Torkhumsho</i>	<i>Ergasho</i>	Mid-May to mid-Aug.	Light rains	Large-drop rains
	<i>Sargasho</i>	Mid-Aug. to mid-Nov.	Clear sky, dewfall, snowfall (some years at the end of the season), rainfall occasionally	Continued rainfall at the beginning of the season and sky seems clear, dewfall
	<i>Kuinsho</i>	Mid-Nov. to mid-Feb.	Heavy snowfall	Less snowfall

Source: Field study, 2012–2018

in the year means farmers have to harvest it in *ergasho* and early *sargasho* in which rains still continue. Earlier growing of spring crops pose risks to the crops due to heavy and continuous rains. Thus, global warming is not just shortening and shifting the harvesting time of crops, but it also disturbing the social life of the farmers. The shifting the harvesting period makes for a shortage of agricultural labour at the village during harvesting time. As a result, Ghyalanchok, one of the villages of the valley, has almost given up cultivating winter crops since 2010.

Farmers and herders of the valley were not passive in coping with the risks imposed by anthropogenic climate change. They have been seeking new strategies. Upward shifting of yak habitats, making water storage ponds to support livestock, connecting pasturelands with piped water systems, searching for new pasturelands, revising customary laws, searching for new places to cross-breed yaks and cows are existing coping strategies undertaken by herders against the risk created by climate change. Moreover, intercropping of maize and potatoes, selection of drought resistance crops, sharing of seeds, adapting new technology (tunnel farming), planting of low altitude crops, etc., are the coping strategies following by the farmers. Indeed, such local adaptation is naturally rooted in indigenous knowledge and wedded strongly with kinship and neighborhood in ways that help them mitigate with the risks and uncertainty that accompany climate change.

### Concluding remarks

Seasons seem to be a mixture of physical environment and human activities for the people of Nhāson. Seasonal variations seem to belong to life, just like the variations any person experiences in the course of growing up and aging as Krause said (2013). The physical and social seasons are experienced as an ongoing transformation rather than the series of discrete states. This means that seasons are not experienced by the people as the year's division into multiple segments, but rather as its rhythms i.e., practicing of one seasonal activity usually includes preparing for the next season. Therefore, the transformation from one season to another is not simply a matter of weather changes, variations in physical environment, and changes in animal activities; it is a signal for the transformation of human life. Thus, physical seasonality and social seasonality go side by side as rhythms. Hence, seasons should be understood as a part of socio-ecological system rather than just a part of ecological system.

The data presented in this text reveals that a single cultural group has multiple frameworks for marking and counting time through the year that is based on social activities and appearance of the physical state of objects in the surroundings. For instance, the folk taxonomy of season like *torkhumsho* and *markhumsho* rests largely on the upwards and downwards movement of livestock with reference to changes in weather pattern whereas *kuinsho*, *ngosh*, *ergasho*, and *sargasho* are related to appearance of the physical objects in the surroundings.

In the Himalayan regions, climate change is gradually disturbing and disrupting the socio-ecological systems including the rhythms of physical seasonality and sociality that co-produced by the Himalayan dwellers through close attachment with ecology. This will be a great loss of wisdom of local ecology developed over the



hundred or thousand years ago and transmitted to the successive generations (Cruikshank 2005; Crate 2008; Pandit 2017). In this context, local narratives can provide insight into the transformation in the rhythms of seasonality and sociality, which is extremely valuable for understanding environmental change and in acting locally; this can be done by an ethnographic methodology for documenting the place-specific and cultural-specific evidences of climate change. Such evidences should be incorporated in decision-making processes while considering strategies to mitigate the impacts of climate change.

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As an individual work, this section has no relevant for the manuscript.

## References

- Basso, K. 1996. *Wisdom sit in places: Landscape and language among the Western apache*. Albuquerque: University of New Mexico Press.
- Bauer, K.M. 2004. *High frontiers: Dolpo and the changing world of Himalayan pastoralists*. New York: Columbia University Press.
- Berkes, F. 2008. *Sacred ecology*. London & New York: Routledge.
- Berkes, F., and C. Folke. 2000. Linking social and ecological systems in resilience and sustainability. In *Linking social and ecological systems: Management practices and social mechanisms for building resilience*, ed. F. Berkes and C. Folke, 1–26. New York: Cambridge University Press.
- Chhetri, R.B. 2008. Anthropological theories and ethnography in Nepal: An overview of selected perspectives. In *Sociology and anthropology in Nepal. Proceeding of national workshop on past, present and future of sociology/anthropology in Nepal (1–2 December 2007)*, ed. B.K. Parajuli, 43–60. Pokhara: Pritiwi Narayan Campus.
- Crate, S.A. 2008. Gone the bull of winter?: Grappling with the cultural implications of and anthropology's role(s) in global climate change. *Current Anthropology* 49 (4): 569–595. <https://doi.org/10.1086/529543>.
- Cruikshank, J. 2005. *Do glaciers listen? Local knowledge, colonial encounters, and social imagination*. Vancouver & Toronto: UBC Press.
- Evans-Pritchard, E.E. 1940. *The Nuer: A description of the modes of livelihood and political institutions of a Nilotic people*. New York and Oxford: Oxford University Press.
- Government of Nepal. 2010. *Government of Nepal: Climate change vulnerability mapping for Nepal*. Kathmandu: Ministry of Environment.
- Government of Nepal. 2017. *Observed climate trend analysis of Nepal (1971–2014)*. Kathmandu: Ministry of Population and Environment.
- Harris, M. 1998. The rhythm of life on the Amazon floodplain: Seasonality and sociality in a riverine village. *Journal of Royal Anthropological Institute* 4 (1): 65–85.
- His Majesty of Government of Nepal. 2000. *Topo-maps of Nepal: Sheet no. 2884–06 & 2884–10*. Kathmandu: Department of Survey, His Majesty of Government of Nepal.
- ICIMOD. 2011. *Glacier lakes and glacial lake outburst floods in Nepal*. Kathmandu: Author.
- Ingold, T. 2000. *Perception of the environment: Essays in livelihood, dwelling and skill*. London: Routledge.
- Ingold, T., and T. Kurttila. 2001. Perceiving the environment in Finnish Lapland. *Body and Society* 6 (3–4): 183–196. <https://doi.org/10.1177/1357034X00006003010>.
- Jhoda, N.S. 2000. Reviving the social system-ecosystem linkages in the Himalayas. In *Linking social and ecological systems: Management practices and social mechanisms for building resilience*, ed. F. Berkes and C. Folke, 285–210. New York: Cambridge University Press.
- Krause, F. 2013. Seasons as rhythms on the Kemi river in Finnish Lapland. *Ethnos: Journal of Anthropology* 78 (1): 23–46. <https://doi.org/10.1080/00141844.2011.623303>.
- Mauss, M. 1979. *Seasonal variations of the Eskimo: A study in social morphology*. London, Boston & Henley: Routledge & Kegan Paul (First Published in 1950 in French Language).
- Molnar, A. 1981. Economic strategies and ecological constraints: Case of the Kham Magar of north West Nepal. In *Asian highland societies: In anthropological perspectives*, ed. Christoph von Fürer-Hamindrof, 20–51. New Delhi: Sterling Publishers.
- Orlove, B. 2003. How people name season. In *Weather, climate and culture*, ed. Sarah Strauss and Ben Orlove, 212–240. Oxford: Berg.
- Pandit, M.K. 2017. *Life in the Himalaya: An ecosystem at risk*. Cambridge: Harvard University Press.
- Poudel, J.M. 2016. *Climate change, farming and livestock: A study on perceptions, knowledge and responses among the people of Nhāson, Manang*. A Ph. D dissertation, submitted to Tribhuvan University.
- Poudel, J.M. 2018. Pond becomes a lake: Challenges posed by climate change in the trans-Himalaya regions of Nepal. *Journal of Forest and Livelihood* 16 (1): 87–102.
- Poudel, J.M. 2019a. Ethno-seasonality and the social life among the highlanders. *Tribhuvan University Journal* 33 (1): 81–94. <https://doi.org/10.3126/tuj.v33i1.28685>.
- Poudel, J. M. (2019b). Livestock management practices and discourse: Local and global interface in the Himalaya. An unpublished report submitted to University Grant Commission, Nepal.
- Poudel, J.M. 2020a. Pond becomes a lake: Challenges for herders in the Himalaya. *Practicing Anthropology* 42 (2): 30–35. <https://doi.org/10.17730/0888-4552.42.2.30>.
- Poudel, J.M. 2020b. Human dimensions to climate change: Insights from case study in the Nhāson Valley of Nepal Himalaya. *Journal of Tourism and Himalayan Adventures* 2: 42–56.

- Rhoades, R.E. 1997. *Pathways towards a sustainable mountain agriculture for the 21<sup>st</sup> century: The Hindu-Kush-Himalaya experience*. Kathmandu: International Centre for Integrated Mountain Development.
- Salick, J., F. Zhendong, and A. Byg. 2009. Eastern Himalayan alpine plant ecology, Tibetan ethnobotany, and climate change. *Global Environmental Change* 19: 147–155. <https://doi.org/10.1016/j.gloenvcha.2009.01.008>.
- Sherpa, P.Y. 2014. Climate change, perceptions, and social heterogeneity in Pharak, Mount Everest region of Nepal. *Human Organization* 73 (2): 154–161. <https://doi.org/10.17730/humo.73.2.94q43152111733t6>.
- Shrestha, A.B., and R. Aryal. 2011. Climate change in Nepal and its impact on Himalayan glacier. *Regional Environmental Change* 11 (1): 65–77. <https://doi.org/10.1007/s10113-010-0174-9>.
- Shrestha, U.B., S. Gautam, and K.S. Buwa. 2012. Widespread climate change in the Himalayas and associated changes in local ecosystems. *PLoS One* 7 (5): e36741. <https://doi.org/10.1371/journal.pone.0036741>.
- Spoon, J. 2011. The heterogeneity of Khumbu Sherpa ecological knowledge and understanding in Sagarmatha (Mount Everest) national park and buffer zone, Nepal. *Human Ecology* 39 (5): 657–672. <https://doi.org/10.1007/s10745-011-9424-9>.
- Strauss, S., and B. Orlove, eds. 2003. *Weather, climate and culture*. Oxford: Berg.
- Thakuri, S., R. Chauhan, and P. Baskota. 2020. Glacier hazards and avalanches in high mountains of Nepal Himalaya. *Journal of Tourism and Himalaya Adventures* 2: 87–104.
- van Spengen, W. 2010. *Tibetan broader worlds: A geo-historical analysis of trade and traders*. London and New York: Routledge.
- Vedwan, N. 2006. Culture, climate and the environment: Local knowledge and perception of climate change among apple growers in northwestern India. *Journal of Ecological Anthropology* 10: 4–18 <https://scholarcommons.usf.edu/jea/vol10/iss1/1>.
- Vetaas, O.R. 2007. Global changes and its effect on glaciers and cultural landscapes: Historical and future considerations. In *Local effects of global changes in the Himalayas: Manang, Nepal*, ed. R.P. Chaudhary, T.H. Asse, O.R. Vetaas, and B.P. Subedi, 23–39. Kathmandu: Tribhuvan University & Norway: Bergen University.
- von Fürer-Haimendorf, C. 1980. *A Himalayan tribe: From cattle to cash*. Berkeley: University of California Press.

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