



HimKatha

Celebrating human-nature relationships

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Illustration by Nawang Tankhe



Illustration by Peeyush Sekhsaria

Editorial

The high Himalayas represent a unique region that plays a critical role in deciding the weather of the Indian subcontinent. Weather in the Himalaya has played an important role in shaping life and survival in the mountains – including its unique flora and fauna. In this autumn edition of Himkatha, we take a look at plants and plant life of this region.

High mountain ecosystems impose strong environmental constraints on plants since they can grow only in a short span of 3-4 months each year. Early plant growth depends on snowmelt in spring. As a result of the short growing season, and cold and arid climatic conditions, one doesn't find tall plants like trees except near watercourses and of course where water is provided through irrigation.

To cope with these climatic constraints, most plants have developed adaptations that allow them to persist in these environments. We discuss some of these adaptations in our scientific feature article of this edition contributed from Nubra in Ladakh. Local plants have played an important role in

curing illnesses using the Sowa-Rigpa tradition of medicine, which relies on indigenous knowledge of the medicinal values of local plants. In an interview with 71-year-old Amchi Chhering Tashi of Hansa village in Spiti, we learn about the origin of this tradition and how it is being practiced.

Local flora has also played an important role in shaping culture and traditions. A set of articles on people and plants on juniper (shukpa), wild rose (siyah mentok), daffodils (narkasang), and sea buckthorn (tirhuk, lehtar or tsestalulu) bring you perspectives from Ladakh, Spiti, and Kinnaur on how locals engage with plants in their spaces. We also look at insects and the critical role they play as pollinators in our special section for children. Lastly, we look at some wild edible plants and how they've made their way into local kitchens through some regional dishes of Ladakh.

We hope you will enjoy reading about plants. We also have some exciting announcements for you, but more on that at the end of this edition. Happy reading...

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Illustrated by Nawang Tankhe(Kaza, Spiti)





The Sowa-Rigpa medical tradition

Dr. Mayank Kohli in conversation with Amchi Chhering Tashi

Sowa-Rigpa, also known as the Amchi system of medicine, is practiced in the high Himalayan region. It is also referred to as the Tibetan medicine system and is among the oldest existing knowledge systems in the world that relies on knowledge of ecology, especially plants. In an hour-long conversation with 71-year-old Amchi Chhering Tashi of Hansa village in Spiti we speak about the Sowa-Rigpa tradition. Here is a short excerpt of this interview:

Dr.Kohli: *Can you speak about the origins of the Sowa-Rigpa medical tradition?*

Amchi: Contrary to popular belief, Sowa-Rigpa is an ancient Indian knowledge system, not Tibetan. It is believed that when the Buddha gave his sermon on ending suffering at Vaishali in present day Bihar, there were many in attendance. The audience included many learned people including spiritual and

celestial beings from different realms.

Buddha delivered the discourse in Pali, but all those in attendance heard his message in their respective languages. Since everyone heard it differently, it got recorded and disseminated in different ways – as Ayurveda across the Indian subcontinent, Sowa-Rigpa across the Himalayas and Tibet, and Yunani in Central Asia.

That is how this knowledge spread across different cultures. It was later translated into Sanskrit at Nalanda. A part of this knowledge system was at risk of being lost due to the predominance of Ayurveda, but was preserved by the Tibetans.

So, while Sowa-Rigpa originated in India, it was preserved and nurtured in Tibet. Lotsawa Rinchen Zangpo – the Great Translator of Buddhism – translated these works to the local Bhoti dialect in his sixth

incarnation.

Dr. Kohli: *Since when has this system been practiced in your family?*

Amchi: Every village in Spiti – from Losar to Lari – has at least one family that practices this system. Villagers help with the collection of medicinal plants and in preparing medicines. Historically, each village had an Amchi because connectivity between villages was poor and this was an essential service that all villagers needed. No fees are charged by the Amchi; it is offered as a public service to anyone seeking medical attention. About our family, my father was a very learned man. He knew exactly what treatment is described on which page in the handbook (pointing to the old medical scriptures placed before him). I never met my grandfather, but he might have passed on this knowledge to my father. While I don't know how and when my forefathers began practicing, I have with me several old scribbled notes that belonged to them. My grandfather, in the 1930s, also received a letter from the then Governor of Punjab which I preserve to this day. Our family has been in this practice for at least a few hundred years.

Dr.Kohli: *How did you get inducted into becoming an Amchi?*

Amchi: My father started training me since I was in sixth grade. I had to attend school, manage a lot of the house work and focus on this too. I was the only male child and my sisters were already married by then. I had little interest in learning about plants and reading the handbook. But my father was very persistent. He taught me patiently.

Maybe that is how I learnt whatever little I did. Had I taken interest from the beginning, I might have become a better Amchi.

One can learn everything about the practice in six years. But my father taught me daily and he inculcated in me a habit of reading these scriptures every day, even if it is only for just five minutes. These scriptures that I possess, are nearly 600-years old. Reading them daily has been very helpful.

Dr.Kohli: *What is the process of diagnosis and prescribing medication?*

Amchi: There are four fundamental books that form the basis of this practice, which need to be learnt by heart by any Amchi. Further there are four books explaining these fundamental principles in detail. Lastly, there are these scriptures (pointing to the old medical scripts placed before him) which are like a handbook. They explain the symptoms of every illness and contain details of its treatment and medication.



Illustration by Nawang Tankhe



Amchi Chhering Tashi from Hansa village in Spiti
Photo by Tanzin Thinley

We match the symptoms of every patient with the explanations in this handbook and follow its recommendation for prescribing treatment.

When a patient approaches me, I first check their pulse and sometimes their urine. I then match the description of the symptoms with those in the handbook. The handbook gives details of all the local plants and their medicinal values. It also suggests the proportion in which they should be mixed for a particular treatment. I always make all the medicines and test them on myself before I distribute them. Any illness has two causes: first from accumulation of bad karma earned in one's past lives, and second from an imbalance in what we consume (food, water, air etc.) from our general surroundings. An Amchi can cure illnesses caused by the latter; the former cannot be cured by medicine. While modern medicine addresses the symptoms of an illness, Sowa-Rigpa tries to address the root cause of it.

Dr. Kohli: How and when are plants collected?

Amchi: There is no fixed time for collection. We use different parts of a plant for

treatment, and hence collection happens across seasons. We use the flowers of some plants, while we need seeds of some and roots of others. Generally, roots of a plant grow deep into the soil before autumn and that is when we collect roots, we will not collect them in any other season. Flowers will only be collected in spring once they have blossomed. There are clear rules on when and how different parts can be collected.

A separate book describes locations of where plants can be found. For example, *Aconitum* spp. (*Bhoan karmo*) are mostly found on north-facing slopes and that is where we scout for them. *Delphinium* spp. (*Lader mentok*) is another invaluable plant that grows commonly in our landscape. *Rhodiola* spp. (*Shrolo*) is also found on north-facing slopes – there are three varieties found in Spiti: one with white flowers, one with red flowers, and one that grows tall. These details help us in collection.

The handbook also carries details of the medicinal values of these plants. For example, *Rhodiola* spp. cure lung infections while *Aconitum* spp. cure multiple ailments: flowers improve eyesight, their roots help our bones, the branches are good for our

hands and legs while the stem of the plant is good for our skin. Meconopsis spp. (Landre mentok), Saussurea spp. (Kasturi kamal or Yuliang) and Trillium spp. (Nag chhatri) are mixed to make a very effective painkiller, even better than diclofenac sodium that is administered commonly. We are aware of all the medicinal qualities of many local plant species and we make use of them judiciously.

Dr. Kohli: *Is a change in climate patterns affecting the availability of medicinal plants?*

Amchi: There was a time when collection of wild plants for commercial use was common. We had then spoken with the local administration to limit irresponsible collection. They acted swiftly and we are glad that the situation was handled effectively. We believe that Spiti produces sufficient plants to fulfil local needs. No matter how much medicine the people of Spiti consume, this land will produce plants and they will never exhaust. However, if we start exporting plants outside Spiti for commercial use, then we invite the risk of depleting this valuable

resource. There is a finely balanced cycle of production and consumption, which we should not disturb. Variations in snowfall may marginally affect plant growth, but not so much as to disrupt this system.

Dr. Kohli: *What do you think about the sustenance of this practice in future?*

Amchi: The practice is offered as a public service by the Amchi in each village. There is no financial benefit in the practice. In fact, we often incur expenses in the collection of plants and preparation of medicines. Our homes are always open to any patient seeking medical help. Sometimes I wonder that one must be stupid to offer such a service free-of-cost at a time when everyone runs after money. But then, I also remember that when I die, I will leave everything behind: land, family, even my own body. I will only be remembered for my integrity. That is what keeps me going. However, the local administration should consider providing basic financial support to practitioners so that they continue practicing this tradition.



Dr. Mayank Kohli

This is a short excerpt and you can watch the full interview on our YouTube channel: @HimKatha.

This interview was conducted by Dr. Mayank Kohli who studies plant systems and is an INSPIRE Fellow at Tata Institute of Fundamental Research.



Scan to watch the full video



Living At the Edge: Plants of High Himalayas

Thinles Chondol

Whenever we say Himalayas, we instantly picture majestic snow-covered peaks, rugged slopes, extreme weather conditions which are characterised by strong winds and a dry landscape. An old proverb says, *'The land is so barren and passes so high that only the best of friends and fiercest of enemies would want to visit us.'*

It is hard to imagine how such an environment can harbour any plant life. However, these mountains support a stunning array of plants adapted to survive at high altitudes and in harsh climates.

These landscapes are marked by vast temperature differences, strong winds, high ultraviolet rays, a short-growing season, and rugged terrain of the high Himalayas.

One such high Himalayan region is Ladakh, situated in the western Himalayas, and is the crown of the Indian sub-continent. Relatively untouched and unexplored, Ladakh is a paradise for botanical exploration. Numerous researchers have attempted to study and record the diversity of plant species of this region. A staggering 1,250 varieties of vascular plants have been identified so far.

Plants grow in a variety of habitats in the high Himalayas: arid steppe, severely dry semi-desert and desert, alpine grasslands and screes, riverbanks, and subnival, and wetlands. See Figure 1

Steppe and desert plants face frequent heat and drought stress due to low precipitation and dry conditions. Studies show that such plants have adapted to this stress by behaving like a drought escaper. They grow near streams where water is sufficient or develop drought enduring characteristics such as growing long and deep roots to absorb water.

Plants of the alpine and subnival zones face extreme cold stress which limits their ability to grow, restricting their growing period to a short span (usually 3-4 months).

Plants in these zones adapt, remaining dwarfed or growing in cushion or mat-form. They grow close to the surface of the ground, where the temperature is relatively warmer.



Just as we humans have a circulation system that delivers oxygen to our cells and takes away waste, several plants have a highly developed built-in transport system for nutrients and water. Such plants are called vascular plants. Vascular plants in the high Himalayas have evolved specialised mechanisms that let them survive in extreme weather conditions.



Aconitum lycopodioides



Flowers in subnival habitat



Photo by Thirles Chondol

Ephedra intermedia

- *Steppes are characterised by hot and arid conditions. Plants growing in steppes are adapted to survive frequent droughts.*
- *Alpine habitats are characterised by colder and moist conditions, comprising of grasslands and scree.*
- *Subnival habitats occur just below the permanent snowline, and they are characterised by extreme cold and moist conditions. Temperature in such habitats may drop to sub-zero even during the summer months.*
- *Semi-desert and desert are severely hot and dry habitats that comprise of sparse vegetation.*
- *Riverbanks are patches adjoining streams and rivers composed of silts and sand that are held together by the plant growth.*
- *Wetlands are characterised by the presence of excess water resulting from snowfall, melted glaciers or natural springs and lakes, that support plant growth.*



Figure 1

Plants in high Himalayas are highly specialized and have remarkable adaptations to endure extreme conditions. They tend to have a massive belowground root system that stores the photosynthetic product (carbohydrates) for the prolonged winter months when they are devoid of the photosynthetic organs (leaves).

Most of the plants in highest elevations do not grow high, as the temperature near the ground is warmer, and protect them from strong winds. Some also have a hairy-body (with trichomes), which protects them from the strong UV radiation, and act as extreme heat protectant.

Plants have a very small part of their structure – the stems, leaves, and flowers – exposed above ground. The relatively larger structures – mainly roots and root hairs grow below the ground.

Some plants have rhizomes: a rootlike, thick and usually horizontal underground that produces shoots above and roots below. The deep root system protects them from wind stress by providing anchorage, food storage, and water absorption.

These plants have a specialised architecture with a well-developed belowground system, where they store carbohydrates that help them survive long winters until the next growing season. The small aboveground shoot system helps them tolerate extreme cold. They even develop unique freeze tolerance by moving the water in their cells to the intercellular spaces.

These plants tend to replace their organs in extreme conditions and keep their meristematic tissue, which is responsible for plant growth, near the soil surface so that growth can begin when the conditions become favourable again. This is because growing season at these high elevations usually span for only a few months, in which these plants must complete various annual processes such as growth, flowering, reproduction, and so on.

Due to the short growth season, they have slow metabolism, hence most plants here live for more than 2 years. They are very resource efficient and invest less energy in reproductive growth but more in vegetative growth. Many of these plants reproduce clonally, rather than investing in flowering and seed production.

Moreover, there are various other characteristics particular to the alpine plants that help them survive in harsh climatic conditions.

These include variable photosynthesis rate, which is usually lowest in the early growing season and highest in the mid growing season. Plants in alpine zones also are hairy, usually with flowers surrounded with bracts.

These hairs appear silver-grey or white appearance on the plant (*Saussurea gnaphalodes* - Common name: *Cudweed Saw-Wort*; Local name: *Yuliang* as shown in Box 4), that helps in reflecting the solar radiation, thus reducing the impact of hard sun rays and thermal security.

The Himalayan ecosystem is dynamic and the impact of climatic fluctuations due to global and local change is visible. These are being seen in terms of rising unpredictability in summer and winter precipitation, as well as changing minimum and maximum temperatures. Changes in the natural system impacts plants as their habitats shift or shrink. The growth rate of alpine plants is also impacted by climate fluctuations, which is seen in the form of annual secondary growth rings in their root collar, like we see rings in the woody species.



Some examples of typical plants from different habitats of Ladakh:

- **Saussurea gnaphalodes** (Common name: Cudweed Saw-Wort; Local Ladakhi name: Yuliang) have hair-like structures on its leaves and flowers, which is an adaptation to prevent from high solar radiations (Ultraviolet rays)
- **Sibbaldia tetrandra** grows like a mat on the ground as an adaptation to endure cold temperatures in high elevations
- **Saxifraga nanella** is a tiny plant, growing about a centimetre above ground. This is an adaptation of this plant for cold stress and wind abrasion.
- **Aster flaccidus** (common name: Wild Aster; Local Ladakhi name: Nia-mentok) also grows just a few centimeters tall above the soil surface to prevent from cold. Also it has its leaves growing in a rosette form, which is another adaptation to prevent from cold stress.
- **Thylacospermum caespitosum** (Common name: Golden Alpine Sandwort; Local Ladakhi name: Tagaracan) grow as cushion plants, growing only at the highest elevations in subnival vegetation zone. They grow very tightly packed with each other, very close to the surface or sometimes even on boulders. This type of adaptation is to endure extreme cold conditions.
- **Potentilla pamerica** shows vast belowground roots compared to its aboveground growth.



Annual secondary growth rings in roots help study growth and determine the age of herbaceous plants.

In years with unfavourable conditions this growth is affected leading to narrow rings, while in a growing season with favourable conditions rings growth is wider. This field of study is called herbchronology.



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High Himalayan plants stand as awe-inspiring testaments to the resilience and adaptability of life in some of the most extreme environments on Earth. These unique floras have evolved over millennia to thrive in harsh alpine conditions, conquering freezing temperatures, thin air, and intense sunlight.



**Thinles
Chondol**

Thinles Chondol hails from the Nubra region of Ladakh and is a PhD researcher at the Institute of Botany, Czech Academy of Sciences and University of South Bohemia, Czechia, specializing in alpine plants functional ecology. She holds a Master's degree in Environmental Studies and Resource Management. She has previously worked at the National Institute of Disaster Management (Ministry of Home Affairs), and the Wildlife department, Leh. Thinles enjoys nature, hiking, and drawing.

You can find her on Instagram [@thinles_chondol](https://www.instagram.com/thinles_chondol)



Juniper – The sacred conifer

Dr. Konchok Dorjey

Shukpa or Juniper (*Juniperus* spp.) is a distinct evergreen tree, sometimes a shrubby tree, that belongs to the conifer group of gymnosperms. Known to grow at the highest elevations on earth, juniper is well distributed all over the Northern Hemisphere from Arctic to the tropics, and most abundantly in the temperate regions of Europe, North America and Himalayan ranges in Asia.

Ecologically, juniper is an important species in the fragile cold desert ecosystem. It survives freezing temperatures and grows luxuriantly in the cold arid climate, on rugged high-altitude slopes of Ladakh. Juniper plays a significant role in supporting different life-forms of the cold desert ecosystem including crawling insects, chirping birds and busy

rodents. Juniper berries and leaves are food for many. It acts as soil binding agent preventing soil erosion. The blooming juniper growing along jagged terrain of the Himalaya gives an enchanting green hue to the stark cold desert landscape, otherwise barren and snow covered for most part of the year.

Ladakh is one of the few places in India to find junipers. All three species are locally known as *Shukpa* among the Buddhist communities and *Chilgi* among the Brokpa tribes of Ladakh. Of the three flourishing junipers, the Himalayan Pencil Cedar has immense socio-cultural and religious significance for the people of Ladakh and is considered a sacred tree among the Buddhists.

The rich culture, tradition and festivals, especially Losar – traditional New Year in Ladakh witnesses use of the fragrant juniper. Some important uses of juniper, particularly the Himalayan Pencil Cedar in Ladakh include:

Juniper is considered sacred:

In Ladakh, juniper trees are common around monasteries and other sacred places. Their occurrence on the premises of places of worship has ascribed a most incredible belief among Ladakh's people that divine spirits – Lha reside amidst the fragrant juniper

These trees are, therefore, regarded as Lha-shing – trees of the divine, thereby forbidding any damage being caused to them. One can commonly find a cluster of Shukpa growing in sacred groves.

Juniper for decorating Lha-thos:

People of Ladakh and Tibet used green twigs of junipers to decorate *Lha-thos*, a typical structure comprising of a bunch of juniper twigs – *Lha-shuk* fixed in between the rock edges or in a small square wall made of clay, bricks or/and stone, at the elevated top of a hill or roof.

How can we conserve our junipers?

Design and enforce strict communal laws to monitor and prevent irresponsible collection and sale of juniper twigs, especially during Losar. Organise workshops, conferences and campaigns in both rural and urban areas to educate and create awareness among people.

Increase research to improve our understanding of seed germination and juniper propagation techniques. Develop and implement an effective management plan backed with adequate support for propagation of juniper trees.

*As individuals we must,
Limit merciless cutting and selling of juniper twigs and encourage others for the same
Remain careful when our livestock grazes in juniper forest and surrounding areas
Educate and aware our friends, relatives, neighbours and villagers about the importance of juniper in our religion, culture and its role in fragile ecology
Discuss the values of juniper in Ladakhi society among the youth, especially in schools*

The term *Lha-thos* is derived from the words *Lha* that stands for a divine spirit or deity and *thos* meaning a square wall. As per Buddhist mythology, people consider *Lha-thos* to be a shrine of divine beings that reside there and protect people from evil spirits and undesired incidents.

Lha-thos are decorated annually during *Losar* that usually falls in the month of December. During this event, it is customary to replace old juniper twigs at *Lha-thos* with fresh bunches. The *Lha-thos* and *Lha-shings* are subsequently worshiped by offering phoks – juniper incense and kalcholr – a sacred barley drink and the illumination of earthen lamps containing apricot oil.

People are prohibited from any sort of unhygienic or unlawful activity around these structures. It is commonly believed that *Lha-thos* and its surrounding areas must be kept clean, as infuriating a *Lha* could bring bad luck on the polluter.

In the event of a defilement, local people rush to call the local priests – Lamas, who then perform exceptional prayers known as *Lhabsangs* to purify the guilty from their sins and to sanitize the area.

Juniper as incense:

Owing to the pleasant aroma of juniper twigs, they are commonly used as an incense. Raw coal or dried dung cakes are placed in an earthen bowl locally called as *phokspor* specially designed for this purpose. Dried, crushed leaves and twigs of *shukpa* are put over the burning coal which produces a distinct smell.

It is now known that this aromatic fragrance is due to presence of essential oils, terpenoids, diterpenoids and some phenolic compounds. People mix *shukpa* with several other plant products such as *khampa* (*Tanacetum* sp.), *palu* (*Waldheimia glabra*) and *siyah mentok* (flowers of *Rosa foetida* and *R. webbiana*) to use as an incense.

Juniper in Buddhist Monasteries:

The sun dried and finely powdered twigs and leaves of juniper along with other material including some precious stones locally known as yuh, churu and motig are used to fill the inner hollow space of Buddhist statues or idols made from special local clay called markalaga. This amalgam is known as zungs.

Juniper as timber:

Juniper wood is carved out for making Lak-shing, a wooden plate for covering Buddhist manuscripts. The Lak-shing is usually rectangular with an average length of 30-60 and 12-20 cm width. These are varnished or painted and/or decorated with some sacred paintings.

Since juniper wood is believed to be strong, durable and highly resistant, large wooden logs of *shukpa* were historically used in erecting pillars, making door and window frames in monasteries.



Illustration by Nawang Tankhe

Juniper in Ladakhi folk songs:

The cultural heritage and sacredness of juniper is depicted in several Ladakhi folk songs that describe its values. For instance, a stanza from a popular folk song goes:

*Ka langtakh yahgi ni tсамsteh ruhh
Pa lalu rulugsteh ruh chehnn
Ka langtakh yahgi ni tсамsteh ruhh
Yah lalu rulugsteh ruh chehnn
Pa lalu Yalu tahng majalahh
La lashing shkpa tangh jaal
La lashing shukpa weh tuludpa woh
Stang chhogi Layul lang jung
La lashing shukpa weh tuludpa woh
Yog djugs ki luyul lang jung
La lashing shukpa weh tuludpa woh
Par choggs ki charms yul lanh jung*



Translated in English as:

*Along the foothills of huge mountains
Went in search of Palu (aromatic plant)
Along the foothills of huge mountains
Went in search of Yalu (a plant)
Palu and Yalu could not be found
The tree of Juniper appeared
The fragrant smoke of trees,
Juniper Spread to the upper world (heaven) of
God
The fragrant smoke of trees,
Juniper Spread to the god of under-earth
The fragrant smoke of trees,
Juniper Spread to the middle world (earth)*



Sacred juniper grove at Hemis shukpachan | Photo by Konchok Dorjay

Juniper in making of household articles:

Twigs of juniper are used for making nose-rings locally called sNachu for yaks. Similarly, its wood is carved out to make a multi-purpose container, locally called zem used for storing barley wine, curd and wheat flour.

Medicinal use of juniper:

Local healers use juniper in the traditional Amchi system of medicine. The whole plant is used in treatment of nervous disorders, heart related diseases and kidney disorders. The plant is also used as an antibiotic for animals and for repelling flies.



Threats and conservation status

It is unfortunate that despite its significance the sacred juniper is under threat. Multiple uses of juniper have led to a continuous demand in cultural, traditional and religious rituals. The Himalayan Pencil Cedar is placed under the Least Concerned (LC) category for conservation but was reported as declining in its natural habitat with severely fragmented populations in 2011. One of the most potent threats is, perhaps, the use of juniper leaves and twigs in religious and cultural rituals. The extensive use of juniper as an aromatic incense is common with collection peaking on the eve of Losar for decoration of Lhatos. Other biotic pressures include damage to young seedlings from livestock grazing, especially during winter when plants enter senescence. This pressure is compounded by the fact that juniper shows very poor regeneration, extremely low seed viability and long seed dormancy. These factors are barriers in its propagation and growth. here is scope for better planning and

management if we wish to improve the status of juniper population in Ladakh. While everyone expresses concern over the conservation, propagation and management of juniper, there is little action backing this concern. Irresponsible collection of wild junipers is rampant as *Losar* approaches each year. There is hardly any effort to monitor collection or any legal action taken against those in violation of wildlife protection laws. A combination of anthropogenic pressures, abiotic factors arising from changing climate, and the local socio-cultural significance of juniper, makes it necessary to prioritise the conservation of juniper patches across Ladakh. Junipers share a deep link with Ladakh's indigenous culture, religion and ecology. There is an urgent need to better understand the status of local populations of juniper, degree of anthropogenic pressure, and future prospects and propagation techniques if we are to protect this cultural keystone.



Dr. Konchok Dorje is a botanist, a mycologist and a teacher, presently working as Assistant Professor of Botany at Eliezer Jordan Memorial College Leh, University of Ladakh. He has over 13 research papers and 7 articles to his credit. He is co-author of *Plants of Ladakh: A Photographic Guide* which was published in 2021.

Dr. Konchok
Dorje



Photo by Chemi Lhamo

The beautiful Siyah mentok

Chemi Lhamo

What is home, what is belongingness? For me, it is the uninhabiting mountains, the barren landscape, the deep gorges, and the high peaks of my homeland Spiti Valley in Himachal Pradesh. Also, it is the vast grazing ground, the piercing cold thin air, the green summer meadows, the ripe barley field, the meandering water canal and the delicate pink bloom of Siyah mentok.

While growing up, I used to visit my grandmother and stay with her for months. She lived in a small hamlet in Spiti called Gowang which was home to just 5

households and had less than forty residents. My grandmother spent most of her day working in the barley field. Later in the evenings, before darkness of the night seeped in, we would both go out into the pastures to gather wild firewood. During one such visit to the pastures, right at the foothills of giant snow-capped mountains, I first witnessed the beauty of vibrant wildflowers and wild shrubs in an otherwise dry cold desert.

Spiti is a high-elevated region with an extremely arid landscape; characterized by

equally sparse vegetation mainly comprising annual perennial herbs, shrubs, and very few varieties of trees (willow, poplars).

Despite harsh ecological conditions, the landscape nurtures an incredible diversity of plant species – each unique and resilient in their own way. Pastures and hills are full of wildflowers and have rich repositories of aromatic, medicinal, and edible plants. There is the sour-tasting tirkuk (sea buckthorn) and lichu, the deep ruddy khamet (Ratan jot, Lal jari), the hardy thama (caragana), the healing chukku-gongma (rheum), the delicious kotsey, gyaman (wild herbs, seasonings) and the auspicious shukpa (juniper).

My grandmother would patiently show me how to pluck wild thorns, wild shrubs for firewood without pricking myself. I learnt how to gather tserma (dry caragana) and bursey (white dry woodchips) by observing her. At home, she would skilfully light a fire in our traditional heater (chak-thap) using dry twigs and cow dung and tenderly kindle the firewood to get a good hold before placing more wood logs on top of it. Having lived in a remote mountain village and spent so much time with my grandmother, I learnt to appreciate the wild plants around my home.

Siyah mentok truly deepens my connection to my homeland. Siyah (Rosa Webbiana/Webb's Rose) is a beautiful variety of wild roses that grows in many Himalayan regions in extremely dry and harsh conditions. It is pink in colour with a mild sweet scent and tender petals that fall in your hands when you touch it. What I like about Siyah is that it is an extremely resilient plant that grows in the harshest conditions and can thrive without water for a long time.



My grandmother's illustration made by a close friend Apurva Pandhi

Siyah typically starts blooming in late spring or early summer, flowering for a short period of time. But during its brief blooming period, it illuminates the entire surrounding with its striking colour and radiant beauty. It is commonly found at lower elevations of Spiti and all the way up to above 4000m. It can be seen growing on the riverside, rocky slopes, mountainside, in the garden, and in the fields.

The blooming of Siyah is seen as the arrival of summer in Spiti. It is the epitome of beauty and serenity. It is particularly dear to me as under the bushy, dense canopy of this wild rose plant, my grandmother used to rest and

take naps during hot summer days of the peak agricultural season.

It is the same flower that she alludes to while describing the beauty of Tibetan queens in ancient folk stories and it is the sweetness of Siyah mentok and Serchen mentok (Himalayan golden flower) that she refers to while telling me about sweet melodies sung by nomads herding in the high mountains. It is difficult not to think about my childhood and my grandmother when I think about Siyah.

In many Himalayan communities, Siyah is highly valued for its ornamental qualities and it also features in old traditional songs, stories, proverbs, wise sayings, and other forms of oral cultural expressions. It is often associated with themes of love, romance, and beauty and is also referred to as a symbol of sacred devotion.

I remember my grandmother telling me that during her early years in Spiti, if a man likens a woman's beauty to Siyah mentok or Serchen mentok through songs, it is considered a subtle declaration of love and the girl is to immediately discuss the matter with her family!

The usage of Siyah in daily household has become quite popular especially, Siyah-cha (Siyah-tea) in higher, more remote villages like Hull, Hansa, Kibber, Demul and Lalung. It is used ubiquitously by Spitian Amchis (traditional doctors) for its antibacterial, anti-inflammatory, and antiseptic properties. Medicinal plants are used by traditional doctors and healers for ages, particularly for curing skin ailments like boils, blisters, itching, and skin eruptions. For me, Siyah mentok is a symbol of beauty and resilience, reminding me that even in the harshest conditions, beauty and life can flourish.



Chemi
Lhamo

Chemi Lhamo hails from Kaza in Spiti and holds a postgraduate with a degree in English Literature from University of Delhi. She likes to explore wildlife conservation through the lens of social justice and intersectionality. She has played a vital role in setting up Himkatha and is on its editorial team.



Narkasang: Kinnaur's sacred blooms

Mahesh Negi

Kinnaur, a district in Himachal Pradesh, is a paradise characterized by its lofty mountains and lush valleys where flowers of all kind bloom. It's unique climate, with moderate summers and cold winters, creates an ideal habitat for a plethora of floral wonders. Spring is marked by captivating blooms that grace its landscapes, flowers that are a part of local culture and ecosystem.

Narkasang (*Narcissus tazetta* or daffodils), a sacred flower, holds a special place in my heart. During my early years, I vividly remember the first time I saw the Narkasang flower in our Chokesten, our place of worship. I found it to be very beautiful and I asked my grandmother from where she got them.

She showed me the wild flowers growing on our farm, saying that they grew on their own. She used to collect these flowers from the wild and keep them in the Chokesten. In Kinnaur, where people follow a mix of Buddhism and Shu culture, Narkasang flowers are offered to the local deity during festive celebrations.

Narkasang has always caught my attention because of its aesthetic appeal, with its simple colour combination of white and yellow. During festivals we often found them in the hands of the Kinnaura people. They also wore them on their traditional Kinnauri caps during festive celebrations, which clearly showed the significance of Narkasang for the community.

For years, Narkasang flowers have been an integral part of Kinnaura culture. Its medicinal properties, where the roots are crushed and used as an antiseptic lotion, have always fascinated me. Applying the extracted paste on boils or pimples on the body helps in their recovery. The discovery of this medicinal use might be lost in history, but this knowledge has been actively passed down through generations.

With time, will our traditional knowledge fade away, presenting a challenge to keep such knowledge alive? Narkasang flowers are hardly seen growing on their own in the wild nowadays. Documentation and conservation of such knowledge is crucial in Kinnaur. We are working with schools to run programs that provide basic information to students about the importance of nature conservation.

Narkasang not only holds its value as a flower or medicine but is also mentioned in local songs.

♪ ***Seela Chu Nathpa nagas santango.***

In a Nag temple of Nathpa village which is an extremely cold place

♪ ***Kinnauri-Nagasu santangcho thang kochang khyama.***

If we look behind the temple

♪ ***Thang kochang khyalima oo bagicho kumo'***

Behind the temple, there is a garden full of flowers

♪ ***oo bagicho kulimo nish dalang Fula.***

In that garden full of flowers, there are two branches of flowers

♪ ***Nish dalang Fulula narkasang Fula.***


And the two branches of flowers are that of Narkasang flowers



**Mahesh
Negi**

Mahesh Negi, belongs to Kinnaur's Kannaura tribe. He is a farmer and an Earth Educator. He advocates sustainability through the platform called Aum in Kinnaur, and runs Kyang, a community place where that raises awareness of social and climatic issues.

You can follow his work on Instagram [@aum_kinnaur](https://www.instagram.com/aum_kinnaur) and [@kyang.himalaya](https://www.instagram.com/kyang.himalaya)



Unveiling an enigmatic jewel: Sea Buckthorn – a tale of wellness and wonder

Sheetansh Sayal

Nestled high amidst the majestic peaks of the Himalayas lies a hidden treasure, a rare and mystical berry known as sea buckthorn. Revered for its extraordinary nutritional profile and therapeutic properties, this vibrant orange jewel has captivated the hearts and taste buds of travellers and locals alike. Join me on a journey of discovery as we delve into the intriguing world of sea buckthorn, unearthing its rich history, cultural significance, and the myriad ways in which it contributes to sustainable living and a holistic lifestyle.

I came across the sea buckthorn berry around three years ago, when my friend and I were searching for a picnic spot in the hidden valleys of Spiti, Himachal Pradesh. We had heard about a beautiful flowing freshwater stream where we could bathe and cook food on woodfire. Our plan was to find this spot.

My friend, Yangzom, and I ended up hiking for about 1.5-2 hours and on the way stumbled across thorny shrubs that kept pricking our legs and lower body. We got extremely annoyed and cursed the shrubs

since they were growing along the entire stretch. When we looked closely, we saw that they had small orange-yellow berries. At first, we were hesitant to try them, but when we did, they tasted tangy (a citrusy burst of flavour). We plucked many for our way back home. It was very difficult to even try plucking them due to the thorny branches.

We managed to bring some back and when we inquired about them with a local, we learnt that these were sea buckthorn berries and they had superfood properties. This was the same berry being sold at the Himalayan cafes and homestays in the form of teas, juices and jams.

The human consumption of sea buckthorn (*Hippophae rhamnoides*) dates back thousands of years. Revered in traditional Tibetan and ayurvedic medicine, it has been treasured for its remarkable healing properties.

Growing abundantly in the Himalayan region, sea buckthorn is an integral part of the local culture, where it is known by various names such as tirkuk and lehtar. The berry is known to be a nutritional powerhouse. They are a potent source of vitamins, including vitamin C, E, and beta-carotene, which support a robust immune system and promote healthy skin. Rich in essential fatty acids, such as omega-3, -6, -7, and -9, sea buckthorn nourishes the body from within, benefiting cardiovascular health and aiding in the management of cholesterol levels.

In traditional medicine, sea buckthorn has been revered as a natural remedy for various ailments. Its oil, extracted from the berries, is highly sought-after for its potent antioxidant and anti-inflammatory properties.



Sea buckthorn berries | Artwork by Sheetansh Sayal.

This golden elixir is used topically to heal wounds, soothe sunburns, and combat the signs of aging. When ingested, sea buckthorn oil aids in digestion, reduces inflammation, and promotes healthy liver function.

Beyond its remarkable health benefits, sea buckthorn plays a crucial role in sustainable travel and environmental conservation. This hardy shrub thrives in high altitudes, growing in the harsh and barren landscape, and helping to prevent soil erosion. Its roots anchor the soil, while its branches create natural windbreaks, protecting delicate ecosystems. Harvesting sea buckthorn berries provides a supplementary income to local communities, encouraging the preservation of traditional Himalayan farming practices.



The tangy and slightly astringent flavour of sea buckthorn has found its way into the culinary world, captivating chefs and food enthusiasts alike. The berries are used to create delightful jams, syrups, and sauces, lending a burst of vibrant colour and a refreshing acidity to dishes. Sea buckthorn tea is cherished for its invigorating taste, while innovative mixologists are crafting enticing cocktails featuring this Himalayan gem.



Immerse yourself in the awe-inspiring beauty of the Himalayas as you embark on a journey to discover sea buckthorn in its natural habitat. Trek through breath-taking landscapes, where the shimmering orange berries cling to branches, contrasting against the snowy peaks. Engage with local communities and witness their time-honoured techniques of harvesting and processing sea buckthorn, gaining a deeper

appreciation for their sustainable way of life. You don't have to travel to the Himalayas to incorporate the benefits of sea buckthorn into your everyday life. Seek out products infused with sea buckthorn oil, such as skincare items and supplements, to harness its rejuvenating and immune-boosting properties. Experiment with sea buckthorn-infused recipes and drinks to add a nutritious twist to your culinary repertoire

The enigmatic sea buckthorn, with its vibrant colour, remarkable health benefits, and deep cultural roots, is a true embodiment of sustainable travel and holistic lifestyle. Its presence in the Himalayas enriches the local communities and provides an opportunity for travellers to experience the wonders of this ancient berry. Let the allure of sea buckthorn ignite your curiosity and inspire you to explore the world, one sustainable and wellness-infused adventure at a time.



Sheetansh Sayal

Sheetansh Sayal is a Himachali who enjoys capturing cultural traditions and stories. He is enthusiastic about working in the development and cultural sectors and is currently pursuing a Masters of Design at NIFT Delhi. He has been involved in several community development projects in Spiti valley for many years. He loves how warm and welcoming the cold desert is, which brings him back to Spiti regularly.

You can follow his exploits on Instagram [@allwaswell](#) and [@himalayansociety](#).

Young Explorers

Thungzey's tale



You must have heard us buzzing around agricultural fields, especially near flowers. We are thungzey, one of the most recognised insects in the Spiti Valley. Flowers are our food source and we visit a lot of them in a day to find enough food. While doing this, some pollen might stick to our bodies and thus gets transferred to other flowers. This results in pollination, which leads to the setting of the fruits like apple and apricot, and vegetables like green and black peas. Therefore, we perform one of the most critical and important ecosystem services in agriculture, that too free of cost!

We find these flowers using various clues which the flowers have. We often fly around close to the ground, searching for familiar colours and shapes of our favourite flowers. Sometimes, we also follow the flowers' smell using our noses (did you know that our noses are actually located in the antennae on our head?). As we come closer, the carbon dioxide and humidity around the flowers help us to find a place to land on the flower petals. We then simply use our proboscis (tongue-like mouth part) to lap up delicious nectar (full of carbohydrates, like sugar and barley) and pollen (rich source of protein, like meat and peas).

Sometimes, we also pack some pollen in tiny baskets on our back legs, which we carry back to our nests for our families! So, while we get our food from these flowers, the flowers in turn avail pollination and thus bear fruits: that is a win-win situation!



But we have an interesting trick up our sleeve: since we just look and act like bees with the same appearance (colours and flying pattern), our common predators mistake us for the stinging bees and wasps and avoid attacking us.

This makes us excellent Batesian mimics in both appearance and behaviour. Alas, that is also why people keep their distance from us to avoid getting bitten or stung.

Farmers call us chhota (small) and bada (big) thungzey. But did you know that we are not one insect but a group of diverse insect species: honeybees, solitary bees, bumblebees, and even flies? I belong to a group of flies, called hoverflies. While we look like bees and wasps, we do not have any defensive weapons, like stings or skin irritants.



Keywords



However, only some of us sting and that too in self-defence, like my friends the bees and bumblebees. But if you do not trouble us, we also do not like to harm anyone. However, given our vital contribution to the agricultural process, we would urge everyone to get to know us better.

You can easily do that in your own backyard! You just have to find some fully bloomed flowers on a sunny day, near your house or the fields. You can find a spot nearby to observe us, but not so near that you disturb our activities. Try to spend a little time observing the different thungzey, which flowers are visited, etc. See if you can try to differentiate and identify the different types of insects you just read about (hint: observe how we fly, if we have tiny yellow powder baskets of pollen on our legs if we have long or short antennae, etc.)

1. Pollen: yellow, powdery substance present in flowers, which produce male gametes
2. Pollination: the process of transferring pollen grains from the male reproductive part (anther) of a flower to the female reproductive part (stigma)
3. Ecosystem services: any positive benefit provided directly or indirectly to people by wildlife or natural environments
4. Species: a group of individuals of animals or plants that can interbreed
5. Batesian mimics: these are species that look like other species who are harmful/poisonous, in order to be protected from the common predator species

You will be surprised to see how much you can learn from a short observation bout of even 15 minutes! Try and share it with your friends and family!



Gauri

Gauri is a PhD scholar at the National Centre for Biological Sciences, Bangalore and she studies plant-pollinator interactions in Himalayas, especially insect behaviour and physiology. Apart from work, she likes photography, reading and travelling.

Gauri is also on Instagram [@gharpure.gauri](https://www.instagram.com/gharpure.gauri)





Wild edible plants of Ladakh

Phuntsog Dolma

Geographically, Ladakh is in the rain shadow region of the mighty Himalayas. A high-altitude area with an extreme climatic cycle, the trans-Himalayan region of Ladakh is a unique cold desert. It is home to diverse lifeforms.

Over millennia, the region has also been home to a relatively isolated and self-reliant human society with its own distinctive culture and agro-pastoral way of living. Local people have rich knowledge of plants, especially of wild edible varieties, that have been consumed since time immemorial. These plants display unique adaptations to survive in the high elevations of Ladakh and its extreme climate. They have played a crucial role in shaping people's lives and the traditional strategies adopted by them in overcoming challenges to living in Ladakh.

The consumption of wild edible plants has immense health and economic benefits. Firstly, unlike their cultivated cousins, wild plants are natural and self-nurtured without any harmful chemical fertiliser, pesticides and weedicides. Secondly, wild plants adapted to high-altitude cold desert conditions are known to have developed diverse secondary metabolites to protect themselves from extreme conditions, insects and microorganisms. These secondary metabolites are of immense medicinal value and provide health benefits.

There is considerable variation in the way these plants are used for cooking. Skotse, rasgokpa and luksgokpa (*Allium carolinianum*, *A. przewalskinam*) and kosnyot are prominent aromatic species used as a spice condiment in different dishes.

Tender shoots of *Allium* species are collected, ground into a paste, dried and used as a flavouring agent in local dishes like tangthur, tsonkitig, bagthuk and in local pickles. Similarly, seeds of kosnyot and zera-nakpo are used as a condiment in a traditional recipe called ten-ten. Leaves of shangsho form an important constituent of tsonkitig, a local preparation made using mixed vegetable and sattu (roasted barley flour). The young leaves and tender shoots of kabra are consumed after frying them, called kabratotma in Sham region in western Ladakh. The leaves of phololing are used to prepare chutneys and occasionally mixed with curd as a flavouring component, while the leaves of shalmasgok are mixed with curd or lassi to prepare tangthur.

The tender shoots of *shrolo-marpo* and *shrolo-serpo* can be rinsed in running water and mixed with curd to prepare *shrolo-tangthur*. The green leaves of *zatsot* (stinging nettle) are collected and used to prepare *zatsot-thukpa*, while the young leaves of *khi-khol-ma* are used in *thukpa*.



Freshly harvested Gyaman - flowers of *allium* sp |
Photo by Chemi Lhamo

Nepeta, locally called *shalmasgok*
is commonly consumed | Photo by Phuntsog Dolma



In the past, the edible berries of *tsestalulu* were collected, dried and powdered. It was then mixed with *sattu* and consumed. Similarly, seeds of *sari* were dried and ground into flour. The ripe berries of *tsepad*, roots of *toma* and green shoots of *lachu* are edible and can be eaten raw.

Declining use of edible plants


Ladakh has witnessed dramatic changes over the last few decades. There was a time when Ladakhi people were heavily dependent on wild plants to fulfil their dietary requirements. People would eagerly await spring-summer seasons when the collection of wild edible plants would peak. However, this collection was always for personal consumption and never for commercial purposes. There was a common practice of children going into the mountains or the fields after school to collect wild edible plants like *kabra*, *shalmasgok*, *shrolo*, *zatsot*, *khi-khol-ma*, *kumbuk*, *shangsho* etc. Nowadays, very few people know the art of collecting these wild resources. It is an aspect of our traditional knowledge that is eroding fast and will soon be lost forever.

There are multiple reasons for this unfamiliarity, and aversion to ethnic plant-based foods. The growth of the tourism industry in Ladakh and the introduction of horticulture-based vegetables are two major factors. In the last decade, Ladakh has witnessed a dramatic rise in horticulture, forestry and agriculture with the introduction of numerous cultivated plants. In addition to this, the influx of tourists has facilitated the introduction of western cuisine, which has devalued the cultural and economic importance of wild edible plants. This has also eroded Ladakh's traditional knowledge

and use of wild plants as locals now favour western recipes over local ones. It is unfortunate that our younger generation is not troubled by this rapid loss of knowledge of edible wild plants and their ethnic preparations. Instead, most of them are eager to learn more about non-local cuisines and ingredients.

The need to preserve ethnic knowledge

There is an urgent need to preserve indigenous knowledge of wild plants and their preparation. Plant folklore, wild plant resources, and the usage of plants including cultural and religious taboos constitute an important aspect of our traditional



It is not surprising then that Ladakh is home to various traditional dishes made using wild plants. In the past, communities prepared dishes on auspicious occasions. Various different wild plants are used in these traditional preparations.

*Some of the most commonly consumed wild edible plants include *zatsot* (*Urtica hyperborea*), *kabra* (*Capparis spinosa*), *shalmasgok* (*Nepeta floccosa*), *Hans/Khi-khol-ma* (*Taraxacum officinalis*), *shangsho* (*Lepidium latifolium*), *snue* (*Chenopodium album*), *Azhangkabra* (*Christolea crassifolia*), *tsoitse* (*Allium carolinianum*), *lachu* (*Rheum spiciforme*), *shrolo-marpo* (*Rhodiola tibetica*), *shrolo-serpo* (*Rhodiola imbricate*), *kumbuk/kosnyot* (*Carum carvi*), *zera-nakpo* (*Buniumper sicum*), *phololing* (*Mentha longifolia*), *toma* (*Potentilla anserine*), *sari* (*Cicermicro phyllum*), *demok* (*Arnibiaeu chroma*), *tsepad* (*Ephedra gerardiana*), *tsestalulu* (*Hippophae rhamnoides*), *siyahmarpo* (*Rosa webbiana*), *chuli* (*Prunus armeniaca*) and *starga* (*Juglans regia*).*



knowledge. Reviving these traditions and the conventional use of plants will provide insight into Ladakh's unique folklore and heritage. Furthermore, consumption of indigenous wild edible plants is healthier than cultivated vegetables. In comparison to cultivated varieties, wild plants are more nutritious, naturally resistant to pests, and most significantly, least contaminated and thus purely organic. In contrast, cultivated vegetables tend to be contaminated with toxic chemicals from fertilizers and insecticides that are known to cause deadly diseases such as cancer.

If we are to preserve local knowledge of wild plant consumption, community members and elders in each household must encourage youth to consume such plants

and explore this knowledge system. At the same time, local households, hotels, restaurants, and retailers must also offer traditional preparations and dishes. Our local government must encourage people to explore this facet of our heritage and organise awareness programmes to conserve this knowledge. Wild edible plant consumption and preservation of this unique heritage may provide an alternative food resource for Ladakh's nutrient deficiency. Plant collection and the consumption of traditional plant-based organic foods can also generate entrepreneurial opportunities for youth, while also enhancing the income of local farmers. However, we also need to make serious efforts to conserve wild biological diversity by ensuring that collection is sustainable and managed responsibly.



Phuntsog Dolma works as Flock Supervisor in the Sheep Husbandry Department, Leh. A plant lover at heart, she is co-author of *Plants of Ladakh: A Photographic Guide to the common plants of the region* that was published in 2021. Phuntsog is also a recipient of the Mud of Boots award in 2021 by Sanctuary Asia that supports a network of on-ground conservationists across India.

Phuntsog Dolma

In Conclusion

Plants of the Himalayas are as unique as the region itself. But how are plants affected by global warming and the linked changes in climate patterns? We posed these questions to Dr. Mayank Kohli who studies plant systems. He explained that plant growth is very tightly linked to climatic conditions. As temperature, rainfall and snowfall patterns change, they jointly affect the growing conditions of the plants in complex ways. For example, increasing temperature dries out the soil which reduces plant growth, affecting some kinds of plants more than others.

Overall, we expect a decline in plant cover and production under warm conditions. However, in some years like this one, there are large rain events in summer which can increase plant growth, and the landscape can seem greener than usual. However, the timing and amount of winter snow and summer rainfall are extremely important in determining how much plants can benefit from it. These complex responses are still not understood fully. That is why we have set up enclosures across the Western Himalaya in a grand experiment to understand the effect of climate on plants under different climatic conditions.

Such experiments are also being set up in Himachal Pradesh and Ladakh. We also asked about the rise in plantation drives observed in higher altitude areas and what he felt about them.






He says that one must ask why are such plantation drives are carried out and whether they meet their envisioned outcomes. Does it make any sense to plant trees without an understanding of whether these trees can survive in the landscape?

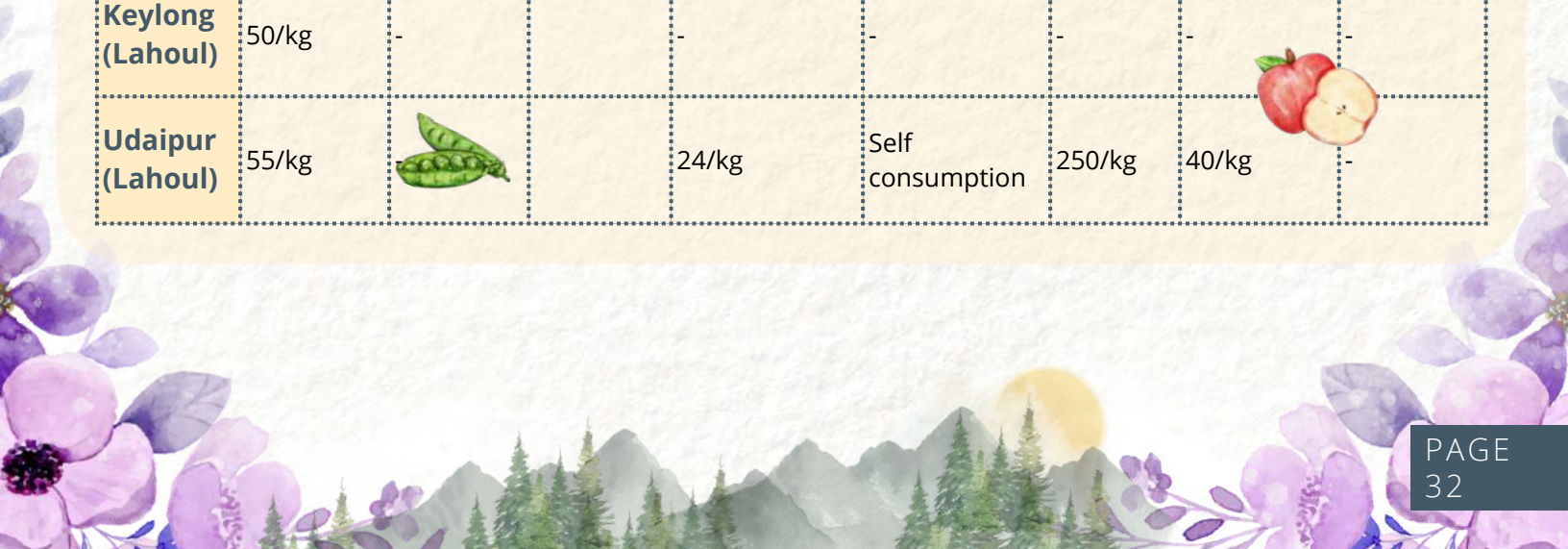
Most often tree planting is done as an exercise to meet some national or regional goals without much thought of the local ecological context: for example, there is no data to show that planting trees in high-altitude grasslands can lead to any substantial carbon benefits; in fact, on the contrary, research suggests that natural grasslands might have stronger carbon benefits because their carbon reserves are largely below ground and so, more stable. Yet tree plantation drives are done in the name of carbon offsets. When trees are planted in areas where they can't survive easily on their own, such as these cold and arid high-altitude regions they need to be watered and protected from animals, all at a substantial human and economic cost and all that for uncertain and probably largely insignificant outcomes.

We conclude this edition on that sobering note hoping that we can all continue to enjoy the diversity of plant life of the Himalayas. And yes, you can now find us on YouTube. Follow our channel @HimKatha for more local stories.

Prices of grains & vegetable in Lahoul Spiti & Kinnaur



Village	Grains & vegetables							
	Green pea	Black Pea	Apple	Potato	Barley	Broccoli	Cauliflower	Apricot
Kibber (Spiti)	75/kg	150/kg	-	Self consumption	45/kg	-	-	-
Lossar (Spiti)	62/kg	150/kg	-	Self consumption	50/kg	-	-	
Tabo (Spiti)	90/kg	-	2000/Box	-	-	-	-	-
Pin valley (Spiti)	58/kg	-	-	-	-		-	-
Nako (Kinnaur)	90/kg	-	1200/Box	40/kg	-	-	-	250/kg
Leo (Kinnaur)	85/kg	-	1200/Box	40/kg	-	-	-	230/kg
Shalkhar (Kinnaur)	65/kg	-	1200/Box	40/kg		-	-	240/kg
Keylong (Lahoul)	50/kg	-	-	-	-	-	-	-
Udaipur (Lahoul)	55/kg		-	24/kg	Self consumption	250/kg	40/kg	





Nawang Tankhe

Nawang Tankhe is an independent artist based in Kaza (Spiti) and he has studied visual art from Himachal Pradesh University. He likes oil paintings and has participated in many art fairs and exhibitions to showcase his skills. He regularly contributes to Himkatha through his artwork.

✉ nawangtankhe@gmail.com ☎ +91 9459962433/ +91 8219150327

📘 @art in Spiti 📷 @art_in_spiti

Peeyush Sekhsaria

An architect and geographer by training, Peeyush has many interests that range from wildlife conservation, environment, photography, writing to sketching.

📷 @enthunature 🌐 www.peeyushsekhsaria.com



Deepshika Sharma

Deepshika works at Nature Conservation Foundation and facilitates community-led conservation in upper Kinnaur, Lahaul, and Spiti in Himachal Pradesh and in parts of Ladakh. She has been involved in trying to improve community involvement in conservation by involving local youth. She dreams of starting her own comic strip soon.



Write to us

Would you like to share your story or feedback, suggestions or complaints, please do reach out to us on this number:

Call /WhatsApp: + 91 765 000 2777

Alternatively, you can mail to us at this address:

**Nature Conservation Foundation
1311 "Amritha", 12th A Main,
Vijayanagara, Mysore, 570017
Karnataka**



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Editorial team: Chemi Lhamo, Vindhya Jyoti and Ajay Bijoor

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