

Route Descriptions

This book contains 30 route descriptions ranging from four-day introductory treks to demanding traverses up to 11 days, plus suggestions for other treks, side trips and alternative routes. Each trek description has a brief introduction outlining the natural and cultural features you may encounter, plus information to help you plan your trek – transport options, level of difficulty, time frame and any permits required.

The treks include information on campsites and lodges and places where you can obtain water and supplies.

TIMES & DISTANCES

These are provided only as a guide. Times are based on actual walking time and do not include stops for snacks, taking photographs, rests or side trips. Be sure to factor these in when planning your trek.

In most cases, the daily stages are flexible and can be varied. It is important to recognise that short stages are sometimes recommended in order to acclimatise in mountain areas or because there are interesting features to explore en route.

Distances are provided but should be read in conjunction with altitudes. Anticipate covering up to 5 or 6km on a good undulating trail, around 4km on an average trail down, to 2 to 3km on a high pass crossing.

Significant elevation changes can make a greater difference to your walking time than lateral distance. On average a trekker will ascend around 300m per hour, less at altitudes over 4000m.

LEVEL OF DIFFICULTY

Grading systems are always arbitrary. However, having an indication of the grade may help you choose between treks. Our authors use the following grading guidelines:

Easy – a trek on flat terrain or with minor elevation changes usually over short distances on well-travelled routes with no navigational difficulties.

Moderate – a trek with challenging terrain, often involving longer distances and steep climbs.

Demanding – a trek with long daily distances and difficult terrain with significant elevation changes; may involve challenging route-finding and high-altitude or glacier travel.

TRUE LEFT & TRUE RIGHT

The terms ‘true left’ and ‘true right’, used to describe the bank of a stream or river, sometimes throw readers. The ‘true left bank’ simply means the left bank, as you look downstream.

Planning

The Indian Himalaya offers superb trekking possibilities. It is undoubtedly one of the most spectacular and impressive mountain ranges in the world. Compared to Nepal, the region hosts a small number of trekkers each year, but there is a steady, growing interest. In fact, they're finding a choice of treks that are as demanding and rewarding as those in the Everest or Annapurna regions.

To fully appreciate the beauty of the Indian Himalaya, there is no substitute for trekking. This unforgettable experience brings you in direct contact with the country and its people, and helps to foster an appreciation of the mountain environments.

It is essential that you select a trek suitable to your interests and ability. Taking note of the grading for each trek is imperative to ensure that your trek lives up to expectations.

HISTORY OF TREKKING

While pilgrims, armies and traders had for many centuries explored the Himalaya, organised trekking was closely associated with the pursuit of hunting for game that gained popularity in India in the later part of the 19th century. By the turn of the 20th century it was well under way. It was not uncommon for the British to undertake a trek from Srinagar to Leh as part of their annual leave. Agencies were established in Srinagar and Shimla to specialise in sport-related activities – hunting, fishing and trekking. A large retinue of porters would carry huge canvas tents and collapsible string beds.

In 1933 Ernest Neve revised the 15th edition of *The Tourist's Guide to Kashmir, Ladakh & Skardo* to reflect the increasing interest in travelling to higher and more remote valleys. Arrangements out of Kashmir could be left to Cockburn's Agency or to a houseboat family and, judging by the reports retained by some houseboat families, a trusted guide and a reliable cook were the most valuable assets to any trekking party. Crossing huge distances was no longer deemed to be extraordinary. Consider the case of Robert Fleming, who trekked for seven months from Peking to Kashmir and received not so much as a nod of acknowledgment from the reservations clerk when he finally checked into Nedou's Hotel in September 1935.

However, not all forays into the mountains were conducted on such a vast scale. In the 1930s a more modest style of exploration and climbing evolved in the Himalaya, typified by Eric Shipton, HW Tilman and Frank Smythe. Their expeditions in the Garhwal Himalaya were typified by travelling light, without complicated logistics, and often in the company of just a climbing Sherpa or two.

Following Indian Independence in 1947, the nature of trekking the high and remote Himalayan valleys was restructured to accommodate the political changes. For instance, the India/Pakistan partition meant it was no longer possible to trek from Kashmir to Baltistan. To the north, much of India's border with China was restricted. The war in 1962 led to the enforcement of Inner Line restrictions (the restricted areas close to India's sensitive border regions with Pakistan and China) in Ladakh, Himachal Pradesh (at that time part of the Punjab hill states), Uttar Pradesh and Sikkim.

Regions such as Kashmir and the Kullu Valley attracted trekkers and climbers in the 1950s and 1960s. At the time Ladakh was off limits while the Pir Panjal dividing the Kullu Valley and Lahaul was as far as one could trek in Himachal. In Uttarakhand similar restrictions applied and only a few of the classic treks could be undertaken without Inner Line permits.

The gradual lifting of restrictions in 1974 allowed trekkers to visit Ladakh, Zaskar and Lahaul while permits were no longer necessary to trek in many of the northern regions of Uttarakhand. In 1992 the regions of Kinnaur, Spiti and the Johar Valley in Uttarakhand were opened up for trekking. More remote trekking areas close to India's border regions may be possible in the future.

In the space of a week or two, you may trek through Hindu settlements, explore isolated Buddhist monasteries, camp beside shepherd encampments or visit traditional Islamic villages. On a typical trek, you might traverse the Great Himalaya Range and appreciate the sheer geographic diversity – from the verdant, forested valleys and wildflower meadows to rugged Trans-Himalaya. While crossing the passes it is also encouraging to remember the many pilgrims, traders and armies who have followed these trails – their journeys reflect the rich cultural history of the region. Combine this with the wildlife and forests – and the many snow-capped peaks towering above 7000m – and you have all the ingredients of a highly rewarding trek.

A constant theme throughout this guide is that trekking has its rewards and responsibilities. In recognising that the Himalaya is not just a vast adventure playground, we must aim to minimise our impact on both the environment and the local culture.

Over the past two decades parts of the Indian Himalaya have been beset by political problems. It is hoped that future editions may again include a comprehensive guide to trekking in Kashmir, however, for now we must be content with the many attractive alternatives in the regions of Ladakh, Himachal Pradesh, Uttarakhand, Darjeeling and Sikkim.

We offer a wealth of suggestions to help make your adventure a reality: general knowledge about the Indian Himalaya; Transport (p217) advice for getting to the region and the trailhead; tips for Health & Safety (p229) on the trail; a Language guide (p243); plus a special Clothing & Equipment section (p223) so you're well prepared before you leave home.

In each trek chapter, we introduce the region with a description of its geographical and historical features, and a guide to the wildlife. For each trek, we detail the best season to go, where to buy supplies and the accommodation en route. We also recommend local trekking agencies and give advice on hiring porters and packhorses. Finally, a day-by-day trek description is complemented by accurate trekking maps based on the author's experience.

The hard part is then up to you – choosing the best trek to suit your interests, and the time and funds that you have available. In a region so rich in culture and natural beauty, this is bound to be a challenge.

WHEN TO TREK

The trekking season in the Indian Himalaya extends from May until October. In May and June anticipate warm daytime temperatures although there will be more challenging options as higher elevations and passes over 4000m are likely to be still under snow. May and June is also the peak domestic tourist season when accommodation before and after the trek will be at a premium. On the more popular trails you may encounter large groups of Indian students savouring their first experience of the mountains.

The monsoon rains in July and August put a damper on most trekking ambitions south of the main Himalaya Range. With few exceptions it is advisable to head north to the region of Zaskar and Ladakh that are outside the influence of the monsoon. However, the monsoon has its own delights. The rainfall rarely lasts for more than a few hours a day and the occasional view of the peaks and wildflowers in full bloom may more than compensate for the effort of forging a path along the muddy trails. Autumn – from the middle of September until the end of October brings fine and settled conditions. This is an ideal time to trek in Kashmir, Himachal, Uttarakhand and Darjeeling and Sikkim. The first of the winter snows normally occurs in late October marking the end of the trekking season for all but the most intrepid trekkers.

See Climate (p206) for more information on weather in the Indian Himalaya

HOW MUCH?

Campsite

Rs 100/US\$2.50

Room in lodge

Rs 300/US\$7.50

Meal in teashop on trek

Rs 100/US\$2.50

Soft drink Rs 30/US\$0.75

Chocolate bar

Rs 50/US\$1.25

COSTS & MONEY

If you are making your own arrangements make a few conservative calculations (the hiring of porters or mules; provisions; local transportation and miscellaneous extras). Then double it. India's high rate of inflation needs to also be taken into account as well as so many other expenses that always seem to be overlooked on the initial budget. If making your own arrangements, allow at least Rs 1000 to Rs 1600 (US\$25/US\$40) per day per person. If making your arrangements through a local agent then budget for Rs 2000/US\$50 per day per person.

Get out of Delhi as soon as you can. Even the budget hotels are relatively expensive and dreary; Rs 400 (US\$10) for a very basic room. For transport to the foothills budget at least for a tourist bus, typically Rs 400 to Rs 600 (US\$10/15) a seat. If flying then try making an advance booking on the web or pay around US\$250 for a regular one-way fare from Delhi to Leh. The most convenient way to get to your trekking-off point is by local jeep or taxi Rs 1000 (US\$25). Buses are considerably cheaper; Rs 50 (US\$1.25) but can take all day to get there.

Hotel costs at the hill resorts vary greatly. In the high season (May and June) budget for around Rs 700 (US\$17.50) a room upwards. However the tariffs are far less for the rest of the season. A more comfortable hotel will set you back around RD 2000/US\$50 per night, while for meals allow Rs 150 (US\$3.75) upwards. The occasional beer will double the bill.

Tipping & Bargaining

Tipping is the custom in India, so you should budget for tips to room staff and helpers who take you around the market, not to mention the host of other people forever coming out of the woodwork to help. See *Guides & Porters* (p209) for advice on tipping after a trek.

Bargaining is also an integral part of Indian culture. Where there are no fixed prices, the only way to determine the price is to come to a negotiated agreement, which can involve hours of haggling. This may include bargaining over the cost of a trek, porters, transport and other matters such as the number of trek stages. Don't give up or get upset – remember that you will often lose respect if you don't bargain hard. Before bargaining try to get a good idea of the fair price, as once you agree on a price you must stick to it.

If making your own arrangements it is also crucial to ensure that you have sufficient cash to pay at the end of the trek. Check out ATM and cash facilities before you head off. For further details check the information box in the gateway town.

DON'T LEAVE HOME WITHOUT...

Spare sunhat, water bottle and bootlaces

Comfortable pair of walking boots

A yearning for rice, dhal and curried vegetables

An abundance of patience

A ski pole for those many ascents and descents

BACKGROUND READING

While there is no shortage of travel guides and mountaineering books on the Indian Himalaya, there is by no means an abundance of trekking narratives.

Across the Top by Sorrell Wilby includes a description of an extended trek from Ladakh through Himachal to Uttarakhand before the author continued through Nepal to Bhutan and the restricted region of Arunchal Pradesh.

A Summer Ramble in the Himalaya by Anonymous is typical of the 19th-century tomes. You cannot but admire the character of the rambler who sets off for months at a time living off the land and ready to lead his team of porters over high passes with nothing more than a boiled egg and a tot of rum.

ORGANISED TREKS

If time is at a premium and you have not been to the Himalaya before then check out some of the established operators listed below.

TREK OPERATORS INDIA

An initial point of reference is the **Adventure Tour Operators Association of India** (www.atoal.com), which focuses on the professional development of adventure sports, including trekking. The following members are based in Delhi; other recommended members are listed in the trekking chapters.

Ibex Expeditions (☎ 011 2646 0244; www.ibexexpeditions.com)

Rimo Expeditions (☎ 012 4280 6027; www.rimoexpeditions.com)

Sea & Sky Travel (☎ 011 2668 1027; www.seaandskytravel.com)

Shikar Travels (☎ 011 4152 3666; www.shikar.com)

Snow Leopard Adventures (☎ 011 2689 1473; www.snowleopardadventures.com)

World Expeditions (India) (☎ 011 4164 9358; www.worldexpeditionsindia.com)

TREK OPERATORS ABROAD

The following adventure travel companies operate Himalayan programs including treks in Ladakh, Himachal Pradesh and Sikkim, and some have been in the business well over 30 years. Many of them will arrange your flight as a part of the package.

Australia & New Zealand

Peregrine Adventures (☎ 03 8601 4333; www.peregrine.com) has offices around Australia.

The Trekking Company (☎ 02 6257 6494; www.trekking.com.au) based in Canberra.

World Expeditions (in Australia ☎ 02 9279 0188, in NZ 09 365 4161 www.worldexpeditions.com); have offices around Australia and in New Zealand.

UK

Exodus (☎ 0870 240 5550; www.exodus.co.uk)

Explore Worldwide (☎ 0870 333 4001; www.exploreworldwide.co.uk)

High Places (☎ 0845 257 7500; www.highplaces.co.uk)

KE Adventure Travel (☎ 017687 73966; www.keadventure.com)

Mountain Kingdoms (☎ 01453 844400; www.himalayankingdoms.com)

World Expeditions (☎ 020 8545 9030; www.worldexpeditions.com)

USA

Adventure Center (☎ 800 228 8747; www.adventurecenter.com)

Geographic Expeditions (☎ 800 777 8183; www.geoex.com)

Himalayan High Treks (☎ 800.455.8735; www.himalayanhightreks.com)

Journeys (☎ 800 255 8735; www.journeys.travel)

Mountain Travel Sobek (☎ 888 831 7526; www.mtsobek.com)

Snow Lion Expeditions (☎ 800 525 8735; www.snowline.com)

Canada

Worldwide Quest (☎ 800 387 1483; www.worldwidequest.com)

World Expeditions (☎ 800 567 2216; www.worldexpeditions.ca)

Nanda Devi by Eric Shipton details Shipton and Tillman's forays in the 1930s, typified by their lightweight approach conducted in true expeditionary style. Both mountaineers savoured the thought of crossing high and uncharted passes or exploring seemingly impenetrable gorges that were still blanks on the map.

Peaks and Lamas by Marco Pallis describes the author's peregrinations in Sikkim and Ladakh in the 1930s.

Meeting the Mountains and *In the Untravelled Himalaya* by Harsih Kapadia are two of the many volumes by a renowned authority on the Indian Himalaya.

TOP THREES – TREK TO A THEME

One of the bonuses of trekking in the Indian Himalaya is that they appeal to a wide variety of interests. Whatever your interest, most itineraries include something from each of these themes, which will no doubt enhance your experience.

ANCIENT CULTURES & THE PILGRIM WAY

Markha Valley (p65) The most popular trek in Ladakh includes time to appreciate ancient gompas, *mani* walls and chortens as well as whitewashed settlements reflecting the regions' abiding Buddhist culture.

Source of the Ganges (p162) An introductory trek followed by Hindu pilgrims and families to the sacred source of the Ganges at Gaumukh beneath the towering peaks of the Garhwal Himalaya.

Mani Mahesh Kailas (p136) The trek out of Brahmaur includes the opportunity to join the main pilgrimage in August when thousands of Hindu pilgrims ascend to the base of the sacred peak of Mani Mahesh Kailas.

MOUNTAIN PANORAMAS

Kuari Pass (p169) For spectacular views of Nanda Devi and a host of 7000m snow-capped peaks that extend to the borderlands of Tibet.

Singalila Ridge & Phalut (p193) This trek out of Darjeeling includes magnificent views of Khangchenzonga, the world's third-highest peak as well as glimpses of Everest, Lhotse and Makalu.

Singge La & Lamayuru (p77) A challenging traverse of Ladakh affords unrivalled views of the jagged peaks and countless ridges that form the Zaskar Range.

WILDFLOWERS

Hem Kund & Valley of the Flowers (p167) Includes a trek to the secluded Bhyundar Valley famed for its wildflowers amid high snow-capped peaks in the Garhwal Himalaya.

Harimukh Alpine Lakes Trek (p101) Arguably the best trek in Kashmir, which extends across meadows carpeted with wildflowers amid alpine lakes and granite peaks.

Dzongri & Goecha La (p196) In Sikkim ascend trails leading through rhododendron forests in May and appreciate the finest array of blooms in the Himalaya.

HIGH ALTITUDE & REMOTE CHALLENGES

Remote Zaskar (p81) Includes nearly a week forging a trail across high passes and through deep gorges in a magnificent wilderness region.

Pin Parvati Pass & Spiti (p126) In Himachal, traverse the Himalaya Range to the trans-Himalayan region of Spiti.

Milam Glacier & Nanda Devi (p179) Combine a trek to the Milam Glacier in the Kumaon Himalaya with optional forays to the Nanda Devi (East) Base Camp and beyond as well as extending the itinerary to the remote Ralam Valley.

Wild Places & Wild Hearts – Nomads of the Himalaya by Allen Smutylo is a wonderfully written and illustrated account of the Khampa nomads in western Ladakh.

Where Men and Mountains Meet by John Keay is a classic that outlines the history of some of the colourful characters who contributed to the exploration of the Western Himalaya in the 19th century.

A Long walk in the Himalaya by Garry Weare is a plug for the author's five-month trek from the sacred source of the Ganges to Kashmir. A trek that traverses over 20 passes in the vicinity of 5000m in the company of his trusted guides and crew.

INTERNET RESOURCES

Check out these websites for specific advice about trekking and travel in India:

Himalayan Club (www.himalayanclub.com) features club activities and members' reports on trekking and climbing in the Himalaya.

Indian Mountaineering Foundation (www.indmount.org) details trekking and mountaineering regulations in India, plus up-to-date conservation issues.

Jammu and Kashmir Government (www.jammukashmir.nic.in) includes sections on Ladakh and current trekking regulations.

Welcome to Himachal Pradesh (www.hptdc.com) includes general information on travelling to the Indian states and a section on Himachal Pradesh's national parks and sanctuaries.

Welcome to India (www.tourindia.com) is the official Department of Tourism site, with links to areas throughout the country.

Environment

THE LAND

The Himalaya is one of the youngest mountain ranges on earth. It is also one of the most complex. It is not one vast unbroken chain but a series of ranges culminating in the 8000m peaks that form the Great Himalaya Range. While the Great Himalaya Range is comparatively easy to identify across Eastern Nepal, Sikkim, and Bhutan it is far more complex in the West Himalaya. Even today, with the advent of satellite pictures and state-of-the-art ordnance maps, it is difficult to appreciate the form and extent of some of the West Himalaya. When taking a flight from Delhi to Leh these ranges look like a giant layer cake, covered in deep snow to the crest of the Great Himalaya and then becoming increasingly drier as the flight heads north towards Leh and the Indus Valley. Where one range finishes and another begins is difficult to determine. Indeed, there are eight different ranges – the Siwalik, the Dhaula Dhar, the Pir Panjal, the Great Himalaya, the Zaskar, Stok and Ladakh Ranges and the East Karakoram – that are regularly traversed in many of the treks described in this book.

RESPONSIBLE TREKKING

Over the past 30 years the impact of trekking on the environment has become increasingly apparent. Campsites are displaying all the signs of overuse, trees are lopped for campfires and fuel for porters, while litter is scattered along many of the popular trails. If trekking is to become sustainable, trekkers must accept responsibility for their actions rather than placing the responsibility on the local agent or crew. It is necessary to set an example. When you arrive at a campsite begin by clearing up any garbage and filling in toilet pits and tent trenches that have been left by previous groups. This will impress the crew and illustrate a genuine concern for their environment.

Rubbish Clean up the camp on your arrival. Ensure that all non-biodegradable items are carried out. Take reusable containers. Ensure that you bring a few additional kitbags so that bottles, tin cans and plastic items can be easily packed after use. Provide an incentive (a tip in most cases) to ensure the crew carry the kitbags back to the trailhead. Try also to limit the purchase of plastic bottles containing mineral water and soft drinks as that can also have a devastating impact on the environment.

Human waste disposal Contamination of water sources by human faeces can lead to the transmission of hepatitis, typhoid and intestinal parasites such as Giardia. Dig toilet trenches or pitch the toilet tent well away from watercourses. Burn all toilet paper and ensure all faeces are buried while trekking during the day.

Camping trails The steepness of the Himalayan hillsides make them particularly vulnerable to erosion. Do not destroy saplings or undergrowth. Stick to existing tracks and avoid shortcuts. Do not dig unnecessary trenches around tents.

Washing Don't use detergents or toothpaste near watercourses. Wash all clothes and equipment in biodegradable soap in a bucket well away from streams or rivers.

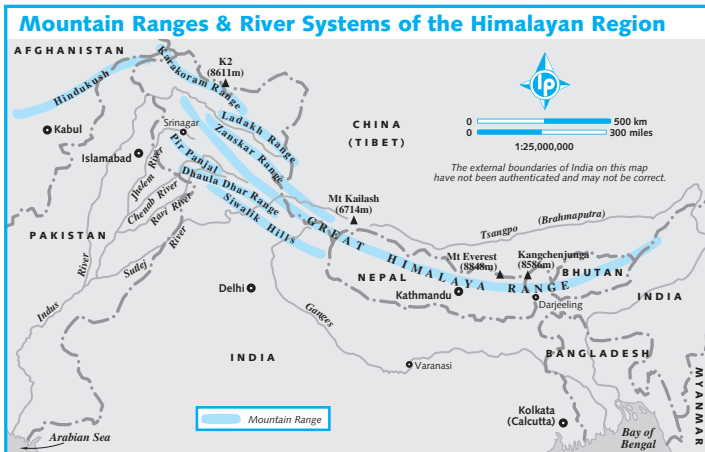
Fires Don't encourage campfires. Bring ample supplies of kerosene, and supply a stove and kerosene for your crew.

Food Bring a minimum of non-biodegradable food. If you are employing a cook, brief them beforehand. What you don't carry in terms of tins you don't have to carry out as empty cans! Also ensure that you buy all major food supplies before undertaking the trek, in particular staples such as rice and flour, so as not to put pressure on the economy of local villages along the trail.

Conservation Do not disturb or attempt to feed wildlife. Do not buy items made from endangered species, pick wildflowers or gather medicinal plants.

The **Great Himalaya Range** is the principal mountain range dividing the Indian subcontinent from the Tibetan plateau. From Nanga Parbat (8125m) in the west, the range stretches for over 2000km to the mountains bordering Sikkim and Bhutan in the east. The West Himalaya is the part of this range that divides Kashmir and Himachal Pradesh from Ladakh. The highest mountains here are Nun (7135m) and Kun (7077m). East of Kashmir, the Himalaya extends across to the Baralacha Range in Himachal Pradesh before merging with the Parvati Range to the east of the Kullu Valley. It then extends across Kinnaur Kailash to the Swargarohini and Bandarpunch ranges in Uttarakhand. Further east it is defined by the snow-capped range north of the Gangotri Glacier and by the huge peaks in the vicinity of Nanda Devi (7816m), the highest mountain in the Indian Himalaya. Treks across the Great Himalaya include the Shingo La, Umasi La and Kang La treks out of Padum, and the Pin Parvati trek out of the Kullu Valley. The Kuari Pass and Milam Glacier & Nanda Devi treks also provide an appreciation of the extent of this range. East of Nepal the Great Himalaya Range extends across central Sikkim including Khangchendzonga (8586m), the world's third-highest peak. The East Himalaya is breached by the headwaters of the Tista River, which forms the geographical divide between the verdant alpine valleys to the south and the more arid regions that extend north to Tibet. Trekking possibilities are at present confined to the vicinity of the Singalila Ridge, an impressive range that extends south from the main Himalaya and forms the border between India and Nepal.

The **Pir Panjal** is located south of the Great Himalaya with an average elevation of 5000m. From Gulmarg in the northwest it follows the southern rim of the Kashmir Valley to the Banihal Pass and can be seen on many of the treks outlined in the Kashmir chapter. Here the Pir Panjal meets the ridgeline separating the Kashmir Valley from the Warvan Valley. From Banihal the Pir Panjal sweeps southeast to Kishtwar and then to the east, where it forms the divide between the Chandra and Ravi Valleys. Treks that cross the Pir Panjal in this region include the Kugti Pass and Hampta Pass to Lahaul. East of the Kullu Valley it merges with the Great Himalaya Range. The Pir Panjal is breached only once – at Kishtwar, where the combined waters of the Warvan



MT KAILAS: THE CENTRE OF THE UNIVERSE

For the ancient geographer, the complexities of the Himalaya were a constant source of speculation. From the earliest accounts, Mt Kailas was believed to be the centre of the universe with the river systems of the Indus, the Tsanpo (Brahmaputra) and the Sutlej all flowing from its snowy ridges and maintaining the courses that they had followed prior to the forming of the Himalaya. The Sutlej flows directly from Tibet through the main Himalaya Range to the Indian subcontinent, the Indus flows west until it rounds the Himalaya by the Nanga Parbat massif, and the Tsanpo (Brahmaputra) flows eastwards for nearly 1000km around the Assam Himalaya and descends to the Bay of Bengal.

and Chandra Rivers meet to form the Chenab River, one of the main tributaries of the Indus.

Lying to the south of the Pir Panjal are the snow-capped **Dhaulta Dhar** that are easily identifiable behind Dharamsala where it forms the divide between the Ravi and the Beas Valleys. The treks to Kareri Lake and the Indrahara Pass are included in this section. To the east it extends across Himachal Pradesh forming the high ridges of the Larga Gorge and extending south of the Pin Parvati Valley before forming the impressive ridgeline east of the Sutlej River. There it forms the snow-capped divide between the Sangla Valley and upper Tons catchment area in the Garhwal, including the Har ki Dun Valley. Refer to the Rupin Pass and Har ki Dun treks. Beyond the Bhagirathi River it forms the range between Gangotri and Kedarnath before merging with the main Himalaya at the head of the Gangotri Glacier as seen on the Source of the Ganges trek.

The **Siwalik Range** lies to the south of the Dhaulta Dhar, with an average elevation of 1500m to 2000m. They are the first range of hills encountered en route from the plains and are geologically separate from the Himalaya. They include the Jammu Hills and Vaishno Devi, and extend to Kangra and further east to the range south of Mandi. In Uttarakhand they extend from Dehra Dun to Almora before heading across the southern border of Nepal. Geologically its ongoing activity is responsible for the high seismicity of this zone, which is one reason why there has been such great concern about the large-scale construction of dams in the region.

The **trans-Himalaya** to the north of the Great Himalaya are no less complex and include the Zaskar, Stok, Ladakh and East Karakoram ranges. The **Zaskar Range** forms the backbone of Ladakh south of the Indus River, stretching from the ridges beyond Lamayuru in the west across the Zaskar region, where it is divided from the main Himalaya by the Stod and Tsarap valleys, the populated districts of the Zaskar Valley. The Zaskar Range is breached where the Zaskar River flows north, creating awesome gorges until it reaches the Indus River just below Leh. Treks traversing the Zaskar Range include Singge La to Lamayuru and Remote Zaskar treks. To the east of the Zaskar region the range continues through Lahaul and Spiti, providing a complex buffer zone between the main Himalaya and the Tibetan plateau. It continues across the north of Kinnaur before extending west across Uttarakhand, where it again forms the intermediary range between the Himalaya and the Tibetan plateau, which includes Kamet (7756m). The range finally peters out northeast of the Kali River – close to the border between India and Nepal. The **Stok Range** lies immediately to the south of the Leh and includes the Markha Valley and Stok Circuit treks. The **Ladakh Range** lies to the north of the Indus Valley and

HIMALAYAN VEGETATION ZONES

The Indian Himalaya can be broadly divided into three geographic zones that have a marked effect on the vegetation.

WEST HIMALAYA – NORTH OF THE GREAT HIMALAYA DIVIDE

This includes Ladakh, Zaskar, upper Lahaul and Spiti. It includes an alpine zone found generally from 4000m to 5000m and even higher as you move north towards the Karakoram Range. The zone is often virtually devoid of vegetation bar sage bush and the grassy meadow found alongside a watercourse. The sub-alpine zone extends from 3500m to 4000m and includes stunted junipers. A lower zone, from 3000m to 3500m, includes willows and cultivated poplars. Irrigated barley fields, sprinkled with leguminous plants, geraniums, aquilegias and louseworts, thrive in the depths of the valleys.

SOUTH OF THE HIMALAYAN RANGE

A vast region that includes the Kashmir Valley and the regions of Himachal and Uttarakhand. It supports an alpine zone from 3500m to 4500m, which includes the open grazing meadows at the higher levels, while birch groves mark the lower level of this zone. The temperate zone extends from 1500m to 3500m. Conifers, including firs, hemlocks, pines and cedars, are found between 2500m and 3500m, while oaks and blue pine are found at the lower elevations. In regions where the forests have been cleared, cornfields are found between 1800m and 3000m and rice paddies somewhat lower, between 1500m and 2000m, as in the Kashmir and Kullu Valleys.

The tropical and subtropical zone in Himachal and Uttarakhand includes long-needled pine, sal and oak forests, while thorn scrub is found closer to the Indian plains where much of the original forest belt has been cleared. In the more remote mountain districts the forest floor has more luxuriant cover, including bamboo, ferns and shrubs. The upper limit of this zone is 1400m.

EAST HIMALAYA

This includes Sikkim and Darjeeling and is, in many respects, an ecological extension of eastern Nepal. The region includes an alpine zone, which extends between 3500m and 4500m, while the sub-alpine zone with junipers and dwarf rhododendrons extends from 3300m to 4000m. Note that there is an absence of birch trees in this zone. The temperate forest range extends from 1800m to 3500m and includes a band of conifers, magnolias, daphnes and rhododendrons at the upper levels, and an oak, bamboo and rhododendron band between 2000m and 3000m, while at the lower elevations there are oak, alder and chestnut trees. This merges with the subtropical forests, which are better preserved than those in the West Himalaya. Among the deciduous and evergreen forests the sal tree is the most easily identified in southern Sikkim. In the tropical zone a variety of shrubs, bamboos, palms and ferns are also found.

merges with the Kailas Range in Tibet while northeast the **East Karakoram Range** forms the geographical divide between India and Central Asia. It includes many high peaks, including Teram Kangri (7464m), Saltoro Kangri (7742m) and Rimo (7385m), and the Karakoram Pass (5672m), historically the main trading link between the markets of Leh, Yarkand and Kashgar.

WILDLIFE

Animals

To appreciate the habitat of animals, particularly in the West Himalaya, it is worthwhile considering the north/south divide. Simply put, those animals living north of the main Himalayan Range in the drier trans-Himalayan regions and those living to the south in the more verdant, forested valleys. It would be hard to devise a wildlife trek of the region

without at least including the proviso that the amount of time spent on the trek plus an inordinate amount of luck will play a big part in what you see.

To the north of the Himalayan divide is the **snow leopard**, an icon of the Himalaya and a species that has been on the endangered list for many generations. They are solitary creatures, with a long bushy tail. Although they are protected, villagers still occasionally kill them when they attempt to prey on domestic animals. The regions of Ladakh, Spiti and Lahaul provide the biggest concentration of snow leopards in the world, yet even here their numbers are rapidly dwindling. Where there are snow leopards there are also *bharal* (blue sheep). Not classified in the genus *ovis* along with other sheep, blue sheep are distinguished by their thick, horizontal horns and the dark-blue wool on the rumps of the males. In spring they graze the high pastures of Ladakh and Zaskar, Lahaul and Spiti and also in the Nanda Devi Sanctuary. By contrast the **urial** is the smallest of the wild sheep. Clearly identified by their large, curved horns they can be found in Ladakh and the East Karakoram valleys, although its numbers are seriously depleted. Also known as the Tibetan wild ass, the **kiang** is normally found in herds of 10 to 20. They graze the high grassy plateaus in the Rupshu region east of Ladakh and adjoining regions close to the Tibetan border. **Wolf packs** are found north of the Himalaya Range in the arid regions of Ladakh, Zaskar and Spiti. During summer they wander the highest and most remote ridges in search of lone wild goats or sheep. In early winter they descend to the valleys to prey on stray domestic animals. To protect their stock, villagers in Ladakh construct stone enclosures, often on the outskirts of their village, in order to trap the wolf or occasional snow leopard. While sightings of large packs are rare, there is a distinct possibility of hearing them in the vicinity of a settlement on winter nights. Although not strictly confined to the north of the Himalaya, the **marmot** are scattered widely throughout the West Himalaya. These large rodents of the squirrel family live in large colonies in networks of deep burrows where they hibernate during winter. Their loud whistling can be heard for a considerable distance and alerts all animals in the vicinity to oncoming danger from predators, including shepherds, who trap them for their thick, golden-brown fur. While found in Ladakh, Kashmir, Lahaul, Zaskar and Himachal Pradesh, they are less common in Uttarakhand.

It is not surprising that there are a great variety of animals living on the forested slopes or on the verdant meadows south of the Himalaya. These include the **Himalayan black** and **brown bears**. The black bear is about 1.2m to 1.5m (4ft to 5ft) high and weighs up to 180kg. It has a smooth black coat and a distinctive white 'V' on its chest. Bears are attracted to the ripening cornfields during summer. At other times, they seek refuge in the temperate and coniferous forests before hibernating for several months in winter. Brown bears are distinguished not by the colour of their fur but by the distinctive hump above their shoulder. They are larger than the black bears and tend to be found on the high-alpine pastures foraging for edible roots and grasses. The **forest leopard** (panther) are larger than snow leopards and inhabit the temperate forests near villages and towns such as Naini Tal, Mussoorie and Shimla, where they prey on domestic dogs. To combat this, shepherds often place huge collars with iron spikes around the necks of their dogs. The **langur**, the long-tailed grey monkey with a black face, is also found in the temperate forests, often in the vicinity of villages. It migrates in early spring

from the temperate to the lower coniferous forests. The **rhesus monkey** is found at lower elevations. Smaller than the langur, it is brownish-red in colour and often seen close to towns and hill stations. It is a habitat they share with the **jungle cats**, long-legged cats that are sandy-coloured to grey-brown and also known as swamp cats. They have a short, banded tail and prey on small mammals, birds and reptiles. They inhabit the temperate forests of Himachal and Uttarakhand as high as 2400m alongside **pine martens** recognised by their dark slender body and long tail, and distinguished by the yellow markings on their throat.

There are also a variety of wild sheep and goats. These include the **alpine ibex**, one of the largest Himalayan goats. It has impressive serrated, sweeping horns and, like the *bharal*, selects the highest crags for protection during summer. They are found west of the Sutlej River throughout Himachal, Kashmir and West Ladakh. The wool from the underbelly is renowned for its fine quality and is used in the famous Kashmir pashmina shawl. The **serow** and **goral** are classified as part of the antelope-goat family. The serow favours the forest ravines, while the goral roam the forest clearing and the lower grassy slopes. **Kakor** (barking deer) can also be seen. They are short in stature with a reddish-brown body and a dog-like bark. They are found in grassy, heavily forested slopes throughout Uttarakhand, Himachal and Kashmir. They often share grazing with the **musk deer** that are much sought after for their musk glands. They have curving tusks instead of horns and are mainly found in birch groves. In recent times their numbers have been seriously depleted. Then there is the **Kashmir stag**, a subspecies of the red deer that is nowadays found only in the Dachigam National Park in Kashmir. In summer they roam the birch groves at around 4000m, before returning to the lower elevations in early winter. The ongoing political unrest in Kashmir has made them an easy target for poachers.

George Schaller's *Stones of Silence* includes invaluable illustrations of the wild sheep and goat species including Kashmir markhor, alpine ibex, the Punjab urial and the *bharal*.

Birds

The diversity of birdlife in the Himalaya would impress the seasoned bird-watcher while for the novice a trek is enhanced with a good field guide, a pair of lightweight binoculars and adequate time to wander the forests and meadows.

The birds of prey always impress. They include the huge **golden eagle**, up to a metre in length seen well above the treeline in search of young lambs and musk-deer fawns. The **Himalayan bearded vulture** (lammergeier) is no less impressive with a wingspan that can extend to 2.4m. The solitary **kestrel** is also seen at altitude hovering the thermals in search of prey.

The colourful **Himalayan pheasants** are always worthy of note. The **koklass** can be seen on the forested slopes while the **kali** with its bright crimson head (deep black plumage in the male, and russet-brown in the female) are sighted darting through the upper forest bands. In Ladakh the **chukor partridge** is often the first bird heard and seen scurrying up the barren hillsides.

The comparative lack of vegetation north of the Great Himalaya Range works in favour of sightings, including the **black-billed magpie**, **Tibetan finches**, **white tailed rubycoats** and the **horned lark**. The migratory ducks, geese and cranes including the **black-necked crane** can often be seen in the wetlands alongside the vast lakes of Rupshu in Ladakh. The Tibetan owl is also worthy of inclusion in the notebooks as well as the flocks of finches and accentors.

On a trek ascending the forest south of the Himalayan divide there is no shortage of colourful species. On treks in Himachal Pradesh and Uttarakhand these include the **yellow-billed blue magpie** while the distinctive **white-capped redstart** is regularly seen along the watercourses with a variety of **dippers** and **forktails**. In the oak and conifer forests the **woodpeckers**, **jays**, **cuckoos**, **scarlet minivets**, **fantails**, **bulbuls**, **thrushes**, **warblers** and **finches** would provide every reason to while away a few hours each day on the trail before reaching camp.

In Darjeeling the **monal** and **tragopan pheasants** are often heard but not always seen in the forest undergrowth while **redstarts**, **forktails**, **finches** and **owls** are found in the mixed rhododendron, oak and conifer forests. The **blood pheasant** is the national bird of Sikkim, while apart from the forest sightings there is a possibility of viewing **migratory wildfowl** as they fly beneath the awesome flanks of Khanchendzonga en route to the high-altitude lakes on the border of Tibet.

Otto Pfister's *Birds of the Himalaya* is the pocket guide to take on a trek to identify the many species in the forests and alpine and hill resorts and across the West Himalaya, Darjeeling and Sikkim. The serious bird-watcher may also refer to the Salim Ali's classic *Indian Hill Birds*.

Plants & Trees

The alpine regions of Kashmir, Himachal Pradesh and Uttarakhand support a wide range of flowering plants, many of which are similar to the mountain flora found in Europe and America. The flowering season commences as soon as the snow melts along the stream courses. However, timing is crucial when planning a trek during this period, for not long after this, the shepherds lead their flocks of sheep and goats to the high meadows to graze before continuing on their summer migration. The monsoon rains in July and August see the alpine flora at their best. Although trekking conditions may not be ideal with thick blankets of cloud often covering the peaks for days, this is the time for the enthusiast to identify the many flowering species including **aster**, **gentians**, **primula**, **euphorbia**, **delphinium**, **saxifrage** and the exquisite **Himalayan blue poppy**. A trek to the Hampta Valley out of Manali or to one of the high-altitude *bugyals* (meadows) in the Garhwal including the Valley of the Flowers is recommended. Kashmir is ideal at this time as it is subject to a modified monsoon climate and escapes some of the heaviest rains. The Harimukh Alpine Lakes Trek is by far the best option. In Darjeeling and Sikkim the treks to the alpine pastures in late spring offer an attractive range of flowering species before the onset of the heavy monsoon rains in late June.

The trans-Himalayan regions of Ladakh, Lahaul and Spiti offer interesting excursions. The region is sometimes subject to an occasional monsoon storm that ensures an abundance of flowering varieties including **geraniums**, **aquilegias** and **lousewarts** on the lee side of the Himalaya. Even on the approach to high passes at over 4500m it is heartening to see hardy varieties burst into bloom in an otherwise barren landscape that has been under snow for up to 10 months of the year.

South of the Great Himalaya Range you can almost calculate the elevation by checking the dominant tree bands. On a trek above the Kullu Valley, for instance, the lower elevation of birch trees are around 3700m (and when the leaves start turning to gold it's a sure indication of the onset of autumn), rhododendron at 3600m, conifer at 3500m and holly oak at around 2200m. Some of the more easily identifiable trees include the **oak** that forms whole forests upward from 2100m. It is common on steep, rocky, south-facing slopes from which the snow cover clears quickly. The trees are very important in the hill villages and cultivated areas of the temperate hill forests as they are extensively lopped for cattle fodder. The wood is used locally for building and it also

gives good fuel. The bark contains much tannin. The **horse chestnut** is a large deciduous tree of up to 30m or more in height, found in forests and shady ravines across the altitude zone from 1800m to 3000m. The trees are impressive for their large, upright pyramidal clusters of white flowers, the petals often streaked with red at the base. The leaves are distinctive, long-stalked and divided in a palm-like manner. The fruit is a leathery capsule, usually with one large shining seed. Like many trees in the Himalaya, the leaves are lopped as stock fodder. Superb forests of **horse chestnuts**, interspersed with **maples** and the **walnut tree** can be found towards the upper reaches of the Ganges tributaries in Kumaon and Garhwal. As with the walnut trees, the wood is often used for turned articles and the bark is used medicinally.

For trekkers it is sometimes hard to imagine that there are more than 800 species of **rhododendron**. The rhododendron arboreum is the most widely distributed in the Himalaya. It has many different forms, some reaching a height of 15m. Its flowers range from red and pink to white, usually at the higher altitudes. The mass blooms are superb in early spring although they are at their best in late April and early June in Sikkim. The flowers are presented as offerings in hillside temples, and the wood is frequently used for fuel. On the early stages of many treks is the **chir pine** that forms extensive forests from 500m to 2700m. A large, slim, triangular tree, up to 40m high, it is distinctive for its very thick and deeply fissured rough bark. The chir discourages undergrowth and the forest floor is thick and slippery with the fallen clusters of long, needle-like leaves. Mature trees can withstand forest fires, but the young seedlings are not fire resistant, so repeated burnings make regeneration impossible. The sapwood has a sweet-smelling resin and the bark yields tannin used in dyeing. Oil of turpentine is obtained from the wood and, although the timber is not particularly durable, it is used for construction. By contrast the **Himalayan birch** marks the upper limit of the tree line up to 4300m. The birch tolerates long periods of snow (and therefore dry soil), and frequently can be seen clinging in isolated, spindly clusters to slopes of high-altitude gullies, where the snow is packed and lasts long into the spring. On the young trees in particular, the bark peels off round the tree in thin transverse sheets. It makes excellent kindling for lighting fires, and traditionally has been used as paper. The bark is also used locally for waterproofing and roofing huts. Frequently swept down in landslides, the thin, gnarled trunks are used by shepherds as supports for tent shelters.

Endangered Species

There is general acknowledgment that most wildlife species in the Indian Himalaya are endangered. Findings indicate that the numbers of Kashmir Stag in the Indian Himalaya are restricted to just a handful in the Dachigam Sanctuary, while the number of snow leopards has been drastically reduced in the past few decades. Several wild sheep and goat species, including the markhor, are now almost extinct in India. The kiang is facing the same prospects in Ladakh, while the numbers of musk deer are seriously declining throughout the Indian hill states. In the East Himalaya, the red panda is similarly endangered.

While most endangered wildlife species are protected in the Indian Himalaya, the funding and resources have not been sufficient to stem other developments. The continual encroachment of mountain regions through logging, and the increasing need to clear land for cultivation have contributed to the decline in wildlife numbers. Poaching has also

Oleg Plolunin and Adam Stainton's *Flowers of the Himalaya* is an indispensable guide for identifying trees and flowering species in the various regions of the Indian Himalaya.

taken its toll. Snow-leopard pelts can fetch many thousands of dollars on the black market, while the skins of Tibetan wolves and lynxes are also highly prized. Musk deer are hunted for the musk gland used in the preparation of perfume, while Tibetan antelope or chiru are hunted for their fine wool for the shahtoosh shawl, although there are projects underway to determine the possibilities of breeding them in captivity.

Hunting protected sheep and goat species for their meat is a further problem. Previously inaccessible regions are now within easy reach of roads. Army personnel have exacted their toll on urial and markhor in the eastern Karakoram, while shepherds in the remote alpine valleys are responsible for the declining numbers of ibex and *bharal*.

Some protective measures have been enforced, including the establishment of wildlife reserves and sanctuaries. However, for creatures such as the snow leopard and red panda, the only chance of survival may be captivity breeding. Unfortunately, success rates are low, and even if successfully bred, there is little evidence that these animals can be successfully returned to the wild.

NATIONAL PARKS & WILDLIFE SANCTUARIES

The creation of national parks and wildlife sanctuaries has gone some way towards protecting the endangered flora and fauna in various regions of the Himalaya. However, the Himalaya is not a wilderness region and many national parks are created in areas where people have lived for centuries. The challenges of creating a controlled environment are therefore of a different nature from those in other countries.

Ladakh

The Hemis High Altitude National Park was created in 1981 and includes an area from the south of the Indus River across the Stok Range to the Markha Valley. The preservation of wildlife has largely been successful, although there are still reports of snow leopards being stoned to death by villagers whose domestic sheep and goats are being attacked.

Kashmir

The vast Kishtwar National Park was created in the early 1980s to include the area northeast of the Warvan Valley and northwest of Chenab Valley up to the main Himalayan watershed. This ambitious plan did not, however, take into account the large-scale summer migration of the shepherds grazing huge flocks of sheep and goats on the already fragile hillsides. Closer to the Kashmir Valley, wildlife in the Dachigam National Park has been under threat since the outbreak of political unrest in 1990.

Himachal Pradesh

The creation of the Greater Himalayan National Park in 1984 has helped to preserve a wide variety of fauna and flora in the Sainj, Tirthan and Jiwa to the east of the Kullu Valley. However, there is concern that the lower reaches of these beautiful valleys may be affected by the nearby dam project in the Larji Gorge. A similar project is currently underway in the Kanawer Sanctuary in the upper Parbati Valley in order to provide towns in the lower Kullu Valley with hydroelectricity. Close by, the Pin National Park in Spiti extends from the eastern watershed of the Parvati Valley, providing a sanctuary for protected species such as the snow leopard.

The Manali Sanctuary immediately to the west of the town of Manali is the most accessible sanctuary for visitors to the Kullu Valley. It extends through mixed forest with many orchids and ferns to the alpine pastures where a wide variety of wildflowers thrive during the summer months.

HIMALAYAN TOURISM – SOME FURTHER PERSPECTIVES

In order to ascertain the impact of Himalayan tourism, modern studies have tried to strike a balance between local interests and the interests of visitors, including tourists to hill stations, pilgrims, and trekkers and mountaineers.

MOUNTAIN TOURISM

It is evident that most Indian hill towns have been subjected to inappropriate developments that place undue strain on the local resources.

This is particularly apparent in the more popular hill stations, including Shimla, Naini Tal, Mussoorie and Darjeeling.

Manali, in a fertile alpine valley in northern Himachal Pradesh has experienced a huge increase in the number of hotels, lodges and guesthouses. Orchards and natural surrounding have been destroyed, with many discerning tourists now staying elsewhere in the Kullu Valley.

Development in Leh, the capital of Ladakh, has been of a different nature. Since 1974 the influx of tourism has placed considerable strain on the local resources, with many tourists demanding facilities that are almost impossible to provide. The large number of foreign tourists has also placed undue pressure on the local culture, with the Ladakhi people often discarding traditional practices for the sake of the tourist dollar.

However, Himalayan tourism has not been without some benefits. It has been a major source of employment, slowing migration to the big cities. It has also stimulated local arts and crafts while increasing awareness of a region's history and culture. The influx of tourists has also provided gompas (Tibetan Buddhist monasteries) and mandirs (Hindu temples) with a vital source of income that has been channelled into preserving important buildings and wall paintings. New ideas from other regions of India – and abroad – have also helped develop fresh perspectives, and facilitated innovations such as solar heating, waste disposal and micro-hydroelectric schemes.

PILGRIMAGE TOURISM

In the past, pilgrims made few demands on their travels through the Himalaya. Nowadays the development of roads has resulted in greater accessibility and greater numbers of pilgrims. In Uttarakhand the pilgrimage season in May and June to the Char Dham attracts something in the vicinity of 250,000 pilgrims. This has had a devastating effect on the local mountain environment. Over the last decade a number of associated interest groups, including the Gangotri Conservation Project, have been able to redress some of the worst of the developments. However, further funding is imperative in order to ensure that projects can be completed here and at the other pilgrim centres.

TREKKING AND MOUNTAINEERING

While a far smaller number of mountain tourists venture beyond the trailhead, the environmental and cultural problems caused by a steadily increasing number of trekkers is a cause for concern. 'Tread lightly' philosophies have yet to be reconciled with increasing pressure on the local environment. Tin cans, plastic and other non-biodegradable rubbish are not properly disposed of, wood is used for fuel, and the demand on campsites has resulted in the pollution of streams and rivers.

There has also been a gradual undermining of cultural values. However, as with mountain tourism, trekking can help to stimulate interest in traditional handicrafts and may also provide employment and halt the trend of migration from the mountain villages to the cities. More discriminating trekkers may also act as a pressure group to help preserve threatened wildlife species and delicate areas.

Uttarakhand

In 1983 the former Uttar Pradesh (UP) Government introduced restrictions on the movement into the Bhyundar Valley (Valley of the Flowers) and the Nanda Devi Sanctuary. It was maintained that the local shepherds, trekkers and mountaineers had damaged the flora and fauna and that a suitable period of time was necessary for these regions to regenerate. This resulted in the creation of the Nanda Devi National Park that included the Nanda Devi Sanctuary and the alpine regions to the south that extend from Auli to Rup Kund.

On the border of Himachal and Uttarakhand, the Govind National Park was originally established as a wildlife sanctuary in 1955. It provides many opportunities for trekkers to explore the Har ki Dun Valley and the adjacent valleys leading to the Kinnaur.

Darjeeling & Sikkim

Legislation to curb logging and deforestation of the luxuriant forests west of Darjeeling and southern Sikkim has been enforced over the last decade. The establishment of the Singalila National Park has made some impact on the preservation of the forests and wildlife habitat. The creation of the Khangchendzonga National Park, together with forest check posts and trekking permits at Yuksam, has contributed to the preservation of some of the finest rhododendron and magnolia forests in the Himalaya.

ENVIRONMENTAL ISSUES

Developments relating to mining, forestry, tourism and the defence of the region's sensitive political borders compound the environmental problems in the Himalaya. Population growth increases the need for energy, and roads and changes in land cultivation lead to overgrazing and increasingly single-crop agriculture.

The construction of large-scale dams – including the Bakra Dam harnessing the waters of the Sutlej in Himachal Pradesh, the Tehri Dam harnessing the waters of the Bhagirathi River in Uttarakhand, and the dam construction on the Chenab below Kishtwar in the Jammu & Kashmir state – have drawn significant protests from environmentalists. Other developments, particularly in the Kullu, Hampta and Parvati valleys in Himachal Pradesh, have also been a cause for concern.

Deforestation for fuel or to increase the amount of land for cultivation is a further issue. Wildlife and forest officers working in remote locations rarely command the financial resources to curtail illegal logging, stop plant hunters stripping the hillsides of medicinal herbs or to prevent poaching or hunting of protected species.

Overgrazing is common throughout the alpine regions of the Himalaya. There are few alpine meadows that have not attracted huge flocks of sheep and goats as Gaddi and Bakraval shepherds search continually for new pastures. In the lower regions the Gujar, shepherds create similar problems while grazing their buffalo to supply milk and cheese to the local markets. Failure to follow a viable crop rotation has led to cash crops, particularly in Uttarakhand where chir plantations have replaced the mixed oak forest.

Road developments have also taken their toll on the environment. While it is probable that 90% of remote villages in the Indian Himalaya will be connected by road in the next few generations, it is relevant to consider that much recent construction has paid little regard to the environment or to the fact that many roads can only be utilised for a few months each year.

THE HIMALAYAN ENVIRONMENT TRUST

Since 1990, the **Himalayan Trust** (www.himalayanenvironment.org) has sought to gain cooperation from Pakistan, Nepal and India to draw attention to the environmental problems affecting the Himalaya. In doing so it has drawn on worldwide support to help protect the Himalayan environment. The aims and objectives set out by the Trust include the following:

SUPPORT GROUPS

The mobilisation of support from mountaineers, trekkers, alpine clubs, adventure tour operators and the Himalayan region governments for protecting the environment, its flora, fauna and natural resources, as well as the customs and interests of the local people.

CODES OF CONDUCT

To evolve a code of conduct and ethics to be followed by all visitors to the Himalayan region, as part of a continuing effort to maintain and sustain the well-being of the Himalayan environment.

PROMOTING AWARENES

To hold international conferences, seminars and Himalayan tourist meetings on problems relating to the Himalayan environment, and to focus world attention on such matters.

INFORMATION

To exchange information, and co-operate, with other local, national and international agencies engaged in similar work.

GUIDELINES FOR ADVENTURE TOURISM

To evolve necessary guidelines – in consultation with the Himalayan countries – concerning adventure tourism, to avoid the overcrowding of trails and to achieve a fair spread of trekkers and mountaineers throughout the Himalaya.

CLEAN-UP PROGRAMS

To encourage clean-up programs and evolve healthy environmental practices.

In order to appreciate the environmental impact in the Himalayan regions many government reports have been commissioned. Some have incorporated developments and reforms adopted in other mountain regions of the world, for example in the European Alps, North America or the Southern Alps of New Zealand. The more successful ones have taken into consideration the fact that the Himalaya is characterised by developing economies where the nature of the problems and the level of priorities are different.

The following groups promote conservation in the Indian Himalaya:

GM Pant Institute (www.gdpihed.gov.in) is based in Almora in Uttarakhand. It is a semi-autonomous government organisation researching the impact and development of mountain communities.

Himalayan Environment Trust (www.himalayanenvironment.org) has been in operation since 1989 and focuses on an environmental program in the Gangotri region in the Garhwal.

Kalpaviksh Environmental Action Group (www.kalpavriksh.org) is a key partner with a number of Himalayan NGOs.

Ladakh Ecological Development Center (LEDeG) in Leh has been working for more than 30 years on all aspects of Ladakh's environment and cultural development.

Sikkim Development Foundation (www.sikkim-foundation.org) aims to preserve the state's biodiversity and promote responsible tourism.

Snow Leopard Conservancy India Trust in Leh (www.snowleopardindia.org) pioneering field research and education on the snow leopard throughout the rural regions of Ladakh.

Wildlife Institute of India (www.wii.gov.in) in Dehra Dun, undertakes training and conservation programs in the Himalaya.

Wildlife Protection Society of India (www.wpsi-india.org) helps to combat illegal wildlife trade in India.

Wildlife Trust of India (www.wildlifetrustofindia.org) helps to promote awareness on the plight of the chiru – the Tibetan antelope that provides the fine wool for the shahtoosh shawl.

World Wildlife Fund for Nature (India) (www.wwfindia.org) is the Indian chapter of the international wildlife conservation pressure group.

Himalayan Culture

The Indian Himalaya marks the crossroads of Asia's three main religions. The Kashmir Himalaya is the cultural boundary of Islam; the foothills of Jammu, Himachal Pradesh, and Uttarakhand region define the northern limits of Hinduism; while Ladakh is predominantly Buddhist. Indeed it would not be hard to devise a three-week trek that passed through all three religious regions as well as a similar range of cultures.

In Ladakh, the original inhabitants the Khampa, can still be seen roaming the Rupshu region on the edge of the vast Tibetan Plateau wandering in search of pastures for their yaks and goats. By contrast, the settled communities in the valleys reflect the work of generations of villagers who gradually adopted irrigation practices. This is clearly evident when following the trekking trails through the remote regions of Ladakh and Zaskar.

Yet although Ladakh's culture is dominantly Buddhist, the majority of its peoples are now Muslim. This includes a sizeable Muslim community in Leh, some being descendants of families who settled at a time when trade was still undertaken over the Karakoram Pass to central Asia. In the outlying regions of Kargil there is a sizeable Shia Muslim community, while Zaskar has a small community of Muslims who have settled there since the 1830s.

The Kashmiri people trace their origins to successive Aryan migrations up the Indus Valley. While the culture was Hindu, the majority of the people were peacefully converted to Islam in the 14th century. This is still the case today, although until 1990 nearly 10% of the Kashmir population were Hindu.

South of the Kashmir Valley are the Dogra and Pahari villagers. The Dogra are the proud hill people of Jammu, while the hill kingdoms that extend across Chamba, Kanga and into the mountain regions of Uttarakhand trace a long and mainly independent Hindu ancestry. This is reflected in many of the treks undertaken out of Manali, Dharamsala and Brahmaur in Himachal Pradesh as well as those, for instance, in the Nanda Devi region of Garhwal and Kumaon.

Among the various mountain people are shepherd groups that are often seen on the trails leading to the high Himalaya. Consider this when selecting a trek, for some of the most memorable evenings can be spent camping alongside shepherd groups as they migrate to and from their summer pastures. These include the Gujar, who trace their origins from central Asia to the northern Indian Plains and onto the Himalayan foothills. They are Muslim and yet even in Kashmir they do not inter-marry or share local cultural traditions.

The Gaddi shepherds were originally from the foothills in the vicinity of the Kangra Valley in Himachal Pradesh. They are Hindu, and are frequently seen crossing the high passes of the Dhaula Dhar and the Pir Panjal with their large flocks of sheep and goats.

Hindu pilgrimages play an important part in the cultural fabric of the Himalaya. These pilgrimages include the annual trek to the Amarnath cave in Kashmir and the trek to Mani Mahesh Kalias out of Brahmaur in Himachal Pradesh. The largest pilgrimages are in Uttarakhand to the sources of the Ganges, including Yamunotri, Gangotri, Kedarnath and Badrinath, while for Sikhs there is the pilgrimage to the sacred lake of Hem Kund.

In Sikkim and Darjeeling the people are either Hindu or Buddhist, sharing many cultural traditions with both Nepalese and Tibetan people. The original inhabitants were the Lepchas who migrated from the Assam Hills to Sikkim around the 10th century. Much later, in the 17th century, Tibetans came across the Himalaya and settled in the valleys, while throughout the 19th century Nepalese migrated to Darjeeling and Sikkim. This influx of Tibetans and Nepalese forced the Lepchas to move to more remote regions in Sikkim. A more recent wave of Tibetans arrived after 1959 and some of these communities are found when trekking in southern Sikkim and also while undertaking the trek to Phalut out of Darjeeling.

HILL CULTURE

Village life in the Himalaya is shaped by the seasons and by a multitude of social and religious customs. There are few villages that do not have a *mandir*, gumpa or mosque and there are few passes without prayer flags or a stone *cairn* to ensure a safe journey. Enter any settlement and you will receive a traditional greeting, be it *namaste* in a Hindu village, *jule* in a Buddhist village or *salaam* to the elders in a Muslim village.

Religion is an integral part of social life. In Buddhist regions the monastery provides the focus of activity, where a *lama* will attend the birth, marriage and death ceremonies. In traditional Hindu regions the Brahmin priest will do likewise, while the *mullah* holds sway over a Muslim family's social and cultural needs.

Festivals and times of celebration are dictated by religious customs, while even the commencement of the harvest will be determined as much by the village priest as by the weather.

The passage of the seasons is nonetheless integral to village life. As soon as the winter snow melts in the valleys, the first crop of either rice (at elevations up to 2800m) or barley (at higher elevations) is sown. Work in the fields is concentrated on maximising the water supply – by either flooding the rice paddies or attending to the irrigation channels to ensure that the spring snow melt is channelled into the fields. Water mills are serviced and maintained, while all available labour is on hand to tend to the fields and orchards. The workload increases during the harvest period and for this reason it is often harder to secure the services of porters and horse handlers at this time.

Many of the important festivals and ceremonies are held after the harvest. This is the time for weddings or to undertake journeys to distant relatives and towns.

In winter, village life centres on weaving and working in the home. This may include activities such as making copperware in remote villages in Ladakh and the Zaskar, or weaving intricate carpets in Kashmir and Himachal. In some areas, particularly Ladakh, Zaskar, Spiti and Kinnaur, it is a time for important religious festivals, with masked dances performed over several days. It should be noted that the timings, particularly in Ladakh, have been altered in the last decade or two, with some of the more accessible monasteries in the Indus Valley rescheduling their festivals to attract income from tourism.

The tending of domestic animals is also determined by the seasons. For the Gujar shepherds, most of the family head from the lower hills to the high mountain pastures in late spring where they remain throughout summer, tending to their buffalo, and staying close to where they can sell their supplies of milk and cheese. They are closely associated with the Bakraval (Gujar who own mainly goats) who are found grazing their flocks on the alpine slopes of Jammu and Kashmir. The Gaddi shepherds

also follow the same migratory pattern, leading their flocks of sheep and goats to the alpine regions of Himachal Pradesh.

In most other communities the men undertake the shepherding. They establish the summer settlements in localities anywhere from a few days to a few weeks from the village location. The migration is a familiar sight on many treks from Ladakh to Uttarakhand.

On a trek you may pass the villagers taking their packhorses to the nearest trailhead or town where they are engaged by a government department throughout the season. In other regions, including Ladakh and Spiti, it is not uncommon to come across horsemen making their way over high passes to secure timber and other building materials for house construction and repairs that are carried out in the winter.

While village life in the Himalaya is still in general harmony with the seasons, it is not unusual for a member of the family to leave the village for several months each year to work in the hill stations or on the plains or even take a job with the government or army in order to provide cash income for their family.

Education in the form of schools in remote communities is also changing the fabric of traditional values, and the demands for further education are sometimes incompatible with following an agrarian lifestyle. This, combined with a number of other factors, including the introduction of radio and TV to remote communities, is having a significant impact on traditional rural values.

'I don't intend to look after the fields for the rest of my life' is a sentiment often expressed by the younger generation of villagers keen to make the point that the prospects of the city are more attractive than remaining in the Himalaya. This will undoubtedly have a significant impact on mountain lifestyles.

CULTURAL CONSIDERATIONS

VISITING A VILLAGE

Your attitude will have a significant impact on the village, particularly when you are meeting the younger generations. Consider how the current pace of change impacts on their lifestyle and lend a sympathetic ear to the barrage of questions regarding your lifestyle and ambitions. Be patient when asked about their education or employment prospects, and appreciate how they are trying to reconcile their ambitions with their obligations to their friends and family. This will assist you to gain a perspective as to what is happening and the extent of cultural changes in their community.

ENTERING A HOME

Always greet villagers appropriately. Use your right hand for all social conduct and wear appropriate clothing. If invited to join a family, never throw food on the fire and do not touch cooking utensils or food while the meals are being prepared. It is also customary not to sit around or approach the hearth until you are invited to do so. It is necessary to ask before taking photographs.

ENTERING A PLACE OF WORSHIP

Common sense is the most important prerequisite. Wait until you are invited into the place of worship before entering, be respectful and do not take photographs without permission. With regard to dress codes, always ensure that you are modestly attired and remove your shoes. Other requirements will vary. In a mosque women should cover their head and shoulders with a shawl or scarf, while all visitors should wash hands and feet before entering. In a gurdwara (Sikh temple) men should cover their heads, while leather items should also be removed. In a *mandir* do not wear leather items and in some places a headscarf must also be worn. When visiting a gumpa you should also dress respectfully and approach the places of prayer in a clockwise direction.

RELIGION

Buddhism

The basic teachings of the historical Gautama Buddha date back to the 5th century BC. The Gautama Buddha was a prince who, as a young adult, renounced his standing and riches in order to follow his quest for the means of salvation. After first practising and later rejecting the ascetic lifestyle, he eventually reached enlightenment after a long and intense period of meditation. Soon after, he preached his first sermon at the Deer Park at Sarnath in north India. He expounded the 'four noble truths' – that the world is full of suffering; suffering is caused by human desires; the renunciation of desire is the path to salvation; and this salvation is possible by following the 'eightfold path'. This path included the right views, resolves, speech, conduct, livelihood, effort, recollection, and meditation. Collectively they are known as the 'middle way'. The Buddha taught that by following the eightfold path we would recognise the futility of our desires and commence on the progressive stages to enlightenment, returning from one reincarnation to the next until reaching a state of nirvana, the final release from the round of rebirths. The path through this cycle of rebirths is known as karma, a law of cause and effect, which maintains that what you do in one life will gain (or lose) you merit in the next.

The sage Padmasambhava (AD 750–800) had a remarkable influence on the development of Buddhism in the Himalaya and was one of the foremost proponents of Tantric Buddhism. He acknowledged that the appeal of Buddhism could be widened if the tenets of Tantric Buddhism were adapted to the local animistic beliefs. This was eventually to give support to the Buddhist school known as Vajrana Buddhism – the Vehicle of the Thunderbolt.

Although Buddhism was to gain favour after the kings of Tibet invaded Ladakh in the 8th and 9th centuries, it took many generations for the Buddhist teachings to establish themselves.

One of the greatest influences came from Tibet in the 14th century when the saint Tsongkhapa propounded a new order that restored much of the traditional teachings. The Gelukpa order was to become the dominant cultural force in Tibet, while in Ladakh the monasteries of Thikse, Likir and Spitok were founded by this order in the early half of the 15th century. The order was headed by the Dalai Lama, and even today the 14th Dalai Lama undertakes regular visits to the gompas (Tibetan Buddhist monasteries) in Ladakh and Zanskar.

Hinduism

While the term Hinduism was coined by Arab traders in the 8th century, to denote the faith of those who followed either Vishnu or Shiva, the foundations of the beliefs of the Brahmans (Brahmanism) date back to the 10th century BC.

Hinduism's beliefs evolved with the practices of the Brahmin priests and incorporated many complex sacrifices and rituals. The teachings did not evolve in terms of a divine revelation or from the teachings of a particular saint or prophet, and gods and beliefs were changed to suit the circumstances. With the introduction of Buddhism and Jainism, the idea of a trinity of gods emerged, with Brahma featuring as the creator; Vishnu, the preserver; and Shiva, the destroyer and reproducer.

Essential to the beliefs of the Brahmans was the notion of reincarnation and the doctrine of karma. In this belief we all go through a series of rebirths or reincarnations, which will finally lead to spiritual salvation.

Karma is a law of cause and effect. Bad actions will lead to a lower reincarnation, while good actions will lead to a higher rebirth and increase the chances of gaining release from the round of rebirths.

The morality of a person's action depends on whether it adheres to the *dharma* – the sacred law set out by the Brahmins and embodied in the Gita, a sacred text which sets out the philosophical basis for reincarnation. There are, however, many refinements, which basically depend on the emphasis placed on the believer's relationship with their god – for example, on whether it is based on love and devotion, or whether it is dependent on intellect and theology.

Most Hindus profess to be either a Vaishnava (a follower of Vishnu) or a Shaivist (a follower of Shiva). Yet it is never an exclusive arrangement. Temples devoted to Vishnu will portray a statue of Garuda, the

EARLY PILGRIM TRAILS INTO THE HIMALAYA

From the earliest times the Himalaya has been revered as the 'abode of the gods' and a source of religious inspiration. Pilgrims wandered across the foothills in search of the river systems that flowed from the Himalaya. Beyond the Punjab, pilgrims followed the passage of the Chenab as it twists and turns between the Pir Panjal and the outer ranges of the Dhauladhar, while trails along the Indus Valley to Kashmir and Ladakh would have been followed since the time the Aryans first migrated to India.

Religious sites such as the one at Haridwar where the Ganges flows from the mountains to the Indian plains were established. Some pilgrims went further, searching for trails above the deep gorges, crossing landslides and forging their way through thick jungle to discover the confluences of many of the tributaries of the Ganges. Trails deeper into the mountains were established over the centuries as generations of shepherds searched for new pastures, and pilgrims continued in their quest for religious enlightenment.

Knowledge of the Himalayan trails was incorporated in the Mahabharata, the Vedic epic written in the 1st century AD. The Vedic gods were gradually superseded by others, including Shiva, Vishnu and Brahma. Brahma is the creator, Vishnu the preserver and Shiva the destroyer. Shiva in particular was linked with the popular fertility cults of the bull and the worship of the lingam (phallic symbol). This move was to gain wider appeal with the spread of the Tantric cults and the worship of the mother goddess. This cult of sexual union was raised to divine status, with each god being assigned a formal partner. For example, Shiva was associated with Parvati and Vishnu with Lakshmi. These symbols were gradually integrated into the Himalayan tradition and would later find expression in the pilgrimages being undertaken. For instance, the ice statue inside the sacred Amarnath Cave in Kashmir represents the divine lingam. This sign of cosmic creation would have also supported pilgrimages to many other regions of the Himalaya, including the modern-day pilgrimage to the cave of Vaishno Devi in the Jammu foothills.

It is thought that the four Char Dhams (pilgrimage destinations) – Yamunotri, Gangotri, Kedarnath and Badrinath – were founded by the time of the Mauryan Empire in the late 4th century BC. It was also a time when the Royal Highway (a predecessor of the Grand Trunk Road) was constructed across northern India.

Roads were extended across the forested ridges of the Pir Panjal for monks attending the third Buddhist Council in Kashmir around 250 BC. Huge campsites were established along the trail to facilitate their safe passage. After the conference many pilgrims made their way across the Zoji La to the Indus Valley and on to Tibet. Following the course of the Indus, it would have then taken them only a few stages to reach Lake Manasarovar and Mt Kailas, the sacred 6714m peak situated close to the source of the Sutlej and the Brahmaputra (Tsangpo). While it is unclear when the first pilgrimages were made to Mt Kailash there would have been a steady flow of pilgrims by the 3rd century BC – some 2000 years before the first European explorers were to 'discover' the mountain.

divine eagle and Vishnu's vehicle of transport throughout the universe. Shiva, on the other hand, is less prone to rich embellishments. His presence was often associated with fertility cults and the worship of the stone lingam. The annual pilgrimage to the Amarnath Cave in Kashmir, for example, still attracts up to 20,000 pilgrims at the time of the August full moon.

Islam

The fundamental Islamic beliefs are set out in the Quran, a record of the formal utterances and discourses, which Mohammed and his followers accepted as divinely inspired. It includes the famous profession of faith: 'There is but one god, and Mohammed is the Apostle of God'. This declaration evolved in the Arabian Desert in the 7th century. For Mohammed the essential tenet was belief in one supreme god (Allah). This god was the Being, Creator and Sustainer of the universe, the all-knowing and all-powerful arbiter of good and evil, and the final judge of all humankind.

Muslims believe that god has sent messengers or prophets to preach the unity of god and to warn them of the Day of Judgement, when, it is said, those who have acted in god's faith will enter the Garden of Paradise, while the non-believers will be forever damned. These prophets, who are not workers of miracles, have included Abraham, Moses and Jesus. The last of the prophets is believed to be Mohammed – a man with no special knowledge apart from that revealed to him during his life and times in the Arabian Desert.

To gain a favourable hearing on the day of Judgement, acts of devotion must be made, including the observance of ritual prayers which are performed five times a day – at daybreak, noon, mid-afternoon, after sunset and in the early part of the night. The acts of devotion also include ritual ablution, the giving of alms, fasting during the month of Ramadan and a pilgrimage to Mecca. In addition, a system of social conduct is set down regarding marriage, divorce, the consumption of alcohol and the making of images. These were all later embodied in Islamic law.

From the time that the call to Allah was first heard in the deserts of Arabia, it took nearly 700 years for it to gain a foothold in the Himalaya. It is the dominant religion in the Kashmir Valley, while much of Baltistan, including Gilgit, Hunza, Skardu, and nearby Drass and Kargil, were gradually converted. Yet this was the limit of Islam and these valleys mark the present boundaries between the Islamic and Buddhist worlds.