Adventure and Mountaineering Tourism

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Foreword

The world tourism industry has been decimated by the Corona Virus pandemic and the developing countries in particular have been the hardest hit with the permanent closures of hotels and tourism related businesses with the core base of tourism employees, the daily wage earners, suffering incredible hardship.

The United Nations have widely recognised the importance of sustainable tourism as a mechanism for lifting a country out of poverty and in Nepal this is specifically relevant with its adventure mountain tourism industry. Tourists will eventually return to the high Himalayan destinations; however, it may be in the form of a new model where visitors and clients will certainly have new and higher expectations from the infrastructure, provision and service offered by the industry.

The Nepal Mountain Academy is the leading academic institute in Nepal that focuses on developing a professional workforce in mountain tourism running both a Bachelor's Degree course in Mountain Studies and a Master's Degree course in Adventure Tourism along with a new Master's Degree in Mountain Sciences coming on-line next year.

Ian Wall has spent the majority of his life working in mountain related tourism activities, as a mountaineer, educationalist, trek leader, INGO Representative and trekking agency owner. For the last twenty years he has lived in Nepal and through the chapters of this publication, he has brought his decades of wide and varied experience to the attention for those students undertaking academic study in mountain tourism.

This book has been specifically written and researched to support the study programs of both the Master's and Bachelor's degree level courses.

Chri Bonigli

Sir Chris Bonington CVO CBE DL London July 2021

Acknowledgements

The material for this publication is based on over 50 years of my love of the mountains, sharing this love and enthusiasm with other people, travelling to and exploring different mountain destinations, working in education, mountain tourism and many hours spent researching academic sources.

A quote from a respected adventurer who, reportedly once said, 'if you can't plan your expedition on the back of a cigarette packet you've over planned it'; seems to have been my philosophy as I have journeyed through life, eventually getting washed up on the foothills of the Himalaya in Nepal.

There are many people who have been instrumental in this journey. I can remember my parents asking me where I wanted to go on our first family camping holiday after the war, to the mountains or to the sea? I have been going to the mountains ever since.

My first experience of 'adventure' occurred in the late 1950s on such a family holiday to North Wales with a solo six-hour ascent of a small hill, Moel Hebog, 896m in Snowdonia, without parental consent or knowledge, something for which my parents would be severely reprimanded for in today's society. I was only 10 years old at the time. My parents, John and Joan Wall continued to support my wayward tendencies and once I passed my driving test, they allowed me full use of the family Land Rover to pay regular weekend visits to the mountains and cliffs of the British Isles. Soon I undertook my first Alpine season in 1965.

In 1968 I received an invitation for John A Jackson, a distinguished mountaineer with many Himalayan expeditions to his name, to go and work at Plas-y-Brenin, the UK's prestigious National Mountaineering Centre, as it was then known, in North Wales. It was at this point that my life took on meaning and direction. 'Jacko', the director, and other members of the 'PyB' staff, Roger Orgill, Steve Glass, Brian and Ray Greenall, Ian Maxwell, Nick Gough, Dave Bland (des) and Dave Humphries (des) were key colleagues who supported, inspired and often stretched my sense of humour to the limit on the crags of Llanberis an beyond. I met many inspirational mountaineers during my time at PyB, including many members of the successful Everest Expedition. I was like a child in a sweet shop!

Later in life, having graduated from Scraptoft College of Education, Leicester University, I entered the world of formal education and quickly consolidated my ideas on the value of students have the opportunity to enjoy 'mountain experiences' for their greater development. The next ten years were spent working in outdoor education centres where my mountaineering experiences

were broadened through the companionship of Terry and Julie Tullis, Robert Pettigrew, Martin Bennett and Steve Parr (des). I took a slight deviation from the mountains during the 1980's when, along with Colin Mortlock and Ian Matheson I undertook some committing multiday sea kayak expeditions, include several exposed open sea crossings.

Bill O'Connor presented me with the opportunity to develop my Alpine experience in the 1970s leading Mountain Travel clients on many Alpine peaks throughout the European Alps. The first Kendal Mountain Film Festival (UK) was the inspiration of John Porter and Brian Hall in 1980 and I had the opportunity to cut my teeth in the adventure film and festival organisation sector.

My career took another twist in the 1990s when I moved into adult education and specifically rural regeneration and my first steps into the world of structured tourism.

I had always had a dream, but, no plans, for living in the greater ranges somewhere in the world, location not specified. In early 2000 I was invited to be a Trustee of Community Action Nepal, an INGO founded by the late Doug Scott CBE along with Sir Chris Bonington, who I had first met in the mid-1960s while climbing at Harrison Rock in southern England and was honoured to have as my Best Man when I married Sarita in 2008. It was through this avenue that I first arrived in Nepal working in the middle hills in the health, education and regeneration sector, as the UK coordinator for Doug's charity. This was an opportunity that Doug presented to me and for which I will be eternally grateful.

These acknowledgements would not be complete without mentioning Larkpa Phuti Sherpa, Romnath Gyawali, Uttam Bhatterai, Tanka Prasad Paudel and the faculty members and staff of the Nepal Mountain Academy who have given me the honour of not only compiling this document and guiding me through the process, but also in having trust in my abilities to tutor both the Bachelors' Degree program in Mountain Studies and the Masters' Degree program in Adventure Tourism. Despite all of the support from friends and colleagues, the true depth of my life's experiences would not be complete without acknowledging the support of the many other climbing partners, clients, colleagues, staff and the students of the many different institutions with which I have been involved and the Nepalese communities who have shown me great hospitality during my frequent periods of time spent in their among them. All have made my life a learning process, enjoyable, fun, through which I hope I have contributed to their enjoyment of the mountains.

I would not have been able to complete this work without the patience of my colleagues and the Board members of the Kathmandu Environmental Education Project, Bimal Khadka and Tara Joshi, of which I am CEO (UK) and of course the support of Sarita Lama, my wife, for putting up with my many hours spent sat in front of the computer locked away in my office and Babu for the continuous supply of toast and coffee.

CIONWAN .

Ganesh Mandir Tolka, Kathmandu, Nepal July 2021

Chapter 1

History of Mountaineering the Alps to Himalaya

Devils, Demons and Deities

At one time, three centuries ago, the high summits of the Alps were feared because it was believed that they were the homes of devils, demons and deities. The sound of avalanches, roaring winds, echoing thunder and lightning all added to the belief in, and fear of, these high places, the legends and folklore stories were frequently backed up by traders reciting their epic journeys while trying to negotiate the high alpine passes. The shrieking of the winds and the witnessing of death of goats and ibex falling from high cliffs, the falling rocks, all at the hands of those spirits living in the high places and who had been upset by the intruders. There were tales of misadventure, of getting lost and witnessing unexplained images, possibly broken-

specters and of winds roaring like dragons coming down from the glaciated peaks.

As time passed, herders ventured higher and higher into the upper valleys and eventually crossed passes looking for good pasture land for their animals, often following in the footsteps of adventurous traders who were looking for ways to reach possible new markets.

Since the 18th century, crystal hunters had been scaling, although not summiting the Alpine peak. These people developed their excellent mountaineering skills that helped them scour difficult mountain terrain and inaccessible places



The Crystal Hunters by George Manville Fenn 1831-1909 This image reinforces the dangers as perceived in the Victorian era of going into the mountain.

safely while looking for rare crystals which they could ultimately sell to chandelier, jewelry and

trinket makers. The idea of finding treasure (reward) has always been a motivational factor for the most memorable adventures in human history. (Engle C.E.)¹; (Deimberger K.)²

The first recorded ascent of Mont Blanc, the highest mountain in the European Alps was on the 8th August 1786 by Jacques Balmat, who at one time was himself, a crystal hunter and doctor Michel Paccard. This attempted climb, was initiated by Horace-Bénédict de Saussure,



The Austrian Guides, Anselm Klotz (l) and Josef Frey (r) 19th century (Alpine Club)

who offered a reward for the first summiteers. Balmat and Paccard's successful venture traditionally marks the start of modern mountaineering, their ascent was followed 20 years later by that of Marie Paradis, the first woman to reach the summit in 1808 (Engle C.E)³

The increase in demand from a new band of British social society eventually led to the crystal hunters with their mountain skills, becoming the first mountain guides in the European Alps. Many attempts have been made, over the years, to explain the reasons why foreign travelers, who

initially undertook scientific based exploration, eventually developed into climbers who expanded mountaineering activities. For many, the famous quote by George Mallory when asked

¹ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971

² Deimberger K. Summits and Secrets; George Allen & Unwin 1971

³ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971

many years later, 'Why do you want to climb Everest?' he simply replied 'Because it's there' and that summed up the sentiment of the moment. (Engle C.E.)⁴: (Pyatt E.)⁵: (Deinberger K.)⁶ There are many suggested causes for the emergence of systematic mountaineering which include, the accessibility of the Alps through the newly built railways of Europe, images in print from the earlier travelers of the romantic views of nature, or the compulsion of the newly developed bourgeoisie to create their own identity through "character building, healthy bodies, or hegemony" (Engle C.E. 1971)⁷. There is also a contrasting explanation that links

mountaineering as an outcome of the existence of a series of military flashpoints that occurred in the mid-19th century, the Crimean War (1853-1856), the Indian Rebellion (1857-1858) against the British colonial power in Northern India, the American Civil War (1861 - 1865),local insurgencies in Jamaica (1865),and New Zealand (1860-1865), and other events that collectively led to a shake-up of the British status as a great power and ultimately to the disputes that led Contrast the working-class man to that of



the upper middle-class, the social to its eventual decline. For many of those involved in *difference is obvious.* (Engle CE)

these military squirmiest, that was real adventure (Band G)⁸. "These events created a climate in which middle-class men elevated the exploits of athletes and the adventures of mountaineers into cultural symbols of British masculinity, patriotism, national character, and imperial power

⁴ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971

⁵ Pyatt E. Passage of the Alps1984

⁶ Deimberger K. Summits and Secrets;1971

⁷ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971

⁸ Band G., 'Summit: 150 years of the Alpine Club', Collins, 2006

(Hansen, 1995)⁹. With the explosion of interest in mountaineering many of these newly developed Upper-Middle class British adventurers employed local people from the Alpine villages, who had previous knowledge of the mountains in their region, to guide them through the valleys and peaks of the Alps; soon a new service industry sprang up, that of a Mountain Guide.

As the expansion of the British Empire took place, a sense of adventure became deeply embedded within British society, the Upper-Middle class of the service sector of society were in an advantageous employment situation that provided a certain amount of leisure time and disposable income that facilitated exploration and could be seen as a demonstration of status and national pride. However. it was not only the British who started to explore the high mountains.

When travelers from different parts of the world visit foreign communities, they maybe import unknown and novel commodities that will influence the culture of the local people. Conversely, the locals also influence the world of the foreigner travelers, this was the case for the uppermiddle class British mountaineers. As soon as they left their own disciplined, "gray, metropolitan circle and the industrial zones" they were able to interact with people from different walks of life and different social structures, something that would have been frowned on in Victorian England. (Engle C.E.)¹⁰ Today tourists still enjoy summer retreats, mountain air, alpine folklore, and alpine customs, right up to the "aesthetic", thereby "enriching their experiences" (Engle C.E.)¹¹. This interaction has taken place through many variants of tourist activities, especially in alpine tourism and Alpinism, since the conception of its development. Today this encompasses

https://www.semanticscholar.org/paper/Albert-Smith%2C-the-Alpine-Club%2C-and-the-Invention-of-Hansen/175518f8bdc0a281081045e5dfd17ff7049ebeca

⁹ Hansen P. H., 'Albert Smith, the Alpine Club, and the Invention of Mountaineering in Mid-Victorian Britain', The University of Chicago Press, in: The Journal of British Studies, Vol. 34, 3, Victorian Subjects (Jul., 1995),

¹⁰ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971.

¹¹ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971.

the broadening forms of mountaineering in the Alps and other mountain ranges of the world, from hiking, to alpine ski tours, to sport and extreme rock and ice climbing. In the context of sports and tourism, the "breakthrough" of modern mountaineering took place in the second half of the 19th century (Band G)¹² This was directly linked to those English mountaineers who successively worked their way through first-time Alpine ascents in the 1850s and 1860s. In the literature, this phase is almost always referred to as the "Golden Age of Alpinism". Some even speak of a "veritable explosion of activities", beginning with the ascent of the Wetterhorn in the Bernese Alps by the British lawyer Alfred Wills (1828-1912) in 1854 (Engel, 1950)¹³. It was also reflected in organizational and journalistic achievements: The world's first mountaineering club, the Alpine Club, was founded in London 1857. The first travel publications also began to appear during this period, the tour guide 'Peaks, Passes and Glaciers' was published in 1859, John Ball, President of the Alpine Club, edited the first edition, a collection of climbing essays. Ball noted with satisfaction that members of the Alpine Club had left 'the beaten track in the Alps to complete first ascents of the Monte Rosa, the Dom, the Grand Combin, the Alleleinhorn, and the Wetterhorn'. Contemporaries viewed their ascents as a sign of "modern times" and the strength of the English national character. (Alpine Club)¹⁴ The British middle-classes enjoyed a long period of growth and increasing prosperity, achieving political power at the national level, the ownership of property and businesses, some also were able to avoid the strict stratification of many of the continental middle-classes, and formed a large and amorphous group closely connected at their edges with both the gentry and aristocracy and the laboring classes.

The British working class was not notable, by continental standards, for its prosperity (Engels, 1971)¹⁵, early modern British travellers often remarked on the high standard of living condition

¹² Band G., 'Summit: 150 years of the Alpine Club', Collins, 2006

¹³ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971.

¹⁴ Peaks, Passes and Glaciers, Alpine Club; 1859 https://digital.wpi.edu/concern/generic_works/2227ms007?locale=en#?c=0&m=0&s=0&cv=0&xywh=-4392%2C0%2C11277%2C3879

¹⁵ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971

of the farmworkers that the artisans abroad enjoyed, while the British tolerated extremely harsh working conditions and poor housing until about the middle of the 19th century.

Why did men and women become mountaineers?

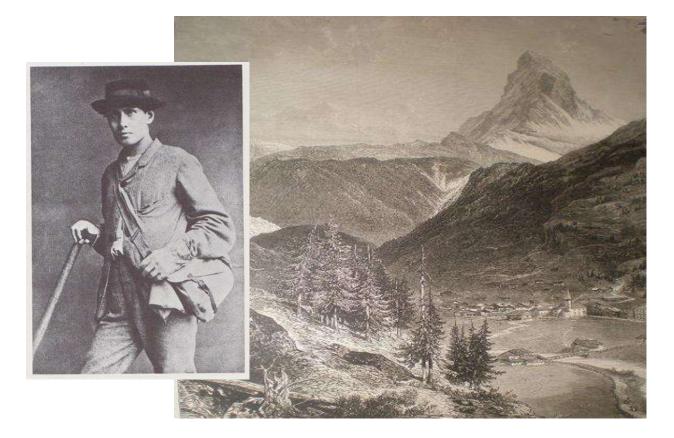
From the 1850 to 1860 more and more British went to the Alps and started climbing, exploring and reaching the summits of the high mountains. Before 1850 the British rarely visited the Alps, and when they did it was even rarer to see them climbing mountains. But this wasn't only the case for the British; mountaineering in general was something rare, something that was the preserve of a small group of scientists who were climbing in order to explore the Alps and to undertake scientific surveys on a variety of subjects, glaciology, botany, geology, cartography, etc. The main characteristic of this groups was that they didn't climb for pleasure, for sport or in a search of adventure (although this might, and surely will have been an additional reason), but they climbed in the name of science. Among them were only a few British travelers, for example John Ball and James Forbes. During this time, from the end of the 18th century until the middle of the 19th century it was mainly the Swiss, Italian and a few French scientists who dominated mountaineering, with men like Gottlieb Studer, Louis Agassiz, the Meyer family, Désor, F. J. Hugi, P. Giordani, G. Gnifetti, J. N. Vincent. Evidence of the activities of the Italian explorers can still be seen in several names of mountains in the Monte Rosa chain on the Swiss-Italian border (Seylaz, 1963)¹⁶.

Around the middle of the nineteenth century the British middle-class alpinists started travelling towards the Alps. Not just for travelling, or for being in the mountains to enjoy the 'healthy environment', but for actually climbing the mountains. The arrival of British mountaineers is significant due to their numbers and their motivation for mountaineering. First the number of British mountaineers exceeded the number of earlier climbers by far (at a time before ca. the

¹⁶ Seylaz L., 'Les origins de l'alpinisme suisse', in: Alpes, 39, 1963 https://www.summitpost.org/how-the-british-created-modern-mountaineering/713630#chapter_2

1850s), and secondly because they didn't only climb for scientific purposes, but for many other reasons (Chamson, 1987)¹⁷.

Zermatt a village in Switzerland, was at the time, one of the poorest villages in the Alps and populated primarily by subsistence farmers. Many residents were deeply suspicious of the arrival of strangers in their midst and firmly believed the Matterhorn could not and should not be climbed. Superstition was rife, and it was commonly believed that the Matterhorn, which villagers called "Z Hore" ("the peak"), was populated by ghosts and evil spirits. Nevertheless, Peter Taugwalder and his son Peter Jr were ready to help the "British adventurers".



The Matterhorn had been regarded as the last great problem of the Alps. Edward Whymper was fascinated with this mountain and drew the sketch above in 1865. (Alpine Club)

¹⁷ Chamson M., 'le roman de la montagne', Etrépilly, C. Bardillat, 1987 <u>https://www.summitpost.org/how-the-british-created-modern-mountaineering/713630/p2#chapter_3</u>

The Matterhorn situated overlooking Zermat is an iconic Swiss mountain and had long attracted Whymper's attention and that of other continental mountaineers. In 1865 Edward Whymper along with Lord Francis Douglas, Charles Hudson, Douglas Hadow, Michael Croz and two guides from Zermat, Peter Taugwalder and his son of the same name made a successful ascent reaching



The accident on the Matterhorn, triggered by Hadow, in an engraving by Gustave Doré. Hadow is second from the bottom, with Croz below him. The snapped rope above Hudson and Douglas is clearly seen.

print today. (Whymper E)¹⁹

the summit and subsequently pouring scorn on his Swiss rivals trying to ascend from the Italian side of the mountain.

During the descent Douglas, Hudson, Hadow and Croz were killed when Hadow slipped and pulled the other three with him down the north face. Whymper and the Taugwalder guides, who survived, were later accused of having cut the rope to ensure that they were not dragged down with the others, but the subsequent inquiry found no evidence of this and they were acquitted. (Cusick J 1997)¹⁸

From 1867 to 1871, Whymper wrote about his adventures in the Alps 'Scrambles among the Alps' in the Years 1860-69' which became an instant classic of mountaineering literature, bringing him fame and fortune, and it is still in

¹⁸ Cusick J; The Independent; 1997

www.independent.co.uk/news/matterhorn-conqueror-cleared-over-fatal-falls-1248170.html

¹⁹ Whymper.E 'Scrambles amongst the Alps'; John Murry; 1871

The Matterhorn was regarded as the most desirable trophy by both men and women mountaineers. Lucy Walker was not the only woman whose dream it was to reach the peak. Various women attempted the ascent, most notably was Meta Brevoort (1825-1876), a New Yorker who had settled in England. Just like Miss Walker, Meta was making a name for herself in the mountaineering world (Engle C.E.)²⁰ In 1869, she undertook her first attempt to climb the Matterhorn and, approaching from the Italian side, reached an altitude of just under 4,000 meters before being forced to turn back due to severe weather conditions. Two years later, however, Meta Brevoort decided to give it another go, setting out for Zermatt with the aim of attempting an alternative route. Lucy Walker was already in Zermatt and, on receiving word of Ms. Breevort's intentions, quickly assembled her own group in order to begin her ascent of the Matterhorn, a feat that would make her the most famous female mountaineer of the era (Fink $C.)^{21}$

In other countries for example, Austria and Germany, the pre-requisite of social class or experience was not an issue when considering joining a mountaineering club. The German and Austrian alpine associations contained members with very different social backgrounds. There were 'middle' class members, but there were 'lower' and 'upper' class members as well. This was possible because potential members didn't need to have extensive previous experience (Grupp, 2008)²². Everyone was able to join the German Alpine Club (German: Deutscher Alpenverein, DAV) and the OAV Austrian Alpine Club (ÖAV), there weren't any sport or social related restrictions on membership. As a result, these alpine associations would turn into mass movements. This, however, could not be said about the Alpine Club (Grupp, 2008)²³.

²² Grupp P., 'faszination Berg: die Geschichte des Alpinismus', Keulen, Böhlau, 2008
 <u>http://ieg-ego.eu/en/threads/europe-on-the-road/the-history-of-tourism/burkhart-lauterbach-the-mountain-calls-alpine-tourism-and-cultural-transfer-since-the-18th-century</u>
 ²³ Grupp P., 'faszination Berg: die Geschichte des Alpinismus', Keulen, Böhlau, 2008

²⁰ Engle C.E. Mountaineering in the Alps - A Historical Survey 1971

²¹ Fink C. Karin Steinbach: Erste am Seil - Pionierinnen in Fels und Eis. Tyrolia Verlag, Innsbruck 2013 https://www.zermatt.ch/en/History/focus-women-alpinists .

http://ieg-ego.eu/en/threads/europe-on-the-road/the-history-of-tourism/burkhart-lauterbach-themountain-calls-alpine-tourism-and-cultural-transfer-since-the-18th-century

How could the British dominance have influenced the development of mountain guiding? That is, not how British climbers influenced the profession of mountain guiding, but how British mountaineers succeeded in becoming so dominant in the Alps during the 1850s and 1860s and, in the first place, why they went on exploring, climbing, and in a way conquering the Alps and peaks in the greater ranges.

The social exclusivity of the Alpine Club was very important, in short, the reason for that was that 'unlike the continental clubs, its purpose was very largely social and status' (Bennet, 1922)²⁴.

It is important to note who is meant by the term 'British mountaineers' because these mountaineers didn't come from all strata of the British society. When looking at the social background of these climbers, it is clear that there were no social 'lower' or 'upper' class alpinists, but that they were all members of the 'middle' class, and, more specific the 'upper middle' class. This (upper) middle class was growing fast during the first half of the nineteenth century mainly due to the Industrial Revolution, which made it possible for the service sector to develop rapidly. Industry required a new level of workers, overseers and managers who should possess a certain level of education and additionally, financial status, the growth of a relatively new middle class rose to prominence as a consequence. The fact that most of the first British alpinists were from this class can easily be demonstrated when looking at the composition of the Alpine Club which was founded in 1857 by a group of likeminded strong mountaineers (Alpine Club Journal, 1922)²⁵. It is important to note that not all alpinists were members of the Alpine Club, exceptions to this rule did occur but, it is clear that almost all mountaineers were from the upper middle-class section of the British social society. The social composition of the Alpine Club, and of British mountaineering in general, is important because the social background of these alpinists meant a mark of class-status and was a major motivation for them to go to the

²⁴ Bennet C.S., 'The Golden Age of Mountaineering', Alpine Club Journal; 1950

²⁵ Alpine Club Journal;1922

Alps, to scale most mountains, and, in a way, invent modern mountaineering. To be a member of the Alpine Club required demonstration of previous mountaineering experience, this in turn meant that potential members had to come from a background in which they had the opportunity and financial security to allow them to travel to gain such required experience (Band G)²⁶ The 'invention' of mountaineering by British mountaineers didn't come out of nowhere and in a way that was very different from the scientific and romantically oriented 'pre-alpinism' period as existed from the end of the eighteenth century until the middle of the nineteenth century. The early British mountaineers had different reasons to go to the Alps and making the first ascents of almost all the high alpine peaks. The first few, albeit very important reasons have to do with the social position of the upper middle class and more specific with the exclusivity of the Alpine Club. Other reasons have a base within an Athletic Revolution (Smelser, 1991) which emphasised the growing importance of sports in general, or were related to the Industrial Revolution or to more personal reasons.

In order to enlarge and to strengthen the new service and managerial social position it was important for this social sector to be able to distinguish themselves from not only the lower classes, but also from the higher classes as well. To do so, they created a new 'middle class' identity. Not as the identity and culture of the higher classes, the industrialist and nobility, but on a whole new, active identity (Hansen P.H.)²⁷. This identity would appear to be the driving power behind mountaineering, it is important to note that there was a continuous interaction between mountaineering and this middle-class identity to well into the early 20th century. Without this identity mountaineering would have probably never been created by the British it

²⁶ Band G., 'Summit: 150 years of the Alpine Club', Collins, 2006

²⁷ Hansen P. H., 'Albert Smith, the Alpine Club, and the Invention of Mountaineering in Mid-Victorian Britain', The University of Chicago Press, in: The Journal of British Studies, Vol. 34, 3, Victorian Subjects (Jul., 1995)

https://www.semanticscholar.org/paper/Albert-Smith%2C-the-Alpine-Club%2C-and-the-Invention-of-Hansen/175518f8bdc0a281081045e5dfd17ff7049ebeca

was simply a perfect embodiment of this upper-middle class identity and hence, a solid foundation was laid on which mountaineering could develop.

This identity was mainly based on two concepts, namely Masculinity and Imperialism (combined with exploring), these two concepts can't be seen independently from each other. The emphasis on masculinity has to be seen mainly in a way that the British wanted to '*uphold their imagined sense of Britain's imperial power* (Hansen P.H)²⁸

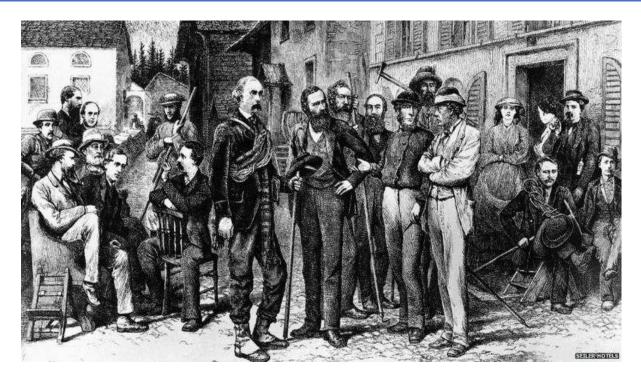
Imperialism was of course important as Great Britain had the greatest colonial 'British Empire' in the world, and the 'middle class' members not only wanted to keep that image, they wanted to expand it beyond their colonies. The mountains would prove to be the perfect place to bring this identity into practice. 'Mountain climbing helped to legitimize exploration and the broader imperial expansion by transforming imperialism from an abstraction into something tangible and readily accessible to ambitious professional men' (Hansen P.H)²⁹. The importance of exploration and imperialism can easily be demonstrated when reading through some mountain travel books from the time, words like 'conquering', 'victory' and 'defeat', and other similar words that used to describe military situations were very common.

²⁸ Hansen P. H., 'Albert Smith, the Alpine Club, and the Invention of Mountaineering in Mid-Victorian Britain', The University of Chicago Press, in: The Journal of British Studies, Vol. 34, 3, Victorian Subjects (Jul., 1995)), https://www.semanticscholar.org/paper/Albert-Smith%2C-the-Alpine-Club%2C-and-the-Invention-of-

https://www.semanticscholar.org/paper/Albert-Smith%2C-the-Alpine-Club%2C-and-the-Invention-of-Hansen/175518f8bdc0a281081045e5dfd17ff7049ebeca

²⁹ Hansen P. H., 'Albert Smith, the Alpine Club, and the Invention of Mountaineering in Mid-Victorian Britain', The University of Chicago Press, in: The Journal of British Studies, Vol. 34, 3, Victorian Subjects (Jul., 1995)),

https://www.semanticscholar.org/paper/Albert-Smith%2C-the-Alpine-Club%2C-and-the-Invention-of-Hansen/175518f8bdc0a281081045e5dfd17ff7049ebeca



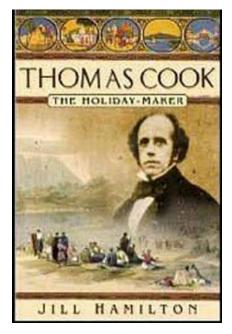
British clients with their Swiss guides in Zermatt, a small village below the Matterhorn -Seiler Hotel collection

'An Alpine Journey is perhaps the nearest approach to a campaign with which the ordinary civilian has a chance of meeting. He has some of the excitements, and many of the difficulties and privations of warfare, without any of its disgusting and dreadful features. He combats only the elements, storms only the fortresses of nature, yet he has continually in his mind the consciousness of the power by which he is surrounded, and at times overawed (Forbes J, 1900)³⁰.' Mountaineering was a means to create strong social barriers which were needed for the middle classes to build up and to preserve their strong social position in British society. However, mountaineering can also be seen in a completely different way. Alpinism was not 'created' to develop strong social barriers, or to emphasize the differences between social classes, but simply as a manner to escape from such a strict and vigorous mundane social system. In the Alps, the British 'middle class' mountaineers could enjoy a social freedom which they

³⁰ Forbes J; Travels through the Alps; Londen, Black, 1900

didn't have in Britain and many mountaineers saw their mountain guides as their equals, and, in short, social barriers were, in a large degree, broken down within the world of mountaineering. Accepting masculinity and imperialism as core drivers in the development of mountaineering stresses the importance of sport and leisure in Great Britain in the nineteenth century which can't be ignored. Sport wasn't really a reason for some men to start climbing, but that its contribution to mountaineering lies more in the fact that many British middle-class members were very sport minded, as a part of some sort of 'Athletic Revolution' that occurred in the nineteenth century in Britain (Holt, 1989)³¹. Their interest in sport made it possible for an activity such as mountaineering to emerge. The same can be said for leisure holidays and the emergence of mass tourism and the Thomas Cook Company.

Thomas Cook introduced mass tourism in 1855 which was partly facilitated by the development of European railway systems. A journey from Great Britain to the Alps at the beginning of the



nineteenth century took five days to reach Switzerland but by 1870; it only took about 20 hours (Tissot, 1995)³². This enormous improvement made it possible to travel to the Alps for a shorter period of time, and thus a larger group of British were able to do so. Not only the journey time rapidly improve, but the cost diminished as fast as the speed was going up. Thanks to the growing number of travellers railway companies were able to reduce their ticket prices. Which of course made it possible for more and more people

 ³¹ Holt R., 'Sport and the British: a Modern History', Oxford, Clarendon Press, 1989
 ³² Tissot L., 'How did the British Conquer Switzerland?', Journal of Transport History, 1995 https://journals.sagepub.com/doi/abs/10.1177/002252669501600105?journalCode=jthc

to start travelling, and for some of them to start climbing $(Tissot, 1995)^{33}$.



As if to illustrate the point the caption to the above image reads -Lucy with Frank (father) and Horace Walker (brother) and A W Moore (Alpine Club Library)

Thomas Cook was the frontrunner of establishing tourism systems and made mass tourism possible, initially in Italy. First, the circular tickets could be used on almost all Italian railways. These tickets allowed travel by train for a preset number of days along predetermined routes. Second, Cook designed a series of hotel coupons to complement circular tickets, which could be exchanged for lodging and meals at designated accommodations. Lastly, he introduced the circular tour notes which could be changed at designated hotels, banks, and tickets agents for Italian lira at a predetermined

exchange rate.

The British East India Company was, by the mid-18th century, involved in politics and operated as an agent of British imperialism. Many of the British upper-middle social class men who had been involved in mountaineering and exploration activities gained employment in and were duly transferred to India to sever in the British East India Company offices. It was not too long before a healthy interest developed within the service / management sectors for exploring those easily accessed Himalayan peaks from the Indian subcontinent, this was supported by The *Great* Trigonometrical *Survey of India* which had been established in 1802 (*Danvers, F.C.*)³⁴ **Who were the experienced mountaineers embarking on the early expeditions to the Greater Ranges?**

 ³³ Tissot L., 'How did the British Conquer Switzerland?', Journal of Transport History, 1995
 <u>https://journals.sagepub.com/doi/abs/10.1177/002252669501600105?journalCode=jthc</u>
 ³⁴ Danvers, F.C. The Trigonometrical Survey. (With a Sketch-map.)
 http://wgbis.ces.iisc.ernet.in/biodiversity/sahyadri/wgbis_info/trigonometrical_survey.htm

In the early years of the "Golden Age", scientific expeditions were intermixed with the sport. More often than not, the mountaineers carried a variety of instruments up the mountain with them to be used for scientific observations. The physicist John Tyndall was one of the most prominent of the scientists at that time, however, among the non-scientist mountaineers, the literary critic Leslie Stephen gained notoriety. In the latter period of the "Golden Age", it was not the non-scientist but the pure mountaineers who came to dominate the London-based Alpine Club and alpine mountaineering overall (Engel, 1950)³⁵. The beginning of this period slightly predated the formation of the Alpine Club in London in 1857, the golden age was dominated by British alpinists and their Swiss and French guides. Prominent figures of the period include Lord Francis Douglas, Paul Grohmann, Florence Crawford Grove, Charles Hudson, E. S. Kennedy, William Mathews, A. W. Moore, Leslie Stephen, Francis Fox Tuckett, John Tyndall, Horace Walker and Edward Whymper. Well-known guides of the era include Christian Almer, Jakob Anderegg, Melchior Anderegg, Johann Joseph Benet, Peter Bohren, Jean-Antoine Carrel, Michel Croz, Ulrich Kaufmann and Johannes Zumtaugwald. Lucy Walker, sister of Horace, also attained some notable ascents during the period, including the first female ascent of the Balmhorn (1864), and later several other first female ascents (Engel, 1971)³⁶.

The period of the Silver Age of alpinism is given to the era in mountaineering that began after Edward Whymper and party's ascent of the Matterhorn in 1865 and ended with W. W. Graham and party's ascent of the Dent du Géant in 1882 (Engel, 1971)³⁷.

Whilst the Golden Age of alpinism (1854-1865) was characterized by the first ascents of many of the Alps' most dominant mountains, the subsequent Silver Age may be seen as consisting of

³⁵ Engle C; Mountaineering in the Alps - A Historical Survey; Allen & Unwin; 1971

³⁶ Engle C; Mountaineering in the Alps - A Historical Survey; Allen & Unwin; 1971

³⁷ Engle C; Mountaineering in the Alps - A Historical Survey; Allen & Unwin; 1971

achieving the first ascents of the many worthwhile peaks still left unclimbed, although these peaks were, and remained, largely unknown to the wider public in Great Britain.

Once these peaks had been climbed, many ambitious alpinists turned their attention to more distant and often loftier ranges, such as the Caucasus, the Andes, the Rockies and, latterly, the Himalaya.

Prominent alpinists and guides of the period include Christian Almer, Melchior Anderegg, Hermann von Barth, Alexander Burgener, W. A. B. Coolidge, Henri Cordier, Clinton Thomas Dent, James Eccles, D. W. Freshfield, Pierre Gaspard, Paul Grohmann, Paul Güssfeldt, John Oakley Maund, Thomas Middlemore, A. W. Moore, Albert F. Mummery, Julius Payer and William Penhall. Those with a heightened sense of adventure, fortitude and a passion for exploration ventured further afield and into the Himalaya.

As happened in the Alps the early explorers had a scientific focus rather than a mountaineering one and subsequent expeditions based their planning on information provided by their predecessors. The German expeditions to Kangchenjunga used the maps improved on by Douglas Freshfield and Professor Garwood, from previous less detailed maps, the Americans gained a lot of essential information for their Abruzzi Ridge expedition from previous surveys (Mason K)³⁸. The British had a vast store of information going back many decades on the Himalaya, but that was primarily for the Indian Himalaya, and the focus of exploration at that time developed through the formation of The *Great* Trigonometrical *Survey of India* in 1802. The Italian expeditions utilised maps and information gained from the Italian records of 1909 who in turned based their experiences on the work of Martin Conway in 1892, who in turn assessed information gained from Godwin-Austen's work of 1861.

25

³⁸ Mason K; Abode of Snow A History of Himalayan Exploration; London: Rupert Hart-David 1955

Middle-class women journeyed in increasing numbers to the Alps during the last half of the nineteenth century; a substantial minority climbed but they received little attention from cultural, social or sport historians. Where they have been referenced, women climbers were seen either as an addendum to their fathers' and brothers' expeditions, as atypical 'new



women' or simply non-existent until the early twentieth century. (Roche C 2013)³⁹.

Lucy Walker was a pioneer of women's climbing at a time when it was often thought mountaineering was only possible for men but women in general, when venturing to great heights, had

The first lady to climb the Matterhorn, Lucy Walker 1871 Caroline Fink collection

considerable malice directed towards them, as it was widely believed that a woman's place was in the home, supporting the male dominated society of the time.

The Ladder of Experience

In Victorian times there was a definite ladder of experience required to 'enable' a potential British alpinist to gain progression within the mountaineering world. Initially many aspiring mountaineers gained experience in the mountain regions of the UK; North Wales and Scotland and in particular in winter conditions. This was regarded as good training for the Alps. However, in modern times, Scotland winter climbing in particular, has been recognized as a climbing genre in its own right. Although the Scottish mountains never exceed 1400m in height they are situated much further north than the Alps and are subjected directly to the gales blowing in off the

³⁹ Roche C. Women Climbers 1850 - 1900 A Challenge to Male Hegemony https://www.tandfonline.com/doi/abs/10.1080/17460263.2013.826437

Atlantic Ocean and the cold Arctic winds blowing south from the polar region with virtually no land fall to block the advancing weather conditions.



An early gathering of British climbers, male and female, who went onto explore and record many first ascents in the Alps and probably wearing the sort of attire that they would climb in, including the ladies wearing long

At that time the rule was to never fall off. Climbers gained experience on rock before going onto snow and ice, they climbed in the lower mountains before going to the Alps, and they climbed in the Alps before going to the Himalaya. Often physical and mental challenges prevented a rapid progress through the skill levels, with the lack of modern protection the risk of falling was far greater, and however, there were always exceptions. To be a member of the Alpine Club it was insisted that individuals had to have 'ascended to the top of a mountain with a summit of 13,000 feet in height (almost 4000m) (Band, 2006)⁴⁰

At this time many 'amateur sports' were beginning to follow the lead set in cricket, that resulted in the formation of the Marylebone Cricket Club (MCC) in 1787, other Associations were established, the Royal Yachting Association, 1875, the Football Association, 1863 the Tennis Association, 1888 all had their origins within this period of history so it is not surprising that climbing also followed this suite with the Alpine Club in 1857 (Smelser, 1991)⁴¹.

British mountaineers socialised with the mountain guides they hired when climbing in the Alps and ultimately they became great friends and the guides were nearly always contracted to accompany their 'clients' on nearly all of their clients' expeditions. These mountain guides were mainly (if not all) from the lower classes. Considering how this new upper middle class would interact, or not, with lower classes in Britain it is significant that many British mountaineers saw their mountain guides as their equals, and, in short, social barriers were, in a large degree, broken within the world of mountaineering. The post war guide client relationships persisted right through British mountaineering history up to the point of commercial expeditions in the Himalaya in the early 1990s.

Furthermore, in the late 1800s there was the increasing quantity of expedition reports written by participating mountaineers, better quality maps, travel and guidebooks with good quality photographs, these provided many British travelers with useful information and not only the motivation but also an incentive for travelling to the Alps. Especially within mountaineering as this was the case as numerous travel books were also written by experienced mountaineers and published during the 1850's and 1860's. For many men and women reading these books this did provide that final 'push' for actually travelling to the Alps and to climb. The same effect

⁴⁰ Band G., 'Summit: 150 years of the Alpine Club', Collins, 2006

⁴¹ Smelser N. J., 'Social Paralysis and Social Change. British Working-Class Education in the Nineteenth Century', Oxford, University of California Press, 1991

occurred as a result of lectures given by mountaineers, the best-known example is Albert Smith and the show he had created around his ascent of Mont Blanc in 1851, which was in fact the only ascent he made in his life. Smith performed his show for ten years, attracting numerous spectators, and thus creating an awareness and enthusiasm for mountaineering. (Hansen P; 1995)⁴²

To conclude, personal reasons for people to go and climb mountains; or simply to be in the mountains vary. These reasons today are probably the same as they were for mountaineers in bygone eras. Personal motivation was probably the most important issue because without those personal reasons, in spite of the importance of the middle-class identity based on imperialism and masculinity, the importance of sport and leisure and other social related reasons, and the growing financial power of these men and women, they wouldn't have gone to the Alps, and they would certainly not have been climbing mountains. In short, we could maybe say, to understand mountaineering, we need to understand the mountaineer.

In the last few years of peace before the beginning of WW-I the elite of British climbing and mountaineering were part of the newly formed Alpine Club and Climbers' Club and would meet socially at a venue in Wales (UK). During the day they would climb and explore the gullies and buttresses of the steep cliffs of Snowdonia, during the evening they would sing, recite poetry, debate and argue, those were innocent times; dreams were explored and plans were made in anticipation of what was to come in the new century.

When thinking of personal reasons, motivation can come in many packages, religion, the sublime, adventure, science (for some men), simplicity, tranquility, sport and comradeship come to mind, but this list is actually endless, as every mountaineer, then and now, has his/her own personal reasons and motivation for climbing.

⁴² Hansen P H; Albert Smith, The Alpine Club, and the invention of mountaineering in Mid-Victorian Britain; Cambridge University Press 1995 https://www.jstor.org/stable/175982

Reasons and motivations are very personal and specific to social standing of the individual (Maslow A)⁴³. However, with fortitude and an adventurous spirit mountaineers, with a foundation of Scottish winter, and then alpine experience ventured further afield and into the greater ranges, including the greatest range of all, the Himalaya and into Polar Exploration.

Many of the leading activists of the time were also members of the Royal Geographical Society (RGS) founded in 1830 for the advancement of the geographical sciences. The history of the Society was closely allied for many with its earlier years of 'colonial' exploration in Africa, the Indian subcontinent, the Polar Regions, and Central Asia especially. The Society published its first journal in 1831 and from 1855, accounts of meetings and other matters were published in the *Society Proceedings*, which, in 1893, was replaced by *The Geographical Journal* which is still published today. (Stoddart D R; 1980)⁴⁴

An Awareness of the Himalaya

Europeans first became aware of the Himalaya in approximately 325 BC following Alexander's invasion of India. Although there is no direct evidence that the Greeks penetrated the Pamirs there is the possibility that during the following years some adventurous soles would have ventured into the mountains. The first sketch maps with any resemblance of fact appeared in 1590 as a result of Father Anthony Monserrate, a member of the first Jesuit Mission. Most of this early exploration was centered on the Indian Himalaya and specifically, the Ladakh region. However, in 1662 Albert d' Orville passed through Kathmandu having followed the Bhote Koshi from Nyenam, Tibet. Then in 1721 Desideri left Lhasa and he also passed through the 'Valley of

⁴³ Maslow. A.H. Hierarchy of Needs - "A theory of Human Motivation and Personality 1954 <u>https://www.simplypsychology.org/maslow.html</u>

⁴⁴ Stoddart D R; The RGS and the 'New Geography': Changing Aims and Changing Roles in Nineteenth Century Science; The Geographical Journal <u>Vol. 146, No. 2 (Jul., 1980)</u>, https://www.jstor.org/stable/632860

Nepal' on his way to India. At this point in time the Kathmandu Valley was considered to be Nepal.

Captain Kinlock lead a small expedition in 1767 to provide military support to the Raja of Nepal, he returned with sketches of the border regions with India but during his travels he must have had some tantalizing views of the south side of the Nepal Himalaya. Another map was produced in 1792 as a result of yet another appeal to the East Indian Company for military support for Nepal in another minor war with Tibet.

Charles Crawford was the first Resident's escort in Kathmandu (Nepal) between 1801 - 1803 and during this time he concluded a complete (as far as was possible at that time) large scale map of the 'Valley of Nepal' from the headwaters of the Bagmati River and based on his first-hand survey. He also produced a smaller scale map of the rest of Nepal based on information he collected from other sources.

By the mid-late 1700s, the Gurkha King, Prithvi Narayan Shah had imposed his control over most of his newly claimed and expanded border lands of Nepal which now stretched from the Garhwal in the west to the Testa River in the east and fearing an invasion from the East India Company had closed all borders to foreigners. At this time, there was no alignment of the peaks or axis that had been discovered although many valleys had been tentatively explored. (Amataya S)⁴⁵ The height of Dhaulagiri was surveyed from the plains of India and over four different survey platforms. In 1809 - 1810 W. S. Webb calculated it to be 26,862 feet in height, only a discrepancy of 67 feet based on today's confirmed height of 26,795 feet.

Between 1814 - 1816, war broke out between Nepal and the East India Company over continued incursions by the Nepali army into East Indian Company territory. The Sugauli Treaty signed postwar fixed the Nepal India border region at Kali and thus a whole area of western Nepal was now

⁴⁵ Amataya S; British Diplomacy and its various missons in Nepal 1767 - 1799 <u>http://himalaya.socanth.cam.ac.uk/collections/journals/ancientnepal/pdf/ancient_nepal_06_04.pdf</u>

open for exploration and surveying. Various British non-military officials were allowed into Nepal with specific purposes but it was not until 1924 that the Prime Minister of Nepal invited the British to send a detachment to survey the country. Until then, the focus of the British had been on exploring the Kashmir, the Baltistan regions and Ladakh, although, in 1861 the India Government approved of the formation of a survey team under the control of the Great Trigonometrical Survey to send two 'Pundits', British subjects (Indians) from the upper valleys of the Indian Himalaya, to be trainer to survey the Nepal Himalayan region under the disguise of being traveling holy men.

In 1830, George Everest was appointed Superintendent of the Great Trigonometrical Survey of India and up until he retired in 1843, he completed a framework of triangulation points covering the Himalaya that allowed the fixing and accurate positioning and calculating the heights of the highest summits without actually visiting them. The highest of the Himalayan peaks were visible from the principal survey stations, seventy - nine of them were in forbidden Nepal.

In addition to the surveying expeditions, various scientific studies of the Himalaya were conducted in the 19th century. Between 1848 and 1849, the English botanist Joseph Dalton Hooker made a pioneering study of the plant life of the Sikkim Himalaya. He was followed by numerous others, including (in the early 20th century) the British naturalist Richard W. G. Hingston, who wrote valuable accounts of the natural history of animals living at high elevations in the Himalaya. Sadly, it should be noted that many of these scientific surveys not only transported flora and fauna back to Kew Gardens in London but many Nepali artifacts were also sent back to the British Museum in London where they are still kept to this day. Brian Hodgson, the First British Resident in Nepal 1820 - 1843, who was known as the *'Farther of Himalayan Studies'* was responsible for the removal of the majority of the artifacts (Allen C.)⁴⁶

⁴⁶ Allen C. The Prisoner of Kathmandu Brian Hodgson in Nepal 1820-43; Haus Pub., 2015

Himalayan mountaineering began in the 1880s with the Briton W. W. Graham, who claimed to have climbed several peaks in 1883. Though his reports were received with skepticism, they did spark interest in Himalayan mountaineering among other European climbers. In the early 20th century, the number of mountaineering expeditions increased markedly to the Karakoram Range and to the Kumaun, in the Sikkim Himalaya and to the Tibetan, on the northern side of the Himalaya chain.

As had happened in the Alps, early Himalayan expeditions had scientific focuses. Alexander Kellas, born in Scotland in 1868 had by 1913 accumulated more time at altitude than any other man alive, his scientific focus was on human physiology and the effect of altitude on the human body. Kellas is recorded as being the first to successfully complete several Himalayan expeditions, summiting Chomiomo 22,430 feet, Pauhunri 23,186 feet and Kanchenjhau 22,700 feet, all situated on the Sikkim Tibetan border, he did these in a solitary fashion all but with his loyal small band of Nepalese porters. Kellas' research had a direct bearing on the climbing of Everest and eventually other peaks of the high Himalaya.

Initially Dhaulagiri was imagined to be the highest mountain in the world as seen from the south, Indian side its mighty south face could be seen in its entirety, all 8000 m asl of it. Then once the British had established the hill station at Darjeeling, Kangchenjunga took the crown as seen from the Hill Station it could be viewed as a vast mass of a mountain. Kangchenjunga was possibly the first Himalayan mountain to become a tourist attraction with hundreds of visitors making the journey each year from the plains of north-east India, via the 'Toy Railway' to Darjeeling simply to view the magnificent sunrise as it slowly lit the entire summit ridge turning it into a silver thread resembling a spider's web high above a still dark lower valley. Then of course Mt. Everest was finally crowned as the highest mountain in the world. (Pierse S 2005 Kangchenjunga School of Arts, University of Wales 2005)⁴⁷ Despite extensive research for a local

⁴⁷ Pierse S; Kangchenjunga; School of Arts, University of Wales; 2005

Nepali or Tibetan name non was discovered, although now it is evident that both the Tibetans and the Nepali had their own cultural name for Mt. Everest. It was only in 1865 that, at the suggestion of Sir Andrew Waugh, the Surveyor General did it finally receive the accepted name Everest. By 1862 more than 40 peaks with elevations exceeding 18,000 feet (5,500 meters asl) had been climbed for surveying purposes.

The Intervening Years of World War I

In 1893, General Bruce had suggested to Younghusband that they should cross Tibet and try to climb Mt. Everest, the challenge at that time, was not taken up. Several other Everest expeditions were planed but ultimately everything was prevented by the outbreak of World War 1 (W.W. 1).

The First World War marked the end of an era in mountain adventure including in the Himalaya. The war, also known as the Great War, began in 1914 after the assassination of Archduke Franz Ferdinand of Austria. His murder catapulted Europe into a war that lasted until 1918. During the conflict, Germany, Austria-Hungary, Bulgaria and the Ottoman Empire (the Central Powers) fought against Great Britain, France, Russia, Italy, Romania, Japan and the United States (the Allied Powers). As a result of new military technologies and the horrors of trench warfare, World War 1 saw unprecedented levels of carnage and destruction. By the time the war was over and the Allied Powers claimed victory, more than 16 million people soldiers and civilians alike were dead.

The outbreak of the First World War in 1914 gave Prime Minister Chandra Shumshere of Nepal an opportunity to offer, via His Excellency the Viceroy of India, King George "the whole military resources of Nepal are at His Majesty's disposal (Landon 1928)⁴⁸. We shall be proud if we can be of any service, however little that may be." Thus, the Imperial British India's 10 Gurkha Regiments comprising of two Battalions each, about 19,000 Gurkhas in 1914, were on a turn-by-

⁴⁸ Landon, Perceval. Nepal Vol-II. 1928 first published. Asian Educational Services. New Delhi.

turn basis packed-off either to face the Germans on the Western Front in France or the Turks in Mesopotamia, Egypt and Palestine. The Nepalese army was sent to India to maintain peace there by garrisoning the cantonments vacated by their brothers in Dehra Dun and the North-west Frontier (Dr. Surendra KC. 2062)⁴⁹.



Gurkha Soldier during the WWI (The Gurkha Brigade Association

But, with heavy collateral damages, the Imperial British India Brigade raised another Gurkha Regiment, the 11th, and had three Battalions manning each of these consisted of eleven Regiments. To maintain the Gurkha Regiment strength, ".... the whole country was quartered by Chandra and a new and intensive system of recruiting was put into force. the number of men who actually left the country for all military purposes amounted to more than two hundred

⁴⁹ Dr. Surendra KC. 2062 BS. Sabita Prakashan, Taplejung. Appendix 4, Annual Returns of the Native Army 1875-1942 in Gorkha Bharti

thousand In his (Asbahadur) village the women were doing the work, as their (men) were in France. He only met old men and cripples and boys"⁵⁰ Thus when the Great War ended, the Gurkhas' strength had ballooned to 59,000 by 1919. For a tiny nation with a 1911 census population of only 5.6 million, this contribution of 200,000 young men meant 3.6% of her



population. When the 1920 census was taken, the population had consequently decreased to 5.5 million, a decrease of 1.1% as a result of the war. (Pun S. B; 2018)⁵¹

Tragically, the new century did not deliver the dreams of those aspiring Himalaya climbers who would meet in the mountains of Snowdonia or in the Alps before the war, many of those young and gifted men were never to return to their beloved mountains but instead perished at the hands of the enemy and disillusioned military generals on the soil of northern Europe.

Not only were the mountains virtually closed by military action but the friendliness and brotherhood of kindred spirits were broken. Men who had climbed and trekked together were enemies and often fought each other, mountaineers were ejected from Alpine Associations and friends had friends on both sides killed or maimed in the prime of their life. The mountaineering world lost hundreds of talented and experience climbers and mountaineers during this atrocity

⁵⁰ Pun S. B; Spotlight 2018

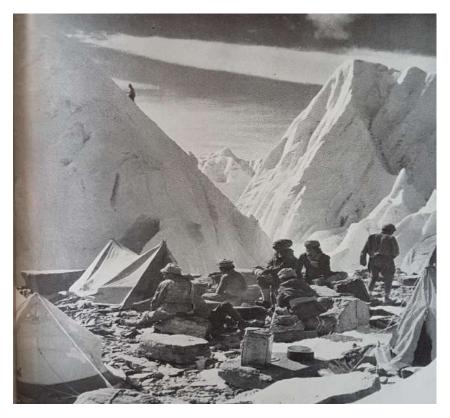
https://www.spotlightnepal.com/2018/11/23/reflecting-celebrations-all-over-world-exceptnepal-centenary-end-first-world-war

⁵¹ Pun S. B; Spotlight 2018

https://www.spotlightnepal.com/2018/11/23/reflecting-celebrations-all-over-world-except-nepalcentenary-end-first-world-war

and the Survey of India had lost several officers with valuable Himalayan knowledge and experience. Those that survived were mentally scarred for life.

After the war had ended many of the surviving soldiers who were the pre-war mountaineers returned to their previous jobs but the war had not only aged them but had left an indelible mark on their minds and souls. Field surgeons, commanders and the private soldiers who fought and survived trench warfare maintained a callous streak in their nature, which they had had to develop during the war to enable them to survive the horrors and mutilations that they had witnessed. (Davis W; 2012)⁵²



Camp 2, 20,000ft P R Oliver practicing his step-cutting skills on a serac near-by. Within 30 minutes of taking this photograph the tents were in the shade, and all were inside protected from the wind but not the cols. Temperatures of 50° of frost were recorded. Ruttledge H; Everest, The Unfinished Adventure

⁵² Davis W; Into the Silence Wade; Penguin Random House Canada; 2012

Three British expeditions set out for Everest between 1921 and 1924, involving a total of 23 climbers, all but six of whom had seen action in World War 1, either as combatants or medics. Charles Bruce survived Gallipoli in spite of being "cut down with machine-gun fire that nearly severed both of his legs". Advised by the medical board "to retire to a quiet life and to be especially careful never to walk strenuously uphill", he went on to lead the second and third Everest expeditions. George Mallory, who would die on Everest in the third of three successive trips to the Himalaya, served as an artillery officer but had the good fortune of being sent home from the Somme (due to the recurrence of an old climbing injury) and missing Passchendaele thanks to a motorbike accident on a training course. (Davis W. 2012)⁵³

The Great War resulted not only in vast numbers of men dying but, in their being blown to unidentifiable bits by artillery so that they were commemorated as "Missing in Action". For almost 75 years, until the discovery of his body in 1999, Mallory shared this fate and became their exalted representative: a name preserved high above the nameless dead.

If Mallory and his cohorts are representatives of a bygone age, their expeditions established a template that remained unchanged for the next 70 years. The combination of "exclusive marketing arrangements" and sponsorship developed, the slogan, "Avoid worry, use Sunlight Soap and for Ever-rest" being used to underwrite the enormous cost the undertaking the expedition was in place from the outset The contemporary practice of wealthy individuals purchasing a place on Everest, familiar to readers of *Into Thin Air*, (Krakauer J.2011)⁵⁴ "began from the inception of the Everest dream".

Post WW I and the revival of Himalayan Ambitions

Soon after the war finished the ideas for another expedition to climb Mt. Everest were revived by the British. However, the British Government felt that it was too soon after the war to

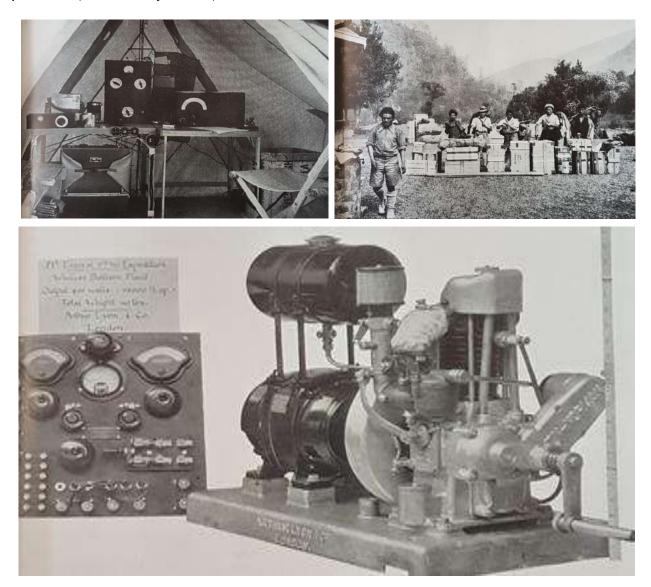
⁵³ Davis W; Into the Silence Wade; Penguin Random House Canada; 2012

⁵⁴ Krakauer J; Into Thin Air; Pan MacMillan; 2011

approach Tibet for permission. In 1920, the Royal Geographical Society took on the role for the responsibility of all negotiation on behalf of the British with the Indian and Tibetan Governments. It was eventually decided that the reconnaissance would be carried out in 1921 with the first expedition to take place in 1922 from the northern side, included in the team was Mallory who was recognized as the best Alpinist in England at the time. A third British attempt was sanctioned by the Tibetan Government for 1924. The story of Mallory and Irvine's final attempt is one of the epic stories of climbing. Although, Mallory's body has now been found, his camera that would have provided the ultimate evidence, has not. It was reported by a Chinese climber that he had seen the body of an 'old Englishman' during their successful north ridge expedition in 1960. As there had been no other expedition up that route since Mallory and Irvine, it can only be assumed, since the discovery of Mallory's body, that it must have been that of Irvine. Unfortunately, the Chinese climber concerned died the following day in an avalanche after the conversation with a team member so little firsthand reporting was possible.

There had, in 1866 been a suggestion that there should be a formation of a Himalayan Club, however, the idea never got beyond just being an idea. By 1927-28, people had again considered establishing such an organization. Over a hundred Himalayan mountaineers from all over India became Founder Members of the Himalayan Club with the intention: 'to encourage and assist Himalayan travel and exploration and to extend knowledge of the Himalaya and adjoining mountain ranges through science, art, literature, and sport'. The Himalayan Club amalgamated with the Mountain Club of India in 1928. Both organizations owed a great deal to the Alpine Club basing many of their rules on the established British association of which many members were the founder members of the Himalayan Club. The Club soon became central to mountaineering in the Himalaya when ultimately its members were required to accompany expeditions from

Europe as a safeguard for the Himalayan people, basically to act as liaison officers to those expeditions (The Himalayan Club)⁵⁵.



Smijth-Windum's wireless transmitting and receiving equipment at Camp 1 17,700ft. On the left is a 'light-weight' set intended for use at the higher camps. On the right on the table is the 'Homelander' receiver and below the table is the Marconi transmitter. Upward of 500 messages were passed via this equipment during the course of the expedition.

The total load of wireless equipment necessitated many porters just for this equipment and dedicated staff to supervise the careful handling of the logistics

The wireless battery charger, complete with the switchboard, compression ratio of 8:1 to be able to cope with the effects of high altitude

Ruttledge H; Everest, The Unfinished Adventure

⁵⁵ The Himalayan Club; A Brief History of The Himalayan Club

The Eastern Section of the Club eventually produced a list of the most experienced Sherpa people who had been employed on other expeditions. Fifteen porters who were employed by the 1924 Everest Expedition, and proved themselves fit and ready to go high on the North Col on previous expeditions were knick-named 'Tigers' and were the first to be added to the list. Expeditions were large during these times; there would be hundreds of porters and many potential lead climbers. Strength was perceived to be in number, although there were undoubtedly experienced and talented mountaineers amongst the ranks there were also many unknowns, how would the weather impact on performance, how would altitude impact on the climbers' ability at altitude, if the first attempt to summit failed would there be the breadth of experience to make a second attempt?

The equipment had been much improved over the intervening years: tents, wind-proof clothing, and scientifically balanced food rations were now available. A major asset was the much lighter and mechanically improved oxygen apparatus and the availability of wireless apparatus (Ruttledge, 1937)⁵⁶

⁵⁶ Ruttledge, H. Everest, The Unfinished Adventure. London: Hodder & Stoughton. 1937

Name	Function	Profession
Ruttledge	Leader	Civil servant (Indian Civil Service)
Shebbeare	Deputy leader and transport officer	Indian Forestry Service
🚟 🏜 Captain E.St. J. Birnie	Mountaineer	Soldier (Sam Browne's Cavalry)
🚟 Major H. Boustead	Mountaineer	Soldier (Sudan Camel Corps)
BE T. A. Brocklebank	Mountaineer	Cambridge graduate
C. G. Crawford	Mountaineer	Civil servant (Indian Civil Service)
Dr C. R. Greene	Principal medical officer and mountaineer	Doctor
J. L. Longland	Mountaineer	English lecturer at Durham University
🚟 Dr W. McLean	Second medical officer and mountaineer	Staff of the Mission to the Jews, Jerusalem
Shipton	Mountaineer	Settler in Kenya
SHE W. R. Smijth- Windham	Wireless operator	Soldier (Royal Corps of Signals)
F. S. Smythe	Mountaineer	Freelance adventurer
E. C. Thompson	Wireless operator	Soldier (Royal Corps of Signals)
🚟 L. R. Wager	Mountaineer	Lecturer in geology
G. Wood- Johnson	Mountaineer	Tea planter

🚟 P. Wyn- Harris	Mountaineer	Civil servant (Kenyan Civil Service)

It can be seen from the list of Members that the upper-middle class still held a role in mountaineering. (Ruttledge, 1937)⁵⁷

Many of the Sherpa porters were by now very experienced and more reliable than on previous expeditions.

 Ang Tharkay - Kangchenjunga 1931, Everest 1933, 1936, 1938, Nanda Devi Basin 1934 Kumaun 1936 and the Karakoram 1937

ng Bhutia Everest four times

•

gdi Nurbu Everest three times

•

y others had also been on expedition's al-be-it to lesser altitudes.

During these expeditions experience was gained and lessons learned.

The German mountaineers were unable to attempt Mount Everest, since only the British had access to Tibet. Initially German efforts focused on Kanchenjunga, to which Paul Bauer led two expeditions in 1930 and 1931, but with its long ridges and steep faces Kanchenjunga was more difficult than Mt. Everest and neither expedition made much progress. K2 was known to be harder still, and its remoteness meant that even reaching its base would be a major undertaking. Nanga Parbat was therefore the highest mountain accessible to the Germans and was also deemed reasonably possible by the climbers at that time (Neale, 2002)⁵⁸.

Pasa

Wan

Man

⁵⁷ Ruttledge, H. Everest, The Unfinished Adventure. London: Hodder & Stoughton.1937

⁵⁸ Neale.J.; Tigers of the Snow; Abacus; 2002

The German Nanga Parbat (Diamer) Expeditions of 1932 and 1934 was mounted on informative reports produced by Collie and Hastings in 1895. The Germans also returned to Nanga Parbat in 1937 and 1938. The stories of these expeditions are well documented in various books and publications and provide a good insight into mountaineering ethics at the time (Neale, 2002)⁵⁹. In 1939 the Americans went to K2 an expedition often cited as being one of the greatest mountaineering feats sadly resulting in one of the most haunting mysteries of American climbing (Kauffman & Putnam, 1993)⁶⁰. The attempts to climb Mt. Everest, Kangchenjunga, Nanga Parbat and K2 set the pace of Himalayan climbing for that generation.

The German undertook their three Nanga Parbat expeditions, 1932, 1934 and in 1937 but without success. In 1932 this was due, in part, to a lack of understanding as to how high altitude affected the human body, bad weather conditions and lack of sufficient high-altitude porters.

In 1934 the expedition was trapped by a storm at 7,480 m (24,540 ft). During the desperate



Four Sherpa survived of the 1934 nightmare on Nanga Parbat - Da Thundup, Pasang Kikuli, Kitar and Pasang - taken by a member of the German team after they descended (Neale, 2002).

that followed, retreat three famous German mountaineers, well as as six Sherpas died of exhaustion, exposure and altitude sickness, and several others suffered severe frostbite. It has been said that the disaster, "for sheer protracted agony, has no parallel in climbing annals." Four Sherpa survived the 1934 nightmare on Nanga Parbat - Da Thundup, Pasang Kikuli, Kitar and Pasang (Neale, J2002)⁶¹.

⁵⁹ Neale.J.; Tigers of the Snow; Abacus; 2002

⁶⁰ Kauffman A.J. & Putnam W.L., K2 and the 1939 Tragedy

⁶¹ Neale.J.; Tigers of the Snow; Abacus; 2002

In 1937 seven Germans and nine Sherpas, almost the entire team, were at Camp IV below Rakhiot Peak when it was overrun by an avalanche. All sixteen men died. (Neale.J)⁶²

In 1936 a French expedition went to Gasherbrum, slightly lesser mountains, Saltoro Kangri was reconnoitered by the British in 1935, Masherbrum in 1938 and Rakaposhi also in 1938 and also attempted by the British (Karakorum). With a new found vigor and a sense of adventure the British continued with their exploration of the mountains of the Karakorum and Sikkim (Mason, 1955)⁶³. During the early to mid-to late 1930s the dark clouds of war were again gathering on the horizon over Europe.

The Intervening Years of World War II

The war drifted across Europe, Asian and the South China Seas like a giant mist rolling across the mountains not only engulfing everything before it but also destroying the cities, homes, town, families, and dashing the hopes of mankind. Although India had largely escaped the turmoil of World War I it was sucked into World War II as part of the British Empire. Its troops not only served in France but the war spread into Asia, this was not a 'trenched' war as was WW I but is allowed a broader use of individual skills and characteristics, those traits that are developed as a result of acquiring mountaineering skills, on operations and raids as carried out by the commando forces, mountain warfare in central Europe and Scandinavia. There was a greater development of equipment that would latter find its way into the world of mountaineering, nylon rope, karabiners, Vibram soled boots and 10-point crampons.

There were a few expeditions caught in Asia at the start of the war and their members were sent as prisoners of war to internment in Dehra Dun within full via of the Himalaya. Many managed to escape, the most famous of these escapades was Hienrich Harrer who wrote the

⁶² Neale J.; Tigers of the Snow; Abacus; 2002

⁶³ Mason K. Abode of Snow A History of Himalayan Exploration; London: Rupert Hart-David 1955

story of his endeavors in the book *Seven Years in Tibet* (Harrer, 1953)⁶⁴, the war years also saw the passing due to advancing years of well-respected Himalayan mountaineers, Sir Francis Younghusband, (1942), Charles Bruce (1939) Norman Collie (1942) to name but a few.

Prior to the outbreak of WW II expedition planning was in its advance stages for Mt. Everest, K2 and Nanga Parbat but plans had to be put on hold for the duration of the hostilities. As could be expected the activities of the Himalayan Club also became dormant.

The Return of Mountaineering in the Himalaya

In 1946, the Himalayan Club came back to life although the Partition of 1947 almost spelt the end of the Club. But its headquarters were moved from Delhi to *Kolkata where within the civil community there were a nucleus of active British residents. Great efforts were made to trace the entire Club's members that were scattered all over the World, many were never contacted, and however, by the end of 1950 the register of members was again over 500* (Himalayan Club)⁶⁵. As a result of the war, travelling around was again seriously hindered those who wanted to venture into the Himalaya, all costs rose, and consequently the days of large expeditions with hundreds of porters and climbing members were either drastically reduced or the expedition had to resort to being subsidized. Restrictions were imposed on travelers especially for those going through Kashmir, among other issues were the political problems of the area. At that time, there were many restrictions on the use and sale of maps, permits were required and experienced porters from Darjeeling had difficulty in obtaining permission to travel west to Pakistan.

However, a very positive development of this period was the opening up of Nepal. With an eye to financial gain the Nepal Constitution changed to allow foreigners to enter the country, and there was possibly also a fear of Communist infiltration into the northern Himalayan sectors

⁶⁴ Harrer. H; Seven Years in Tibet; E. P. Dutton & Co Inc, 1954

⁶⁵ The Himalayan Club; A Brief History of The Himalayan Club

where crossings from the north were possible. Due to the 150-year lockdown, none of the summits of Nepal had been climbed. In 1949, an American expedition was allowed to enter the foothills of Nepal, the objectives available were unimaginable.

In 1950, the Chinese armies invaded Tibet and once more a dark cloud fell across the Himalaya. The closing of Tibet and the opening of Nepal created more problems. The known routes to *Mt*. Everest were no longer accessible however, the shorter route through Nepal literally opened the turnstiles to the mountains and there were many potential expeditions waiting in the wings. Despite the local situation that applied to Nepal and parts of Kashmir the rest of the Himalayan chain received continuous attention and summit successes increased.



The Dalai Lama was 16 when the Chinese entered Lhasa in 1950. He responded to the crisis by taking over his duties as the temporal leader of Tibet, two years before he was officially supposed to do so. "I had to put my boyhood behind me," he said, "and immediately prepare myself to lead my country, as well as I could, against the vast power of Communist China." (PLA marching into Lhasa.jpg 1951 Wikipedia)

Focusing on Nepal

Once the Nepal borders were open and the Nepal Himalaya became more accessible the number

of permissions submitted for climbing expeditions rapidly increased. In 1949, the Swiss got

permission to explore the Kangchenjunga region, Shipton from Britain got permission to visit Trisuili Gandaki, in the Langtang region, Tilman also from Britain returned in 1950 to explore the Lamjung region, Himal Chuli and Manaslu. During this expedition, Jimmy Roberts made the first European crossing of the Larky La (Tilman, 1952)⁶⁶. In 1950, the French arrived with two objectives, Dhaulagiri 1 and Annapurna 1. The story of this expedition and the ascent of the first ever 8000m peak anywhere in the world was written up in a book, in 1954 Annapurna by Maurice Herzog (Herzog, 1954)⁶⁷. In 1953, the Japanese attempted Manaslu.

In 1953, a small reconnaissance expedition also arrived in Nepal from Britain with the aim of exploring the Annapurna Himal. The Swiss also completed an exhaustive reconnaissance of Dhaulagiri in the same year. Another notable explorative expedition was made by the Scotsman, W H Murry in 1953 when he ventured to the Far West of Nepal and the Api Himal group of mountains. Murry had been with Shipton on the early reconnaissance expedition of 1950. The 1924 epic of Everest overshadowed all other expedition that the British had completed to the mountain. The famous 1924 expedition in which Mallory and Irvine died instigated the planning, of what was to be the final phase of the long British association with the world highest mountain.

There were many rungs on the ladder to achieving the summit. The Alpine Club and the Royal Geographical Society worked together in the planning phases but these were achieved on the back of previous expeditions, the Tilman reconnaissance expedition of 1950, Shipton's expedition of 1951, the Swiss attempts of 1952 and Shipton's Cho Oyu expedition in 1952 which was to test the new oxygen equipment and to train potential team members for the proposed 1953 Everest expedition all filled in missing bits of information on Everest.

⁶⁶ Tilman H.W; Nepal Himalaya, The most mountainous of a singularly mountainous country; Vertebrate Publishing; 2017

⁶⁷ Hertzog. M. Annapurna; J Cape; 1952



Annapurna 1 first climbed by the French 1950



Cho Oyu first climbed 1954 by the Austrians



Everest first climbed by the British in 1953



Kangchenjunga first climbed by the British 1955



Lhotse first climbed in 1956 by the Swiss

©Ian Wall



Makalu first climbed by the French in 1955



Manaslu first climbed by the Japanese in 1956



Dhaulagiri first climbed by the Austrians in 1960

©Ian Wall

The British finally reached the summit of the highest point on Earth on the 29th May 1953. There have been many volumes written about this expedition, but none as famous as Sir (Col at the time) John Hunt's book The Ascent of Everest (Hunt, 1953)⁶⁸. The make-up of the expedition team still had the upper middle-class connections of the previous generational attitudes to mountaineering.

⁶⁸ Hunt J; Ascent of Everest; Hodder & Stoughton, Reprint 2002

Name	Function	Profession
🗮 John Hunt	Expedition leader and mountaineer	<u>British</u> Army Colonel
Evans	Deputy expedition leader and mountaineer	Physician
Band	Mountaineer	Graduate in geology
Bourdillon	Mountaineer	Physicist
Alfred Gregory	Mountaineer	Director of travel agency
🚟 Wilfrid Noyce	Mountaineer	Schoolmaster and author
Griffith Pugh	Doctor and mountaineer	Physiologist
Stobart	Cameraman and mountaineer	Cameraman
🚟 Michael Ward	Expedition doctor and mountaineer	Physician
🚟 Michael Westmacott	Mountaineer	Statistician
🗮 Charles Wylie	Organizing secretary and mountaineer	Soldier
Ed mund Hillary	Mountaineer	Apiarist (Bee Keeper)
George Lowe	Mountaineer	Schoolmaster
Norgay	Mountaineer and guide	
Sherpa Annullu	Mountaineer and guide	

(Hunt J; 2002)⁶⁹

 $^{^{\}rm 69}$ Hunt J; Ascent of Everest; Hodder & Stoughton, Reprint 2002

After the success on Everest, Nepal became the centre of much Himalaya mountaineering activity in 1954. The Italians went to Api and successfully reached the summit, Saipal was explored by the Austrians and a British scientific team, the Argentineans attempted Dhaulagiri, the Swiss went to Gauri Shanker and subsequently joined the Austrian Saipal team for a successful ascent of Cho Oyu. The New Zealand Alpine Club sent an expedition to the Barun glacier region lead by Ed Hillary and including many eminent mountaineers of that generation, several peaks were climbed in the area including, Pethangste and Brauntse. A French team reconnoitered Makalu in preparation for their 1955 which turned out to be successfully accomplished. A small British expedition explored the south-west face of Kangchenjunga (Mason, 1955)⁷⁰. Members of the Cho Oyu British expedition made what Ed Hillary described as a premature withdrawal from the mountain and crossed over into Rolwaling and made many first ascents of peaks surrounding that valley.

The face of Himalayan climbing had changed, it was possible to fly out from Europe, complete the expedition and return to Europe all within a few weeks, many of the long approach treks were made redundant and with the loss of those so to were the charming interaction with the locals and the lower agricultural regions of Nepal.

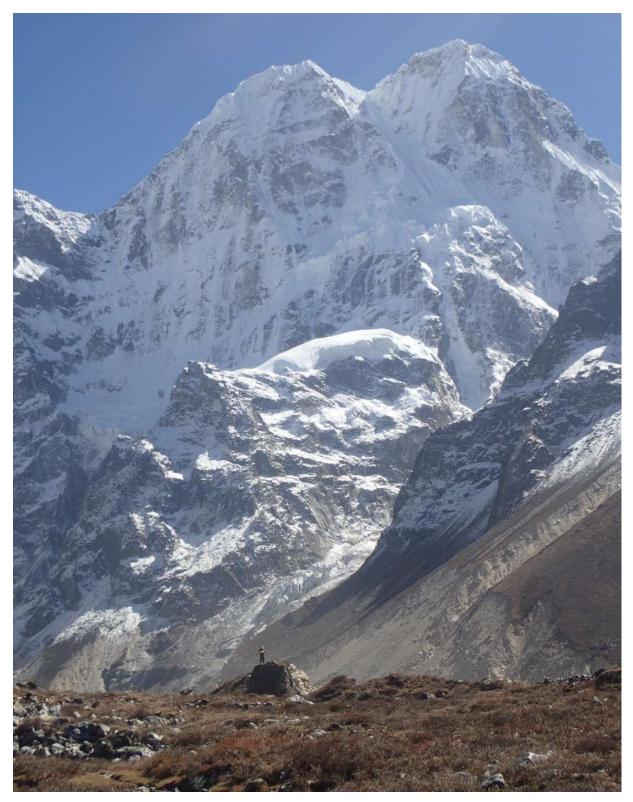
All of Nepal's 8000 m peaks had been climbed by 1960. In 1965, Col Jimmy Roberts established the trekking company Mountain Travel with his first trek being to Everest Base Camp.

Nepal was now a destination that was possibly within reach of a much wider segment of the world's population. Many eminent researchers and scientists arrived in Nepal to carry out various research projects, their reports, public presentations and picture books all added to the exposure Nepal was receiving in the media.

⁷⁰ Mason K. Abode of Snow A History of Himalayan Exploration; London: Rupert Hart-David 1955

Apart from officially organised expeditions, the Peace Corp and the Hippies also arrived in Nepal in the mid-to late 1960s and from within those groups several small groups of mountaineers set out and summited many of the smaller peaks. All this was before there was any interest in recording which mountains were ascended or by whom.

<u>Chapter 2</u> Adventure Mountain Tourism in Nepal



Nepal offers some of the best locations for adventure tourism anywhere in the world $\ensuremath{\mathbb{C}}$ Ian Wall

Nepal's ancient history is based on cultural legends and cultural beliefs and one of the earliest examples is that of Manjushree from Tibet who it is believed to have come to Nepal and cut Chobar Hill in the south of the Kathmandu Valley to let the lake water out and so made it a habitable valley. (Kunda D; 2010)⁷¹

From the earliest of times Nepal has always conjured up images of a romantic Himalayan destination, little was known about the region or even the Himalayan mountains that form the backbone of the country and protective northern border. To the south the Ganges and the Terai region again provided an almost impenetrable southern border. The early migrants from both the northern and southern plains rotated into Nepal to the east the people from the north arrived through the gaps in the Himalaya and to the west those from the south around the Ganges Basin and jungles of the Terai. As in most migration circumstances these people were looking for a better life and, or escaping religious or political persecution. By the 16th century other adventurous travellers were eyeing Nepal for other reasons, then came the Pundits, the British Residents, the scientific explorers (flora and fauna) the anthropologists and then eventually the adventurous tourists.

In 1911-12 King George V and the Prince of Wales visited Nepal to hunt tiger. Over the following years there were regular visits of Rana Prime Ministers to Britain and British officials visited Nepal. The earliest published records in Percival Landon's book 'Nepal' records a list of foreigners who visited Nepal and accounts for 153 Europeans mostly the British who visited Kathmandu between 1881 and 1925AD. (Landon. P 1928)⁷²

The political turmoil in Tibet was part of the catalyst that persuaded the Nepal Monarchy to open the borders to the French in 1950 and thus the mountaineering industry developed. The

⁷¹ Kunda D; The lake that was once Kathmandu; Nepali Times; 2010 http://archive.nepalitimes.com/news.php?id=17327#.YNMO4egza70

⁷² Landon. P; Nepal; Chiswick Press, London 1928

Hippy Trail provided adventure tourism of a different sort in the 1960s and white-water rafting and trekking started to develop. With a change of the monarchy in 1972 Adventure Tourism was given another boost as the King wanted to end Nepal's reputation as a cannabis destination that was 'attracting the wrong image'. (Choegyal L, 2020)⁷³

By the mid-1990s 'Adventure Travel and Tourism' was a fully commercial operation producing millions of dollars of foreign revenue for the Nepal Government. Things started to change when the political situation played a major role in the governance of Nepal. Since then, adventure tourism has never been the same. Today there are many underlying and potentially disturbing issues having a negative impact on Nepal tourism, in some quarters trust has been lost in Nepal's tourism industry by international operators (Kaine D;2019)⁷⁴

At one time Nepal was the Premier Adventure Tourism Destination but now many other countries have followed Nepal's lead and are rapidly developing their own adventure tourism destinations, all in competition with Nepal. While adventure tourist numbers are increasing Nepal seems reluctant to embrace new ideas, technologies and potentially lucrative opportunities are being missed, client expectations are not being fully understood or addressed. The disastrous earthquake of 2015 provided an unwelcome break in the flow of tourists but at the same time it was an opportunity for the industry to address some concerns and future policies, but again those opportunities slipped by.

For Nepal to keep its grasp on the Premier Adventure Tourist Destination crown and its potential for increased generation of foreign income it must revisit its tourism policies and bring them into line with client expectations and modern thinking.

 ⁷³ Choegyal L; Hippie Trail nostalgia in Kathmandu, Nepali Times; 2020
 <u>https://www.nepalitimes.com/banner/hippie-trail-nostalgia-in-kathmandu</u>
 ⁷⁴ Kaine D; Tackling insurance fraud in Nepal, International Travel & Health Journal, 2019
 <u>https://www.itij.com/latest/long-read/tackling-insurance-fraud-nepal</u>

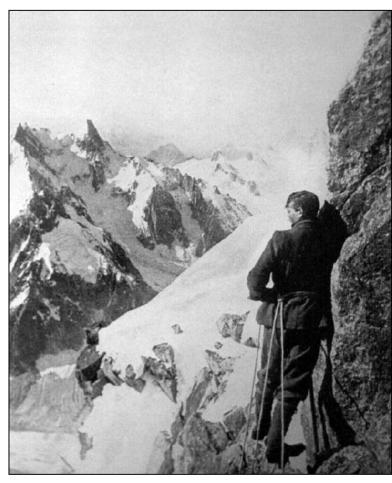
From the early dawn of adventure and exploration in the Himalaya to 1950



The Nepalese Himalaya have always attracted visitors for many years ©lan Wall

The saying goes; 'beauty is in the eye of the beholder' and Nepal has 'beauty' in abundance but maybe now it should reconsider the definition of 'adventure' in the context of Nepal. 'Nepal has adventure in abundance but adventure is in the mind of the visitor'. I say this because the definition of adventure, according to the dictionary is 'the involvement, willingness or participation in activities that involve uncertainty and possibly physical risk with unknown outcomes. In today's adventure industry in Nepal the elements of 'uncertainty, possibly physical risk and unknown outcomes' have to a greater extent been virtually eliminated in all but the mind of the activist. This is in part due to the time constraints of modern day life-styles and the fact that the agencies try to eliminate risk to a greater extent.

Some of the early travellers to visit Nepal were Ashoka from India who visited Lumbini and erected the Ashoka Pillar as a sign that Buddha was born in Lumbini. The Chinese traveler Huien Tsang visited Lumbini in 643AD. Then there were several Buddhism followers that arrived in Nepal, Santaraksit 742AD, Padma Sambhav 474AD, Kamalsheel 760AD, Atisha Dipankar 1000AD and Millerapa 1010AD. (Bajracharya I.S 2014)⁷⁵



The British were one of the first nations to venture into the mountains looking for adventurous challenges (Alpine Club)

Many Chinese, Tibetans and Indians visited Nepal over the early periods of Nepal's history mainly for religious and commercial purposes.

The history of Nepal began in, and generally centered on, the Kathmandu Valley. Over the last two centuries Nepal's boundaries have been extended to include huge tracts of neighbouring India which was at that time ruled by the British East India Company on behalf of the British Empire, and then to contract to little more

than the Kathmandu Valley and a handful of nearby city-states. To the very few that had even heard of Nepal the territory was considered to be only that area of land known as the Kathmandu Valley, beyond that few had little idea of the country or its natural wealth and beauty. Though

⁷⁵ Bajracharya I.S; Buddhism during early medieval Nepal Mandala (733 A.D – 1396 A.D) <u>http://103.69.125.248:8080/xmlui/bitstream/handle/123456789/36/79.%20Dr.%20Indra%20Siddhi%20Bajracharya.</u> <u>pdf?sequence=1&isAllowed=y</u>

it has ancient roots, the modern state of Nepal emerged only in the 18th century. (Allen. C. 2015)⁷⁶

Foreigners have been visiting the land we now call Nepal since ancient times. However, there is no record of any Europeans arriving in Nepal until the first quarter of the 17th century. In 1628 AD, a Portuguese Jesuit called Father Juan Cabral arrived in Kathmandu. He was received by the then King Laxminarasing Malla, who awarded him an auspicious copper plate and allowed him to preach Christianity and so Juan Cabral and his team of Jesuits were most probably the first known and recorded Europeans to visit Nepal. (Spotlight 2013)⁷⁷

The British had a history of mountaineering and exploration in the European Alps and Norway and by the fact that they were the rulers of India under the British Empire they soon developed a keen interest in the Himalaya, but at that time not for mountaineering purposes but for the study of flora, fauna and culture.

The first British citizen to arrive in Nepal was probably William Hunter Douglas Knox, a Resident (emissary) of the British Empire. He arrived in Kathmandu in 1802 but then left a year later. He was followed by John Peter Bolleau and then Edward Gardener. Brian Houghton Hodgson became, up to then, the longest serving First Resident



The First British Resident Brian Hodgson provided the world with a great insight into Nepalese life, religion and culture

staying in Nepal over the period of fourteen years 1829 - 1843. Hodgson was a pioneer naturalist and ethnologist working in Nepal, he discovered and described numerous species of Himalayan

⁷⁶ Allen. C; The Prisoner of Kathmandu: Brian Hodgson in Nepal 1820-43; Haus Publishing 2015

⁷⁷ Spotlight Nepal in the Accounts of Early Jesuit Travellers; 2013 <u>https://www.spotlightnepal.com/2013/04/28/nepal-in-the-accounts-of-early-jesuit-travellers/</u>

birds and mammals and several birds were named after him by others such as Edward Blyth. Hodgson was a scholar of Newar Buddhism and wrote extensively on a range of topics relating to linguistics and religion. For these travellers a visit to Nepal certainly encompassed the adventure elements of uncertainty and possibly physical risk.



King Prithvi Narayan Shah

During this time Nepal was under-going a radical change and King Prithvi Narayan Shah was successful in bringing together diverse religiousethnic groups under one nation. He was a true nationalist in his outlook and was in favour of adopting a closed-door policy with regard to the British. Not only his social and economic views guided the country's socio-economic course for a long time but his use of the imagery, 'a yam

between two boulders' in Nepal's geopolitical context, formed the principal guideline of the country's foreign policy for future centuries. The combination of closed borders and national turmoil made Nepal very much off limits for many explorers and travellers at that time. (Pradhan. K 1991)⁷⁸

However, 'adventure' in, and 'exploration' of, the unknown has always been a key driving force of humanity and on a September day in 1863, a Moslem named Abdul Hamid entered the Central Asian city of Yarkand. Disguised as a merchant, Hamid was actually an employee of the British Survey of India, and he carried concealed instruments to enable him to map the geography of the area. He was the advance guard of the elite Pundit group of Indian trans-Himalayan explorers and adventurers recruited, trained, and directed by the officers of the Great Trigonometrically Survey of India who were to traverse much of Tibet and Central Asia during the next thirty years.

⁷⁸ Pradhan.K. The Gorkha Conquests, Himal Books;1991

Babu Sarat Chandra Das was an Indian of a different order from the other pundits of the Survey of India team; he was a highly-educated and sophisticated man, who has been accurately described as a "traveler, and explorer, a linguist, lexicographer, an ethnographer and an eminent Tibetologist'. Das also played an important diplomatic role during the Macaulay mission of 1885-86. When, in 1901, Kipling immortalized the pundits in his famous work Kim, the character of the secret agent Huree Chunder Mookerjee was most probably based on Das and 'Kim' became a 'must read' adventure story reaching far beyond the readers within its own generation. (Waller.D 1990)⁷⁹

There was a natural desire on the part of the personnel of the British Survey of India to obtain as much credit as possible from the exploits of their trans-Himalayan adventures and exploration. Men such as Montgomerie, Trotter, and Walker naturally wanted to publicize their own adventurous achievements and those of the pundits, particularly through the meetings and publications of the Royal Geographical Society. These lectures and presentations all went to give south-east Asia and in particular Nepal a high public profile. Thirty years then elapsed between the first experimental Pundit dispatches of 1863 when Montgomerie sent Abdul Hamid off to Yarkand, and the pundits' last known exploration when Hari Ram and his son travelled in Nepal and Tibet in 1892-93.

These Pundits were adventurers and explorers in the true sense of the definition and their expeditions had all the ingredients of true adventure and exploration literally having to find their way from one valley to the next and from one community to the next using stealth and survival skills to avoid detection and capture, yet mixing with the local people enough to be able to sustain themselves. There were no maps or guide books, no internet or telephone; they had to be self-reliant, independent and resourceful. Yet they had a mission to accomplish, to gain

⁷⁹ Waller. D; The Pundits: British Exploration of Tibet and Central Asia; University Press of Kentucky; 1990 <u>https://core.ac.uk/download/pdf/232564131.pdf</u>

knowledge of the geography of Nepal, Tibet and Central Asia they were not on vacation, adventure tourism was their 'occupation'. However, from the late 1890s to 1950 there was little to report in terms of foreign travellers in Nepal. (Waller.D 1990)⁸⁰

The first recorded Himalayan expedition was that of Scottish mountaineer, Alec Kellas along with Sherpa Sony and 'Tuny's brother' who succeeded on Pauhauri, stated as being the source of the Teesta River on the border of Tibet, China, Sikkim and India. (Blakeney T.S 1971)⁸¹

All pre-World War II Himalayan mountaineering expeditions had avoided entering Nepal due to the closed border situation and had travelled via Tibet or India, but in 1949, alarmed that the communist regime in China seemed to be gaining momentum, Tibet expelled all Chinese officials and closed its borders to foreigners. In October 1950 Tibet was occupied by the People's Republic and its borders remained closed indefinitely.

For over one hundred years Nepal, ruled by the Rana Dynasty, had not allowed explorers or mountaineers into the country. However, by 1946 the possible communist-sponsored revolution in Tibet was considered even less welcome than Western influences in Nepal so the latter opened diplomatic discussions with the United States that privately hoped to be able to use Nepal as a Cold War launching point for missiles. Scientific expeditions became permitted but two requests in 1948 from Switzerland and Britain for purely mountaineering expeditions were refused. However, a year later mountaineers were allowed to enter Nepal if they were accompanying scientific travellers.

⁸⁰ Waller. D; The Pundits: British Exploration of Tibet and Central Asia; University Press of Kentucky; 1990 <u>https://core.ac.uk/download/pdf/232564131.pdf</u>

⁸¹ Blakeney T.S; The first steps towards Mount Everest; Alpine Journal;1971



Early Everest exploration set the standards by which other would follow (Alpine Club)

The British had a long history of attempting Everest all-be-it from the Tibetan side and in 1953 they successfully summated from Nepal on the south side. Subsequently, Everest has become one of the most soughtafter destinations for 'adventurers' since its discovery as the highest mountain during the Great Trigonometrically Survey of India in 1856. (Wells. C. 2001)⁸²

With the French success on Annapurna and the media hype associate with it, the first of its kind, a truly adventurous mountaineering expedition and the recognition of the romance that it entailed in a magical Himalayan Kingdom fired the imagination of many who saw themselves as potential adventurers in Nepal. (Hertzog. M. 1953)⁸³

Despite the fact that there have been foreign travelers in Nepal for many years from the early Jesuit Priests, the Pundits, the early British Residents and naturalists their travel and exploration was by default 'an adventure', there was little or no information on travelling in Nepal. The first focal point for actual mountain generated tourism, a specific mountain attracting real traveler's attention was in fact Kanchenjunga but seen from the eastern side, from Darjeeling. The thirdhighest mountain in the world which was, at that time believed to be the highest mountain once Dhaulagiri had been rejected as such.

⁸² Wells. C. A Brief History of British Mountaineering; The Mountain Heritage Trust 2001

⁸³ Hertzog. M. Annapurna; J Cape; 1952



The sun crested ridge of Kangchenjunga ©lan Wall

The enormous mass of Kangchenjunga lies on the border of Nepal and Sikkim. Rising straight up out of the eastern plains of India and being in the east of Nepal it is the first of the mighty Himalayan peaks to catch the early sunrise and in certain conditions as the sun hits the summit ridge the snow glows in a fine golden yellow light as if a golden thread was floating high in the dark sky. With Darjeeling developing as a British Hill Station in 1835 visitors were soon arriving with the sole intention of witnessing the wonders of this great giant. Even in the mid-nineteenth century it was quite possible to make a one-week tour from Calcutta travelling by train to Siliguri and then one by 'gharry' to Darjeeling. Many inspiring works across all artistic genres were produced about Kanchenjunga during the nineteenth century, poems, paintings, travel accounts and reports on the flora and fauna of the region. All these formed the initial foundations of mountain tourism in the Himalaya which was accessible to the masses, all-be-it the financially well-established masses. (Pierse. S; 2005)⁸⁴

In 1851 a small company was established in the UK by Thomas Cook who initially dealt with a domestic market but by 1855 he had organised his first tours to Europe and then in 1866 to the USA. Thomas Cook had acquired business premises on Fleet Street, London by 1865 and the office contained a shop which sold travel accessories, including guide books, luggage, telescopes

⁸⁴ Pierse. S; Kanchenjunga; School of Arts University of Wales 2005

and footwear. In 1866, Thomas Cook organised the first escorted tours of the United States for British travellers, picking up passengers from several departure points. He then introduced the first escorted round-the-world tour which departed from London in September 1872. It included a steamship crossing of the Atlantic, a stage coach across America, a paddle steamer to Japan, and an overland journey across China and India. The tour cost around £300, approximately 8,500 US dollar at today's rate, and lasted 222 days. By 1888, the company had established offices around the world, including three offices in Australia and one in Auckland, New Zealand, and in 1890, the company sold over 3.25 million tickets. A husband and wife might, for example, pay £85 for a Thomas Cook tour of Germany, Switzerland, and France over six weeks. While expensive enough the trip would likely be the only once in a lifetime adventure, the company would arrange for a variety of activities new to the British middle-class including museum visits, the opera, and mountain climbing. Access to romantic and adventurous parts of the world had suddenly become a lot easier and with the new 'package' deals the numbers of adventurous travellers and explores travelling the world looking for adventure rose dramatically. (Cripps K; 2019)⁸⁵

Introducing modern Adventure Tourism in Nepal 1950 - 1992

Boris Lisanevich (1905-1985), was a Russian émigré to Nepal, he was a ballot dancer, hotelier and a restaurateur, but above all he was an entrepreneur and the father of the mass adventure tourism industry in Nepal. He opened Nepal's first hotel, the Hotel Royal in 1951, a converted Rana Palace and later he created the Yak & Yeti Hotel and The Chimney Restaurant. At that time, 1951, visas were difficult to obtain for Nepal but in 1955 in an attempt to reform this process, Lisanevich convinced a group of 20 tourists from his 'Club 300' based in Kolkata (Calcutta), mostly women, to come to Nepal, he then proceeded to have an intense discussion

⁸⁵ Cripps K; Thomas Cook: A history of one of the world's oldest travel firms; CNN; 2019 <u>https://edition.cnn.com/travel/article/thomas-cook-history-timeline/index.html</u>

with the newly crowned King Mahendra about granting them a 15-day visa. Boris convinced the king that people would like to visit Nepal and would actually pay for the experience, citing to the King that the country could make profit from these visits. Finally, the king relented, the guests arrived and Boris held the country's first handicraft exhibition. The King also requested Boris to try to persuade Thomas Cook (who introduced mass tourism to the world in the late 1800s) to run tours to Nepal. The Royal Hotel and the Yak and Yeti bar went on to become the meeting place for climbers from the 1950s right up to 1971 when the Royal Hotel was closed. (Peissel. M)⁸⁶

In 1950 the French got permission from the Nepalese King to undertake an expedition to Dhaulagiri, which at one time was thought to be the highest mountain in the world as the mighty south face when viewed from the plains of India rose in one unbroken massive 7,000m leap to the summit. If the expedition failed to find a safe route on Dhaulagiri, they also received permission to attempt Annapurna which was consider at the time to be of lesser importance. This was the first expedition to attempt an 8000m peak and the first permitted to undertake a



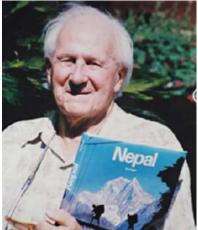
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mountaineering expedition in Nepal in over a century. After failing to climb Dhaulagiri 1 at 8,167m the team attempted Annapurna 1, 8,091m with Herzog and Louis Lachenal reaching the summit on 3rd June 1950. The expedition was a great achievement for French mountaineering and caught the public's imagination with front-page coverage in best-selling issue of the magazine Paris Match. Herzog wrote the immensely popular book 'Annapurna' which was full of vivid descriptions of

⁸⁶ Pierse. S; Kanchenjunga; School of Arts University of Wales 2005

heroic endeavour and the anguish suffered on the expedition. The region had only previously been casually explored and the mountain heights had been determined by surveyors with precision using theodolite technology based far away in India as part of the Indian Survey. Other nations felt that they should have been given priority but Nepal had favoured France. The Maharajah of Nepal appointed G.B.Rana as the local liaison, translator and general organisation officer to accompany the expedition. (Hertzog. M; 1956)⁸⁷

But it was not until the French gained permission from Nepal for Annapurna in 1950 that the tide of Himalayan 'adventurous' mountaineering and exploration really started. Within four years 1953-1957 Everest, Cho Oyu, Chomo Lonzo, Makalu, Kanchenjunga, Gansehi I, Lhotse, Manaslu, had all been climbed.



Toni Hagen and his book Nepal Toni Hagen Society

In 1952 a Swiss geologist, Toni Hagen was employed by the Nepal Government to carry out a survey of Nepal and map the country. He travelled 14,000km in the Himalayan region only retiring in 1972 (Toni Hagen Fountation)⁸⁸.

Other significant events at this time were: -

1955 the first private airline, Himalaya Airways began its operations

1956 the National Tourism Council developed a five-year

Tourism Development Plan under the Ministry of Industry and Commerce

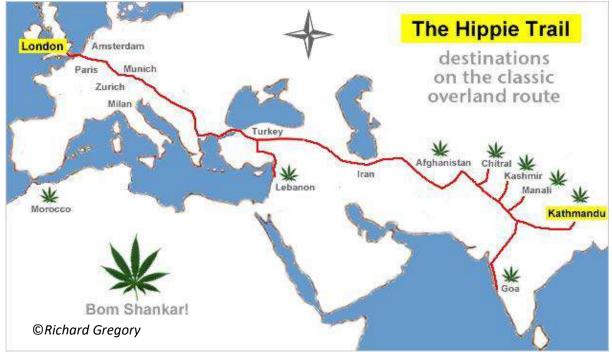
1958 the Royal Nepal Airlines Corporation was established (RNAC) later to become the NAC

⁸⁷ Hertzog. M; Annapurna: Conquest of the First 8,000m Peak; Fontana Books 1956
 ⁸⁸ Toni Hagen Foundation; Toni Hagen 17.08.1917 - 18.04.2003
 https://www.tonihagen-stiftung.ch/English-Dr-Toni-Hagen.html

Nepal began to open up direct links to Indian cities and thus Nepal began to open up to the outside world.

All these travels and expeditions were undertaken in the true sense of the phrase 'adventurous' mountain tourism, there were no paths, hotels or lodges, no domestic flights, maps or other technologies and no other services that are now taken for granted.

The 'adventure tourism industry' was born. After the initial rush of expeditions in the early 1950s people got to learn of the treasures and natural beauty of Nepal. Books were being written, lectures were given and Boris had opened the first hotel and restaurant for tourists and companies like Thomas Cook were facilitating more accessible travel arrangements. But there were still adventures to be had. And the Hippy Trail was conceived! (Stevens. S)⁸⁹



The hippie trail (also called the Overland Trail) was the name given to the overland journey taken by young adventurers from the hippy subculture from the mid-1950s to the late 1970s.

⁸⁹ Stevens. S; Tourism and Development in Nepal, <u>https://digitalassets.lib.berkeley.edu/anthpubs/ucb/text/kas067_068-011.pdf</u>

These overland journeys occurred between Europe, the USA and South Asia travelling mainly through Iran, Afghanistan, Pakistan, India and Nepal. The hippie trail was a form of adventure tourism, and one of the key elements was travelling as cheaply as possible, mainly to facilitate and extend the length of time away from home for these tourists, there was little planning and the return 'tickets' were often the last thing on the hippies' mind. The term "hippie" became current in the 1950 and 1960s and lead to the prosperity, in relative terms, of the old marijuana shops, lodging, rented rooms and cafe businesses of Jhocchen, (Freak Street) Kathmandu.

In every major stop along the hippie trail, there were hotels, restaurants and cafés for Westerners, who networked with each other as they travelled east and west. The hippies tended to interact more with the local population than the traditional middle or upper-class sightseers of the day did. However, these adventure travellers didn't spend all their time in a marijuana haze and at some point, went seeking out other opportunities for adventure and the white-water rafting sector was borne as an alternative way of spending time outside of the valley and the first mountain lodges began to appear to cater for these travellers, but, still at a low-cost for an adventurous past-time.

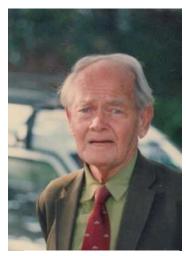
The hippie trail largely ended in the late 1970s after the Iranian Revolution and the Soviet invasion of Afghanistan closed the route to Western travellers. But this chapter was another defining factor in establishing Adventure Tourism in Nepal. (Day. M 2016)⁹⁰ One of the early travel guides to Nepal was the BIT Guide. This recounted the collective experiences of travellers and was then reproduced at a fairly low cost, it was little more than a duplicated stapled-together bundle of foolscap sheets with a pink cover providing information for travelers. It was updated by those on the road warning of pitfalls and places to see and stay. The 1971 edition of

⁹⁰ Day. M 2016; The 1970s Hippie Trail: drugs, danger, and a magical pudding shop in Asia; Timeline; 2016 <u>https://timeline.com/hippie-trail-asia-drugs-55abce249d1</u>

The Whole Earth Catalogue devoted several pages to the "Overland Guide to Nepal'. (May. J. 2006)⁹¹

Many of these overland travelers arrived in Nepal and headed to Kathmandu initially staying in the Freak Street locality, but in 1968 the Sakya family opened the Kathmandu Guest House offering 13 rooms for rent at a maximum rate of 5 US \$ per night, the KGH herald another chapter of 'Adventure Tourism in Nepal'. (KGH and Thamel)⁹²

Up to this point the history of adventure tourism in Nepal was based on two factions, the mountaineering expeditions and well-heeled travellers who tended to stay in the old Rana Palaces with large gardens suitable for preparing and packing expedition equipment and logistics on the one hand while the hippies and overland travellers focused on the small private Newari houses where they could rent very cheap rooms in private quarters on the other. There was little mid-way accommodation available.



Col Jimmy Roberts (Nepali Times)

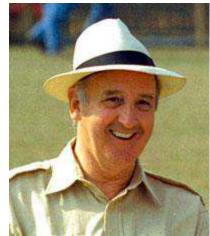
In the 1950s the Nepalese government allowed only one expedition to attempt Everest in any one season. But in 1965 Colonel Jimmy Roberts (1916-1997) recognised the potential of developing adventure tourism in Nepal and introduced the idea of 'trekking'. Jimmy Roberts was one of the greatest and most prolific mountaineer explorers of the twentieth century; a highly decorated British Army officer who went on to be acknowledged as "The Father of Trekking'. His idea, innovative at that time, was to take the adventurous mountaineering experience and adapt it

making it a bit less challenging and more assessable for those looking for adventure in the

⁹¹ May. J. Alternative Society 1970s: BIT Travel Guide; The Generalist; 2006 https://hginfo.blogspot.com/2006/08/alternative-society-1970s-bit-travel.html

⁹² Linder B; Thamel through Time 1968-2018; KGH 2018

Himalaya. His ideas included providing tents to the hikers and having them readily available, paired together with the Sherpa, for guidance in the wild and remote terrain of the high Himalaya. The focus of his idea became a huge success and was embraced by many, which then gave direct access to the mountaineering field for a wide and varied sector of the travel market. To say the least, his pioneering activities within this new field of mountain tourism became a great success and went onto become an absolute crowd-puller. Jimmy Roberts had spent years in Nepal attached to the British residency and accompanied Tilman on his first trek. In 1965, Roberts founded "Mountain Travel" in the Kali Gandaki area, the first of Nepal's trekking companies and the embryo for the adventure travel industry of today. (Nepali Times; Himalayan Odyssey 2020)⁹³



Jimmy Edwards (Nepali Times)

Jimmy Edwards was another one of the pioneers of tourism in Nepal, along with his friends Boris Lissanevitch and Col Jimmy Roberts. A far-sighted man, gifted with luck and charisma, Jim had the vision to see the future for conservation-based wildlife tourism in the Himlayan mountains and jungles that he loved, long before the concept of 'ecotourism' came into being. In 1964, Jim teamed up with American anthropologist turned wildlife ecologist, Charles (Chuck) McDougal and

started the first wildlife tourism company, Nepal Wildlife Adventure, to operate jungle treks, fishing and hunting expeditions. It was the beginning of a long and distinguished career in the travel industry. (The Sunday Times 2009)⁹⁴

⁹³ Nepali Times; Himalayan Odyssey; Nepali Times; 2020

https://www.nepalitimes.com/here-now/the-himalayan-odyssey/

⁹⁴ The Sunday Times; Jim Edwards: philanthropist and pioneer of eco-tourism; 2009 https://www.thetimes.co.uk/article/jim-edwards-philanthropist-and-pioneer-of-eco-tourism-nbf5p8l78r7 On a tip-off from Boris Lissanevitch, Nepal's pioneer hotelier, Jim heard of Tiger Tops a small camp in the Chitwan rhino reserve that was in need of improved management. Jim and Chuck took over the Tiger Tops Jungle Lodge in 1971, turning it into a famous conservation tourism model.

Jim Edwards is widely recognised for his immense contribution to Nepal's tourism industry, setting standards of adventure tourism that are admired all over Asia. It was a matter of great pride to Jim that Indira Gandhi once berated her bureaucracy with: "Why do we have to look to Nepal to learn how to manage wildlife tourism lodges?" Chitwan National Park was established in 1973. (The Sunday Times 2009)⁹⁵

While the 1950s saw the first ascents of the 8000m peaks the 1970s witnessed a new mountaineering dawn, true adventure was alive and kicking. Chris Bonington (now Sir Chris Bonington) established a new 'extreme' genre. His vision of climbing steep, committing and technically difficult Himalayan faces opened with his audacious ascent of the South Face of Annapurna in 1970, he followed this in 1975 with another mind-boggling expedition that put Doug Scott and Dougal Haston on the summit of Everest by a new route on the SW Face of Everest. (Bonington C. 1976)⁹⁶

Reinhold Messner raised the bar in another direction in 1980 with his truly solo and supplementary oxygen free ascent of Everest. At the time no one knew of the impact of attempting such challenging feats or even if they would come back alive and without brain damage. These truly adventurous and challenging expeditions that ended successfully created a

⁹⁵ The Sunday Times; Jim Edwards: philanthropist and pioneer of eco-tourism; 2009 <u>https://www.thetimes.co.uk/article/jim-edwards-philanthropist-and-pioneer-of-eco-tourism-nbf5p8l78r7</u>

⁹⁶ Bonington C; Everest the Hard Way Hodder & Stoughton 1976

lot of media attention, books were written and lectures given, all stimulated adventurous mountaineering exploits in the Nepal Himalaya. (Dickinson L;)⁹⁷

With the death of King Mahendra in 1972 the newly crowned King Birendra took a more proactive role in developing Tourism with one of his main goals being to rid Nepal of its 'freak and drug haven' image and to replace it with 'adventure tourism'. Within a very short period of time Nepal established its first Ministry of Tourism, its first National Park and Wildlife Preserve and its first Cultural Zone. Jimmy Roberts' trekking initiative got a boost from the Nepal Government as it began to promote Nepal as an 'Adventure Tourism' destination. Up to this point tourism in Nepal had more or less developed accidentally. From 1973 all that changed.

With improved logistics and transport infrastructure the tourism focus was again shifting from the high-on-time-low-on-cost philosophy of the hippies to the high-on-cost-low-on-time philosophy of the middle-class adventure tourist market. (Open Skies)⁹⁸

From 1973 through to the mid-late 1990s the adventure travel and tourism market of Nepal flourished. In 1973 Nepal received 68,047 tourists with an average stay of approximately two weeks (14 days) by 1999 this number had risen to 491,504 tourists but again the duration of their stay was approximately still only two weeks.

In 1988 Tek Chandra Pokharel and the Trans-Himalayan Tours organisation was handling the formal arrangements required to undertake any form of expedition in Nepal. He did not operate as an agent but merely as a facilitator to the rapidly growing groups of tourists visiting the country and over the next 50 years, he made major contributions to develop Nepal's tourism sector and became an icon of the diversification of Nepal's tourism industry.

⁹⁷ Dickinson L; Everest Unmasked; Documentary Film IMDb film;1979 <u>https://www.imdb.com/title/tt0219676/</u>

⁹⁸ Open Skies; The Rise and Fall of the Hippie Trail <u>https://openskiesmagazine.com/the-rise-and-fall-of-the-hippie-trail/</u>



Tek Chandra Pokharel (Travel Press)

In the early 1970s he was a Founding President of many tourism related associations of Nepal including Nepal Association of Tour and Travel Agents, Trekking Agents Association of Nepal and the Himalaya Rescue Association. Being well versed in tourism he was involved in developing Nepal's Tourism Master Plan. With a view of attracting the high end of the adventure tourism market Pokharel paid particular attention to developing high mountain luxury tourism and was closely associated

with the Everest View Hotel in Sayangboche, at one time known as the highest luxury hotel in the world! (Spotlight Nepal 2018)⁹⁹

It is obvious through analysing the data available to recognise that although more travellers and adventure tourist were visiting Nepal the length of stay was remaining static. If Nepal was to capitalise on tourism, then there would need to be a bit of fine tuning of the 'adventure experience'.

All the early 1950-1990 mountaineering expeditions were undertaken in the true sense of the words 'adventurous mountaineering', there were no paths, hotels or lodges, no domestic flights, maps or other technologies and services that we now take for granted weren't even thought of.

However, international travel agents were not legally allowed to directly operate in Nepal, they were not familiar with developing trekking holidays nor did they understand Nepalese administration. With a new-found enthusiasm for adventurous travel there now developed an

⁹⁹ Spotlight Nepal 2018 Nepal's Pioneer Tourism Entrepreneur Tek Chandra Pokharel <u>https://www.spotlightnepal.com/2018/07/23/nepals-pioneer-tourism-entrepreneur-tek-chandra-pokharel-no-more/</u>

opportunity for a new business operation in Nepal, the Nepalese Trekking Agent and in 1979 TAAN was established. (Trekking Agencies Association of Nepal)¹⁰⁰

For the next 20 years or so adventure tourism steadily developed in Nepal and as the numbers of adventure tourists increased so did the tourist facilities with the honey pot areas, specifically Annapurna and Everest not only taking the lion's share of business but also leading the way in developing tourist infrastructure. Annapurna received particular attention when ACAP was formed under King Birendra.



Rob Hall and Gary Ball (Colin Monteath)

By the early 1990s two companies, Mountain Madness and Adventure Consultants, started as a result of experienced mountaineers deciding to become guides to lead people to reach the top of Everest. This provided the founders of these companies with not only a good opportunity to earn money, but also the chance to help people who wanted to summit Everest and to make

¹⁰⁰ Trekking Agencies Association of Nepal <u>https://www.taan.org.np/about-us/introduction</u>

their dreams come true. The first commercial expedition to Everest in 1992 was a raging success with Hall, Ball and Cotter reaching the summit with six of the clients and four Sherpas.

Hall and Ball had proved their ability to pull together a successful expedition with attention to detail that was the envy of the other 'start up' guided expeditions that were beginning to stamp their mark at the same time. There were many firsts to the summit that day, first Israeli, first Belgian woman, first from Hong Kong.

Since the early 1990s there have been no limits on the numbers of expeditions attempting Everest each season. In place of the national teams of leading mountaineers that long dominated Himalayan climbing, commercial operators put together ad hoc groups of clients who now pay £25,000-£50,000 and in many cases much more, each to 'bag' the world's greatest trophy peak.

Conclusion



Helicopter rides, are for some the only way to see the Himalaya! (Simrik Air)

Although today 'Adventure Tourism' contributes around 7.9% to the national GDP its potential is far from exhausted. The grass-root operators see the value of tourism as supporting their financial sustainability but, in the vacuum created by a lack of direction at Government level, they are taking things

into their own hands. Development is taking place in the mountain regions that is not always conducive with the expectations of visitors and trekkers, buildings are being constructed that do not represent cultural traditions and design and new roads are becoming intrusive in the remote and so far, untouched areas. The Khumbu and the valley areas of Everest are now the direct flight paths for a new breed of high-end tourist with many helicopter companies offering several fixed time departures each day creating a constants buzz of noise from these airborne tourists. In line with policies outlined in the Constitution the Zonal Development Committees have created a rift between local and national administration which again is causing a great deal of confusion for the trekker tourists and indeed local agents. Politics play a major role in Nepal with just about every citizen holding strong political views and while this is a major element in establishing 'inclusion' it can also be seen as a disruptor to sustainable development.

Although there are systems in place which were established during the early days of adventure tourism in Nepal to manage positive development a lack of transparent monitoring by some of the major players of today has also allowed some dubious practice to enter into the industry and in many areas, this is having a negative impact on Nepal reaching its tourism potential.

Adventure tourism is based on the premise of 'adventure', 'exploration' and 'travel' that may also hold a 'perceived or actual, risk' potentially requiring specialized skills, physical exertion and experienced leadership to help develop the specialised skill base required to meet certain assessed risks that might jeopardise the outcome (is. Not having the right technical skills to meet the challenge).

Adventure tourism has grown world-wide in recent decades, an estimated 65% from 2009 to 2012 the most recent year for which data is available.

Tourists are seeking many different kinds of 'adventure' based experiences, but the measurement of market size and growth is hampered by the lack of a clear operational definition, in certain markets.

In a country like Nepal there are so many unknowns but as a result of a modern time-constrained life-style and the imposition of so many restrictive regulations and permits, certain elements of 'adventure' have been removed from the travel packages offered. Itineraries are planned to fit with flight schedules thus removing the element of the 'unknown time away from home

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experience' and risk assessments are developed to avoid any element of possible danger and the failure of clients to meet their overall expectations of a trip to Nepal in the old-fashioned sense of the word 'adventure'. Having said that every trekker, mountaineer or adventure tourist has his or her own threshold of what they perceive as adventure and comfort zones. According to the U.S. based Adventure Travel Trade Association, adventure travel may be any tourist activity, including at least two of the following three components; physical activity, cultural exchange or interaction and engagement with nature. It is estimated that four out of ten international travellers incorporate some adventure activities into their travel plans. With such rapid growth, greater numbers of businesses and guests are entering the marketplace, and the industry needs clear guidance with respect to adventure travel guide qualifications and performance.

It is interesting to note that the Mount Everest Foundation (UK) issued 26 financial grants for expeditions in 2017, however only six of those grants were for expeditions to Nepal the rest were for the Antarctic (1), Arctic (2), North America (1), South America (4), Pakistan (5), Nepal (6), Central Asia (3) and East Asia (1) Although Nepal had the single biggest number of MEF sponsored expeditions there was a lot of competition from expeditions going to other adventure tourism destinations around the world. (Mount Everest Foundation)¹⁰¹

Maybe if Nepal wants to retain the crown of the 'Premier Adventure Tourist Destination' then it needs to check out the competition, however, as I write the last few lines to this chapter the world tourism and travel industry is in crisis as a result of the Corona Pandemic. This has had a negative impact not only on the industry but on the lives of millions of people worldwide who survive as daily wage earners within the service sectors of tourism. At this point in time a new tourism model can only be expected once travellers are allowed to travel but how this will impact on sustainable tourism is so far unknown.

¹⁰¹ Mount Everest Foundation; <u>https://www.mef.org.uk/expeditions?region=himalaya-nepal&purpose=mountaineering#filter</u>

Chapter: 3

Mountaineering Planning - Expeditions

What is an expedition?

An expedition is an excursion or journey, made for a specific purpose. When planning or offering to lead an expedition, it is essential to fully understand the purpose of the expedition and the expectations of all those taking part in it. (Farlex)¹⁰²

Since 1990, there have been commercial expeditions run in Nepal by expedition operators. They have appropriately qualified and experienced staff; and know all the planning logistics that are required under the Expedition Laws of Nepal. They have the technical equipment and the manpower to provide a service that will as far as possible, match the clients' goals, however, we must all remember that safety comes first; and that it might be necessary to call the expedition off if the risks are unacceptably high. In commercial terms this is the everyday work of these agencies and a well-practiced art. But for the rest of us, it will be a stressful process to ensure every detail has been attended to. (The Conversation 2013)¹⁰³

As leader, it is recognized that this position requires certain skills and talents and hold the utmost of responsibilities. It is not a given outcome that the leader will reach the summit.

What skills, what talents and what roles?

There will several roles and responsibilities that will need to be distributed throughout the expedition team members, depending on the individual skills and experience of those team members and the size of the team, then the options for taking the responsibility could involve

¹⁰² Farlex; The Free Dictionary

https://www.thefreedictionary.com/expedition

¹⁰³ The Conversation 2013; Because it is there: commercialising Mount Everest; 2013 <u>https://theconversation.com/because-it-is-there-commercialising-mount-everest-14767</u>

many permutations. For example, consider the potential roles required by your expedition and who from within your team could take on the responsibility to fill them.

Leader and deputy leader (unless your expedition is small and less structured), cook, porters, Sherpa staff, kitchen boys, the stove / fuel porter, and possibly other staff depending on the size of the group. With regard to the responsibilities, again this will depend on the size and make-up of the team. Considerations could include responsibility for, the budget, logistics, purchasing supplies, selecting camp sites, route, equipment, communications, transport, the list will develop as the planning progresses. When delegating responsibilities individual team member skills need to be addressed, someone with good interpersonal skills, could be the communication person, cooking skills, the cook, extensive previous expedition skills could be in charge of the overall management of the expedition (leader). However, to obtain the best from each individual consideration must be given to individual preferences.

In terms of mountain expedition planning, it is important that the appropriate amount of time is allocated to ensure all elements are put in place well before the start date. There are many books written that include sections on planning, in fact entire books have been written about it. However, the mountaineer and explorer Bill Tilman once said - 'if you can't plan an expedition on the back of a cigarette packet then you've over planned it'. Another remark - 'an adventure is the result of poor planning!' A classic example of the level of planning involved in a large siege style expedition is provided in Everest the Hard Way. (Bonington C.1976)¹⁰⁴

As a leader what do you need to consider?

The objective

Composition of the team

Budget

Delegation of planning duties

¹⁰⁴ Bonington. C; Everest the Hard Way Hodder & Stoughton; 1976

Team Member roles

Expedition leadership

Styles of Leadership and the roles of the Leader

The majority of mountaineers who signed up as members of expeditions using siege tactics should conform to the theories of Peak Experiences, The Expectancy Valence Theory, a concept that was developed by Abraham Maslow in his 1943 paper 'A theory of Human Motivation'. The Expectancy Valence Theory has three components:

Expectancy is the individual's belief that effort will lead to the intended performance goals, successful outcome.

Valence is the unique value an individual places on a particular outcome, desirability of rewards on offer.

Instrumentality the belief that success will bring rewards; these theories were further developed by Victor H Broom (Victor H. Vroom in 1964)¹⁰⁵

The leader will probably be the person who has instigated the expedition and therefore to try to appoint someone else as leader is sure to promote bad feelings and possibly the end of the expedition before it ever gets started.

The leader will need to consider the aims and objectives of the expeditions and then to choose a team who would have, not only the appropriate skills to produce a successful outcome but also the capacity to get along with one and other. It is often said that an expedition should have two successful outcomes, firstly to achieve the goal and secondly to all go home as friends. As mentioned above, the leader will have to consider all the aspects of the expedition but, to then have the skill to delegate the responsibilities to the appropriate team members. The key and critical point for any expedition is that of funding, in which case someone will need to be

¹⁰⁵ Vroom. V. H; Vroom Expectancy of Needs Theory; 1964 www.potentialunearthed.co.uk

responsible for securing sponsorship. Alternatively, the cost of the expedition will be shared by its members, in which case the first step is to discuss just how much each member is willing to contribute. Only then can the planning move forward. If you can't raise the funds, change the objective!

The modern style of Himalayan climbing tends to lean more toward Alpine Style, comprising of two or possibly four climbers working together and sharing the responsibilities. This style of climbing is far more committing and requires a high degree of skill and confidence.

Individual capabilities, budget, planning details, logistics, administration as below

If you are running your own commercial trip, in other words people are paying you to organize something then you are the 'boss' with the ultimate level of responsibility and people will turn to you for leadership and they will turn to you if it all goes wrong. Being a leader is a hard job, you are there to organize, plan, implement and keep people safe you are not there to be loved. However, that will certainly help. One of the most important skills is that of delegation, you as the leader can't do it all:

Fund raising or Sponsorship

Prepare a good expedition brief - when, what, where and how. Outline the objective, add maps, clearly identify the budget and other sponsor contributions that you may have secured, route descriptions and above all reinforce what is in it for the sponsor (funder). Remember, if one company is sponsoring your expedition by providing jackets, then don't go to a second jacket manufacturer, because there will be a clash of commercial interests and people will get upset. As a warning don't get drawn into the trap of pushing the limit for the sake of funder satisfaction that is when accidents happen.

If you have other sponsors mention them in your budget to prove you are not just going to one source for financial help / support. However, to be successful in drawing in a funder you will probably have to fill in many forms and there will also probably be a lot of competition for that pot of money.

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If this is purely a private venture you need to set the budget that all members will buy into. But don't cut corners that will jeopardize either safety or success.

Big companies will ignore you unless you have a personal contact. Don't speak to the secretary if you can get straight to the company owner.

Small companies will possibly help you, if you can assure them of some return, what's in it for them? Try and get local press to cover your trip. Make your requests personal and specific. You can buy so much cheap equipment on eBay, it's easier and less stressful than being rejected by hundreds of companies. But is it safe?

You have to sell yourself; there are so many people doing trips now.

- How are you different?
- What can you offer them?
- Why are you doing the expedition?
- So what? You need to have an answer to this.

Get a job. Buy the equipment you need on eBay but be careful as there is a lot on unsafe equipment offered at what might be a cheap cost but remember how cheap is the value of your life? If you can't afford it, do something cheaper. Don't let budget issues stop your adventure. See how much cash you have in your bank today, sell everything you don't need (most things), get on your bike and pedal away into the sunset. Stop making excuses to delay.

Press

Make a short press release with a photo and map that explains concisely what you are doing.

Aim small, the national geographic will not be interested until you have worked your way up

the ladder beginning with your local papers.

Develop a website. Tell everyone about it. Blogger.com is great, and free. Anyone looking to promote their journeys should become familiar with Flickr, Twitter, Vimeo, Facebook, and whatever the latest craze is.

Budget

You have a choice, plan an expensive expedition and have a short trip, or eat cheap, sleep in fields and travel for a longer period of time.

A low-key expedition could involve you and your team, not eating in cafes and never buying treats, but instead, drinking water, sleeping in fields, eating the cheapest food every single meal and then you can travel for a long time. Money should not prevent you travelling.

However, in the mountains a healthy body will make all the difference, eat well and a balanced diet. Remember some treats will lift the spirits on bad days!

Look at each element under a microscope see where you can cut costs but not skimp on safety

Gear / Provisions

An appropriate tent and cooking equipment are heavy but they are essential in poor conditions. Technical gear of quality is important make sure if it is new and that all members know how to use it correctly. (Do not purchased on e-bay)

If you are using local staff remember they also need looking after, clothing, food, equipment and accommodation and all at an additional cost.

Practice using the equipment in the dark so that everybody becomes really familiar with it and can use it intuitively.

Good energy giving food rations are important and they should match all members' approval. Follow the approved calorific intake for your chosen activity

Bureaucracy

The laws of the country and mountaineering regulations must be followed.

Most countries have their own Mountaineering Associations these days, search the internet and then start a dialogue.

Establish if there are any restrictions on your objective.

Obtain permission (in writing) get the permits, visas and any other documents the law requires.

Insurances, vaccinations, travel permits and tickets.

If you have a sponsor, it is important to keep them up to speed with your expedition progress, plenty of promotional quality images that they can use. However, remember they might require copyright cover. The same applies to your local press. You never know someone might be inspired and want to jump on board with sponsorship once you have set off.

Logistics / Planning

It is extremely important to get a firm grip of this aspect of the expedition, what goes where, when and with whom? One slip up and everything can fall off the rails.

Hold regular planning meetings so all member can report back on the progress of their individual responsibilities and share issues of concern - keep the whole team fully informed.

Divide the logistics into sections: -

What happens at home?

Moving the whole expedition to the start of the walk-in trek / activity;

Are you using local staff? You should have made arrangements for this before so now you need to make contact;

Establishing Base Camp;

Then create and establish a mountain routine;

Have a plan for emergency procedure / escape routes.

Organization of Expedition (Climbing Techniques in various phases)

<u>Research</u>

As climbers / mountaineer or other outdoor adventure enthusiasts, we each have a personal goal; our favorite and most motivating reason to get out to the hills and crags to try hard and experience adventure. The lack of a rule book in climbing allows us to define this as we please, which is certainly a wonderful element and a great attraction for what we do. Whether we're into bouldering, sport climbing, or alpinism, whether we like to climb in established areas or explore unknown classic terrain, whether we like to push ourselves as much as possible, or just

get out and have a good time on something easy with friends, it is all up to us. We can choose as we please.

In the Himalaya, especially in Nepal, there is a slightly different attitude, where up to a point, although there is a choice of venue there are certain restrictions that can put people off visiting their chosen objective.

Discuss with the appropriate authorities

Permit costs, imposed guides, liaison officers, and local taxes independent of all official taxes. If your expedition wants to attain its goals and new heights then there needs to be a training program that everyone is familiar with and enters into and is prepared to work hard at or reaching your expectation's objective will be less achievable. It is challenging, it may be wild and for many it will fulfill dreams and ambitions. Outside of the challenge of organizing all of the above, getting to these areas with all the equipment and actually starting on an adventure, there is the challenge of finding and researching the objectives.

Finding the objective or area

Keep your ear to the ground. The resources available these days are huge, from internet research, Mountain Project to Summit Post websites, Alpine Journals, Instagram feeds and many more sources. Keep an eye open for that objective that really appeals and makes your team want to explore that possible opportunity.

A great piece of advice is to visit known areas and consider the marginal zones, not the main focal point but the surrounding challenges that are normally overlooked. As you develop more of an understanding of the region, opportunities will be discovered with lesser-known but possible objectives becoming more attractive. There is nothing better than personal knowledge of an area to locate appropriate challenges whether in the greater ranges or nearer to home. Doing a potential reconnaissance of an area could add considerably to the expedition budget so develop your skills on Google Earth.

Researching what has been done

National Alpine Journals are an amazing online database resource that go-back many years. There are also other sources of information to help with planning an expedition, the Himalayan Database that has an index listing all the peaks and relevant historical information of their ascents and route details. There are also organisations and groups representing other adventure activities that can advise on possibilities based on previously attempted exploits Research is a great way to get inspired and will often present previously unconsidered objectives.

It can be extremely helpful if you can get in touch with expeditions that have been in or near areas that you are trying to reach. Getting in touch with these expeditions is not always as hard as it may seem, and it is certainly worth the time invested in making a connection. The expedition scene and outdoor community tends to be a tight-knit one but people are happy to share information.

Below are some useful links:

www.himalayandatabase.com/ www.alpine-club.org.uk/ americanalpineclub.org/ www.summitpost.org/ www.climbmagazine.com/archives

Getting there

Information on local transportation can be gleaned from research on what has been done in a specific area or on a mountain and can by default shed light on new opportunities. Study maps of the proposed expedition region and decide where would be the appropriate access points and possible areas of difficult terrain. The accessibility of a region will dictate the cost of your expedition so it is important to research all possibilities thoroughly.

Many of the 'last' unclimbed objectives are in less accessible areas and thus harder to get to. With an ever-increasing human footprint and pollution from mechanized assisted travel it is of paramount importance that expeditions treat these places with a greater environmental awareness and respect and do their utmost to minimise the impact on the environment.

Final Considerations:

There is a lot of information published about opportunities for adventure in Nepal, including many opportunities for ascending new and 'unclimbed' peaks.

However, in many cases little or no research had taken place before announcing peaks as being 'unclimbed'. Official recordings of ascents of the smaller peaks of Nepal were only started in the early to mid-1970s, however, even then these recordings were not always accurate. During the hippy times and the years on the Peace Corps many travelers and volunteers had adventurous ambitions and peaks were climbed but never recorded. Since then, the names of some peaks have changed and in some cases a misidentification of summits has occurred.

Climbing a new peak or being the first to canoe / raft down a river is a great attraction but special care must be taken when looking at 'new, unclimbed peaks', take it with a pinch of salt, always do your own research and then identify it as a peak with '*no recorded ascent*', rather than being unclimbed. It could come back to bite you if you believe the objective is unclimbed but then on reaching the summit your expedition members find an old rusty can in the rocks! Setting of on adventurous expedition as the result of a lack of information or planning can still be an amazing experience and highly worthwhile. Remember, Bill Tilman - if you can't plan it on the back of an envelope there's too much planning! Adventure can be emulated anywhere, by simply not looking at the information available, heading out on a whim. Imagine walking into an area with no prior knowledge and climbing the obvious beautiful features on sight? However, with the stringent regulations at present in Nepal this no longer an adventurous option and the expedition could end up in legal conflict with the authorities if permissions have not been obtained.

Expedition Staff

When considering the staffing element of planning there are issues that need careful consideration

The number of staff, local or taken from your base team? Where will you collect them from? Alternative methods of transporting equipment - yaks etc Staff skills - cook, porter, technical climbers, etc Staff experience - and with possibly foreigners Additional skills - medical training, technical issues Staffing budget - will staff stay for the full duration of the expedition or leave at appropriate times, for example will porters leave once you arrive at base camp? It is important that someone knowledgeable in your team is in charge of first aid, however, it must be remembered that unless they are medically qualified, they cannot prescribe medication and could face legal action is something went wrong.

Expedition Weather

In this day and age there are many good web-based weather information services, it is extremely important to regularly check on what is happening with the weather and prevailing conditions A basic understanding of weather patterns in the expedition's operational area is also very important.

In the mountains each area tends to have its own micro climate, the weather on one side of a mountain / valley can be totally different to that on the other side, be aware of what is going on around the region and also aware of any weather window opportunities. It's important to be in the right place at the right time.

Weather and climate

People often confuse 'weather' and 'climate'.

Weather is the state of the atmosphere in an area at a given moment with regard to temperature, dryness, wind, rain, sunshine, cloud, and so on.

Climate is the weather conditions in a region over a long period, the most commonly found types of weather in that place at certain times of the year.

The weather in a specific location can change from day to day, but talking about climate means talking about the weather that is usually found in the greater region of a land mass at a certain time of year (seasons). Climate describes weather patterns, it enables the prediction of weather with a certain probability (for example, rain during the monsoon; dry and cold during the winter). But the actual weather can only be known on the day itself (or forecast from a few days in advance).

The physical geographical structure of Nepal has resulted in many different regions experiencing totally different weather patterns, including those associated with rain-shadow areas, sub-arctic tundra and dry deserts.

Nepal's climate is divided into six main seasons with its most prominent feature being the monsoon. However, it should be noted that these traditional weather patterns are being subjected to the influence of climate change and over recent years the distinct seasonal changes are tending to become more defused.

Conclusion

Most people will only accept the role of leadership of an expedition once they have a strong foundation in the required skills. Along with those skills will be the refined focus of judgment. Many clients now use mountaineering expeditions to develop their own leadership skill and personal skills that they will, in future, use in their everyday occupations, to further their own careers or even to change professions. (Forbes 2019)¹⁰⁶

¹⁰⁶ Forbes Leadership Skills You Can Develop In The Mountains; 2019 <u>https://www.forbes.com/sites/trello/2019/10/08/5-leadership-skills-you-can-develop-in-the-mountains/?sh=5bf0a34fbf6d</u>

Chapter: 4

High-Altitude Health Hazard

Mountain Related Illnesses

International Travel Arrivals (ITA) have increased steadily in Nepal over the last few decades. (Nepal Tourism)¹⁰⁷. Individuals often arrive in Nepal (or at other high-altitude environments) and acclimatize through spending time slowly climbing to altitude or implementing a circular training program, 'climb high sleep low' so as to obtain the maximum benefits to operate efficiently in an environment of reduced oxygen.

Carrying a rucksack or undertaking tough physical exercise day after day can have a negative impact on the human body, especially for those who have not completed the appropriate training before undertaking their 'trip of a life-time'. Add to this the effects of altitude and the body could buckle under the strain.

The leader, guide or the individual participant should be well trained in wilderness first aid and be able to quickly recognise the symptoms or behaviour of a client or friend who might be struggling. Although speaking and listening is regarded as being the foundation of communication, remember people can communicate without talking. The body language, or a general character change or lack of enthusiasm can also indicate that something might be wrong.

¹⁰⁷ Nepal Tourism Government 2019 www.tourism.gov.np/tourism_statics_2019

If this change of circumstances in a person's behavior is identified then dealing with this should be in the priority, to ignore these signs could prove fatal.

Mountaineering and adventure tourism activities in the Nepal Himalaya are becoming one of the most prominent adventure destinations for many people of all ages. Many of these people come from relatively low altitude countries. (Nepal Tourism)¹⁰⁸. While they might spend many months getting fit for their adventure experience, not many of them will be able to train for altitude.

As a leader or guide it is important to undertake a training course on Mountain Wilderness First Aid (UIAA Diploma in Mountain Medicine)¹⁰⁹. In many high-altitude regions of the world the expedition is most likely to be operating in very remote regions and often several days walk from the nearest health post or hospital. One definition of 'Wilderness' is to be more than two hours from a significant source of medical assistance. (Dr Jim Duff 2007)¹¹⁰. It should also be remembered that if the group consists of young adults (under 18 years of age) then there will be additional responsibilities attached to the leading / guiding role. (International Mountain Trekking Handbook 2012)¹¹¹. Venturing into remote areas will always involve risk, minimizing these risks while feeling confident in the ability to deal with potential injury or illness, is part of the challenge and satisfaction of leadership. It is also worth remembering the 'you' might be called upon to offer medical support to local people as well as indigenous members of your team.

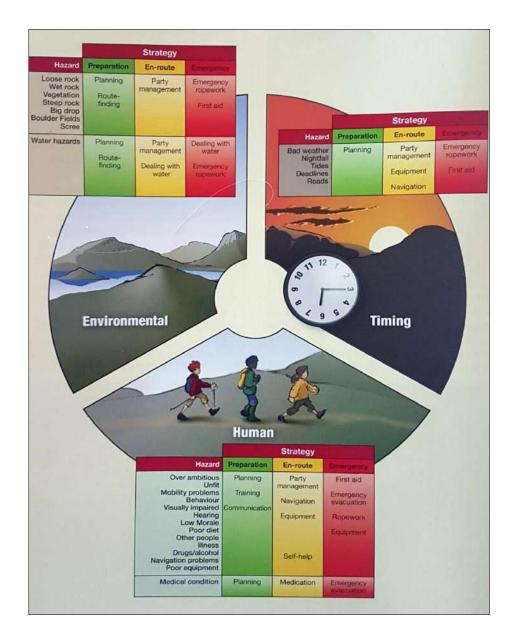
UNLESS YOU ARE A REGISTERED DOCTOR YOU ARE NOT LEGALLY PERMITTED TO PRESCRIBE MEDICATION.

¹¹¹ International Mountain Trekking Handbook; Mountain Training UK 2012 www.mountain-training.org

 ¹⁰⁸ Nepal Tourism Government 2019
 <u>www.tourism.gov.np/tourism_statics_2019</u>
 ¹⁰⁹ UIAA Mountain Medicine UIAA 2020
 ¹¹⁰ Duff, J. Gormly P; First Aid and Wilderness Medicine; Cicerone;1984

However, by keeping a copy of a wilderness first aid book in the first aid kit the leader will be able to offer additional information written by professionals in the field of wilderness medicine to clients to help them reach an informed decision as to what they should maybe consider taking to help alleviate their situation.

This chapter is titled High Altitude Health Hazards, so it is appropriate to mention that a good risk assessment is key to preventing many of these potential hazards becoming a reality. Health hazard can come in many shapes and forms but basically from three sectors.



(International Mountain Trekking 2012)¹¹².

The focus of this chapter is on Health, but to remain healthy it is best to adopt the old saying 'Prevention is Better than Cure', early signs of someone becoming unwell usually include, the 'Grumble, Mumble, Stumble and then Tumble', diagnostic test. A precursor to someone becoming unwell are: -

Loss of appetite and / or missing meals

Tiredness, lethargy, arriving in camp later than the rest of the party

4Going to bed early and sleeping in late

Personality changes, anxiety, irritability, excitability, anger, aggressiveness, complaining, social withdrawal, depression, loss of concentration, talking more, or less

Clumsiness, staggering, falling over, dropping things, inability to do simple manipulative tasks (tying boot laces, packing rucksack)

There are many elements to managing health hazards in wilderness environments ranging from prevention, to diagnoses, treatment and evacuation, it is the responsibility of the person designated with the medical role to ensure that the expedition is fully prepared to carry out the responsibility of 'Due Care and Attention' as required and expected by the whole team. (Buchana J; 2020)¹¹³.

General first-aid treatment means the ability to attend to and deal with the basic problems common to many conditions, including psychological needs, pain management, keeping the casualty warm and comfortable and giving, if appropriate food and drink. Psychological needs of sick or injured patients are important but often overlooked, keeping the casualty informed

¹¹² International Mountain Trekking Handbook; Mountain Training UK 2012 <u>www.mountain-training.org</u>

¹¹³ Buchana J; EMS Management of Traumatic and Medical Disorders in A Wilderness Environment; 2020 <u>www.statpearls.com</u>

and in a positive state of mind is essential to both coping with the situation and ultimately with their recovery. (Langmuir E., Mountaincraft and Leadership, 2013)¹¹⁴.

The common health issues above 2000m are hypothermia, heat exhaustion, dehydration and low blood sugar due to a lack of food as well as altitude related issues. These 'hazards' share similar symptoms so if one symptom is found it is important to check for the others, and if one member of the party is suffering, check the other members of the group. The key skill in the prevention of any form of illness on an expedition is personal hygiene and this includes attending to the slightest health related issue before it can become a major health problem. (Hackett. P.H Shlim D.R)¹¹⁵

All clients should provide the leader or the agency with a list of their normal medical requirements, including dietary ones. Many people have now developed food allegories, these issues must be taken into account, however, clients must also exercise personal accountability and responsibility and should take responsibility for administering their own medication; the leaders are not doctors, so should not prescribe medication but should simply offer advice and back it up with the appropriate information from Dr Jim Duff's Wilderness Medicine book, this should be carried as part of the first aid kit to provide further medical explanations for the clients should they require it. Individuals within the group should carry their own personal medication including their own pain killers preferably non-narcotic. However, clients should inform the guide or leader if they start to use their medication during the activity. If the clients use specific medical applications, for example, an Epipen then the leader should be aware of this and know how to use it in case of an emergency.

It is extremely important that all clients have the appropriate insurance which must include helicopter rescue and from 2020 possibly Corona insurance.

¹¹⁴ Langmuir E., Mountaincraft and Leadership; Mountain Training; 2013 www.mountain-training.org

¹¹⁵ Hackett. P.H Shlim D.R; High-Altitude Travel & Altitude Illness; CDC Travelers' Health; 2000

High altitude illness is a common concern among clients, whether they are inexperienced or experienced travelers. Certain high altitude health issues can be life challenging and life threatening. At high altitude, there is a drop in barometric pressure, which causes a decrease in the partial pressure of oxygen. This hypobaric hypoxia triggers a series of physiological responses, which, in most cases, help the individual adapt to the low oxygen conditions and high altitude. However, in some cases, maladaptive responses occur, and may cause high altitude illness (Luks A. M, Luks, Swenson E.R, Bärtsch P, 2017)¹¹⁶.

The cause of altitude illness is a matter of oxygen physiology. At sea level the concentration of oxygen is about 21% and the barometric pressure averages 760 mmHg. As altitude increases, the concentration remains the same but the number of oxygen molecules per breath is reduced. At 3,658 meters the barometric pressure is only 483 mmHg, so there are roughly 40% fewer oxygen molecules per breath (Reeves J T, Weil J V,)¹¹⁷. In order to oxygenate the body effectively, the breathing rate (even while at rest) has to increase. This extra ventilation increases the oxygen content in the blood, but not to sea level concentrations. Whereas, the amount of oxygen required for activity is the same, the body must adjust to having less oxygen. In addition, high altitude and lower air pressure cause fluid to leak from the capillaries which can cause fluid build-up in both the lungs and the brain. Continuing to higher altitudes without proper acclimatization can lead to potentially serious, even life-threatening illnesses (Stöppler M.C; 2021)¹¹⁸.

Generally, high altitude sickness is caused by the body retaining excess bodily fluids which are accumulated and stored in certain areas of the body as a result of exposure to the low pressure of oxygen and the build-up of red blood cells not happening sufficiently quickly to transport the

AMS

 ¹¹⁶ Luks A.M, Swenson E.R, Bärtsch P; Acute high-altitude sickness; European Respiratory Review; 2017
 ¹¹⁷ Reeves J T, Weil J V; Barometric Pressure, Reduced; Encyclopedia of Occupational Health and Safety
 ¹¹⁸ Stöppler M.C;; Definition of Altitude Sickness; 2021
 www.rxlist.com

excess fluid out of the system. Acute Mountain Sickness (AMS), the mildest form, is characterized by headache plus one or more systemic manifestations (e.g., fatigue, gastrointestinal symptoms, persistent dizziness). It may occur in anyone traveling to high altitude, too quickly. High-altitude cerebral edema (HACE) is a form of global encephalopathy, while high-altitude pulmonary edema (HAPE) is a form of noncardiogenic pulmonary edema causing severe dyspnea and hypoxemia. Slow ascent and allowing ample time for acclimatization are widely advocated and shown in practice to effectively prevent high altitude illness (Stöppler M.C; 2021)¹¹⁹

AMS in general terms, has a time limited 'incubation' period based on height gain x speed of ascent. Usually at breakfast time a person feels fine but by bed time is feeling the effects of altitude, this is because the body had acclimatised to the breakfast time altitude but during the day the altitude ascent pace was too fast not giving the body time to adjust to the new 'night-time' altitude. At this point the leader / guide has three options as to the appropriate treatment. Initially it is important to assess the client's situation, many clients will display some of these symptoms after a hard day's exercise in the sun and carrying a rucksack so allow time for their body to settle down after the exercise. If their situation does not improve then the options are, To descend back down to the previous night's altitude, and then to reascend a day later or when the AMS symptoms have subsided. This is often problematical for the people who may have planned their trek or expedition with insufficient time to acclimatise properly. There are also psychological implications of losing a hard-won height gain.

Spend an additional night / day at the altitude where the AMS problems manifested themselves. Consider Diamox as an option to treat the conditions and to help the body acclimatise. Diamox is a MILD diuretic and as such a close watch must be kept on a person to avoid dehydration. Diamox blocks an enzyme in the kidney and makes the blood acidic which is interpreted by the

¹¹⁹ Stöppler M.C;; Definition of Altitude Sickness; 2021 <u>www.rxlist.com</u>

brain as a signal to breathe more. Diamox thus enhances the physiological response to altitude. Side effects of the drug are, a tingling in the fingers and toes and tingling the around mouth (pins and needles). Patients with severe allergy to Sulfa based drugs should not take this medication. The prophylactic dose for Diamox is ½ of a 250mg tablet (125 mg) twice a day, however, taking the drug prophylactically should not be recommended unless in an emergency situation - i.e., if it is imperative to gain altitude beyond the appropriate rate for safety reasons. The use of Diamox will not mask the symptoms of altitude illness if it is to occur it helps the body to adjust to the conditions altitude imposes on the body. For people allergic to sulfa drugs, it is possible to use dexamethasone (prescribed by physician), a very potent steroid drug.

In extreme situation a complete evacuation might be necessary.

UNDER NO CIRCUMSTANCES SHOULD THE PATIENT CONTINUE TO ASCEND.

Treatment modalities to help through during descent-

Diamox-. Dosage: One 250 mg tablet two or three times a day. This is generally useful for mildmoderate AMS. Continue taking Diamox for the next few days and reassess at appropriate interval.

Dexamethasone- very potent steroid. Used in High Altitude Cerebral Edema or HACE temporarily to facilitate descent. This drug improves the symptoms without improving acclimatization. It is not recommended to ascend while still taking this drug by a symptomatic person. Dosage: 8mg initially, then 4 mg every 6 hours.

Nifedipine- useful in HAPE by lowering pressure in the pulmonary blood vessels and thereby decreasing fluid in the lungs. This drug also lowers blood pressure.

Sildenafil (<u>Nizagara</u>) or Tadalafil may be useful in treating HAPE.

Oxygen - very useful particularly for HAPE but consideration must be given to the longevity of oxygen supply.

(CIWE Hospital 2019)¹²⁰



A Gammo bag to adjust the air pressure in cases of acute mountain sickness (AMS).

Many groups that trek to high altitude in remote places take a Gamow or Pac bag with them. This is a portable bag which, when inflated, converts into a high-pressure bag in which an individual with severe symptoms of HACE or HAPE is put and air is pumped in with a foot-pump. Pressure created inside the bag increases the oxygen tension and a person can improve rapidly. This is used to tie a person over an acute crisis before

descent is possible or pending helicopter evacuation. The effective altitude can be decreased by 1000m to as much as 3000m (3281 to 9743 feet) depending on the elevation. The mainstay of treatment is descent for anything other than mild HAPE. Descent to an altitude below that where symptoms started is always effective treatment. It is important for those likely to monitor the use of the Gamow Bag to be familiar with the process and also to allow clients to experience the sensation of being in the bag, many will not like the experience so support must be provided. (Dietz T E; , 2001)¹²¹. Supplementary oxygen is also an option but serious consideration must be given as to what happens if the oxygen supply is exhausted before helicopter evacuation is available.

It is recorded that more than 65% of clients traveling to above 3500m have any one or more of AMS symptoms however, care must be taken to diagnose the appropriate cause. Although

 ¹²⁰CIWEC; Altitude Illness Advice for Trekkers 2019
 <u>https://ciwec-clinic.com/health-articles/altitude-illness-advice-for-trekkers/</u>
 ¹²¹ Hyperbaric Treatment, High Altitude Medicine Guide; modified 2001
 www.high-altitude-medicine.com

high altitude is defined as beginning at an elevation of 1500m (5,000 feet), symptoms are rarely present at 1500m but become increasingly common with rapid ascent to higher elevations.

Author	Location	Altitude (m)	AMS	
Maggiorini <u>5</u>	Alps	2,850	9%	
		3,050	13%	
		3,650	34%	
		4,559	53%	
Dean <u>7</u>	Colorado	2,987	42%	
Honigman <u>3</u>	Colorado	2,000- 3,000	25%	
Vardy <u>4</u>	Nepal	3,000- 4,000	10%	
		4,000- 4,500	15%	
		4,500- 5,000	51%	
		0ver 5,000	34%	
Karinen <u>6</u>	Kilimanjaro	2,743	9 %	
		3,760	44%	
		4,730	58%	

Studies conducted in Nepal, Colorado, Kilimanjaro, and the Alps show a prevalence of AMS ranging from 9% to 58%, with a higher prevalence at higher altitudes AMS is typically associated with headache variably accompanied by loss of appetite, disturbed sleep, nausea, fatigue, and dizziness beginning within 12 hours of ascent in two-thirds of susceptible subjects and within 36 hours in the remaining third. After a short rest, a hot drink and snacks the symptoms should have worn off, if not the clients should take a normal headache remedy. By early evening and after the evening meal the clients should feel much better. However, if the symptoms continue then

the appropriate course of action needs to be taken. HACE occurs rarely at lower altitudes and its incidence between 3500 m and 5500 m is estimated to be approximately 4-5%. (Taylor A T 2011)¹²²

Directions for Using the Lake Louise AMS Score

This Lake Louise AMS score is for use by people going to altitude as either a self -checking method or by the leader to determine the conditions of those under their charge. After a gain in altitude or on a rest day (an exposure of at least 6 hours duration, the AMS score is used)

1. The Lake Louise AMS score is designed as a self-report questionnaire that clients complete on their own. However, some guides / leaders prefer to read the question to the client and record the answers, whereas others use a two-step method wherein the client first completes the score, then the person in charge verbally verifies the answers.

2. The Lake Louise AMS score for an individual is the sum of the score for the four symptoms (headache, nausea/vomiting, fatigue, and dizziness/light-headedness). For a positive AMS definition, it is mandatory to have a headache score of at least one point, and a total score of at least three points.

Example 1: A total score greater than two points but with no headache is defined as NO AMS.

Example 2: A score of three points for a severe headache, with no other AMS symptoms, is defined as AMS. (Roach R C, Hackett P H, Oswald O, Bärtsch P, Andrew M, Luks A, M, Martin J. MacInnis M J and Kenneth Baillie J)¹²³

¹²² Taylor A T; High-Altitude Illnesses: Physiology, Risk Factors, Prevention, and Treatment; RamBam Maimonides Medical Journal; US National Library of Medicine; 2011
<u>www.ncbi.nlm.nih.gov</u>

¹²³ Roach R C, Hackett P H, Oswald O, Bärtsch P, Andrew M. Luks A M, Martin J. MacInnis M J and Kenneth Baillie J; High Altitude Medicine & Biology, US National Library of Medicine; 2018 www.ncbi.nlm.nih.gov

Lake Louise AMS Scoring System

Company Logo Pan No	Date	:		Client' s Name:			
	Sleeping altitude:						
	Maximum altitude:						
	Trek: Trek Leader:						
Self-Assessm			the five symptoms listed below. Remember that	fatigue will			
			mments if required				
Physical	Physical Score/day 1-6						
<u>Condition</u>				nal Comme			
				nts			
<u>S1.</u>							
<u>Headache</u>	0						
None at all	1						
Mild	2						
headache Moderate	3						
headache							
Severe,							
incapacitatin							
g headache							
<u>S2.</u>							
<u>Gastrointest</u>	0						
<u>inal</u> Good	1						
appetite	2						
Poor appetite							
and/or	3						
nausea							
Moderate							
nausea							
and/or							
vomiting Severe,							
incapacitatin							
g							
nausea/vomit							
ing							
<u>S3. Fatigue</u>							
<u>and/or</u>	0						
<u>weakness</u>	1						
				10			

Not tired or	3				
weak	J	I			
Mild	4				
	4				
fatigue/weak					
ness					
Moderate					
fatigue/weak					
ness					
Severe					
fatigue/weak					
ness					
<u>S4. Dizziness</u>					
<u>or light-</u>					
<u>headedness</u>	0				
None	1				
Mild	2				
Moderate	3				
Severe,					
incapacitatin					
g					
<u>\$5.</u>					
<u>Difficulty</u>	0				
<u>sleeping</u>	1				
Slept as well	2				
as usual					
Did not sleep	3				
as well as					
usual					
Woke many					
times, poor					
night's sleep					
Could not					
sleep at all					
Total Self-					
Assessment					
Score (S					

Guide's signature date

Self-report Questionnaire

•••••

It is a self-report questionnaire score sheet. The examiner should add together the individual

scores for each symptom to get the total score, the clients should then sign and date the form.

4 3 to 5 = mild AMS

4 6 or more = severe AMS

Note:

Do not ascend with symptoms of AMS,

4 Descend if symptoms are not improving or getting worse,

4 Descend if symptoms of HACE or HAPE develop.

Many clients, especially if involved in a charity / sponsored event will often try to conceal any debilitating illness for the sake of their endeavor. There may also be peer group pressure to continue, but to continue could literally have, not only deadly results for the client, but dire consequences for the leader or guide who might later be accused of irresponsible leadership. It is good practice to make compulsory use of the Lake Louise Score Sheet. The diagnosis of AMS is based on:

A rise in altitude within the last 4 days,

Presence of a headache,

Presence of at least one other symptom, and

A total score of 3 or more from the questions below.

It is strongly suggested that the person responsible has a supply of this Lake Louise Score Sheet in his or her first aid kit or activity file. On every rest day, they should give the clients a personal copy to fill in AND sign and date it. One sheet per client could cover several rest-days. This is proof that the guide / leader is attentive to the clients' welfare; by both the person in charge and the client both signing the score sheet the person in charge checked on the client's acclimatization rate appropriately and that they provided the signed evidence of that. This might seem a trivial matter but there have been many situations where clients managed to conceal their condition and then try to bush the blame onto the guide / leader.

(Hackett P, Roach RC, 2018)¹²⁴

¹²⁴ Roach R C, Hackett P H, Oswald O, Bärtsch P, Andrew M. Luks A M, Martin J. MacInnis M J and Kenneth Baillie J; High Altitude Medicine & Biology, US National Library of Medicine; 2018

AMS Prevention

Always ascend at the approved ascent rate of 300m between bed nights with a rest day every third day. Providing this advice is followed clients should not be unduly affected by altitude, however, the problem occurs if there is an unexpected situation and the daily routine is disrupted. In today's high pressure society clients might not have the time available to delay their itinerary and will exert pressure on the guide / leader to 'rush' on. This could eventually end in disaster.

Basic preventative rules to follow: -

A slow ascent, giving the body time to adjust to the increase in altitude

Keep well hydrated, a huge amount of bodily liquid is lost through evaporation, however this reduces the instinct to 'pee' a vital part of the process involved in aclimatisation

Avoid alcohol and other substances that reduce the respiratory drive

Eat carbohydrates, a high altitude life-style requires more carbohydrate packed food for energy production. The body is just going to be a bit less efficient and will therefore need more readily-available sources of energy.

The procedure to reduce the effect of altitude illnesses falls into two categories:

- 1. Proper acclimatization and
- 2. Preventive medications.

Basic guidelines for proper acclimatization

Avoid flying or driving to high altitude, if this is not possible as in the case when flying into Ley 3256m (Ladakh) it is imperative to take at least three days allowing the body to adjust before undertaking strenuous activity. This is a major consideration for most trekkers in Nepal as the trekking normally starts at around 3000m, (Lukla 2840m) and the majority of trekkers will probably live below that altitude in their own country.

www.ncbi.nlm.nih.gov

The clients should strictly follow the principle of "climb high and sleep low". The daily itinerary, in total, might amount to more than 300m of ascent the important issue is that each bed night should not be more than 300m above the previous ben night

If the clients begin to show symptoms of moderate altitude illness, don't go higher until symptoms decrease. Even the traveler must not go up until symptoms disappear.

Follow other appropriate advice to acclimatisation regarding keeping hydrated, avoid alcohol and medication that could reduce respiratory efficiency. (Hackett & Shlim D R)¹²⁵.

Symptoms of AMS

AMS symptoms depend on the speed of ascent and how hard the client exerts themselves. It is the responsibility of the guide or leader to observe the group and become aware of, and then prevent the negative effect of altitude gain from developing into a more serious condition through tactfully handling the group. The most prominent symptom is usually headache, and most people also experience nausea and even vomiting, lethargy, dizziness, and poor sleep. These symptoms might be very similar to a really bad hangover. The guide or leader, and the clients, as a result of a thorough briefing, should be able to recognise the symptoms by using an assessment score sheet. The AMS symptoms range from mild to life-threatening can affect the nervous system, lungs, muscles, and heart if left untreated.

The symptoms of mild to moderate AMS may include:

Difficulty sleeping,

Dizziness or light-headedness,

Fatigue,

Headache,

Loss of appetite,

¹²⁵ Hackett & Shlim D R; High-Altitude Travel & Altitude Illness; CDC Travelers' Health <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6191821/</u>

Nausea or vomiting, Rapid pulse (heart rate), Shortness of breath with exertion, etc. <u>The symptoms that may occur with more severe AMS include:</u> Blue color to the skin (cyanosis), Chest tightness or congestion, Confusion, Cough, Coughing up blood, Decreased consciousness or withdrawal from social interaction, Gray or pale complexion, Inability to walk in a straight line, or walk at all, Shortness of breath at rest, etc. <u>Symptoms of High-Altitude Pulmonary Edema (HAPE)</u>

HAPE is a buildup of fluid in the lungs that can be very dangerous and even life threatening. If a client is suspected of suffering from HAPE they will exhibit: -

Blue tinge to the skin or lips (cyanosis)

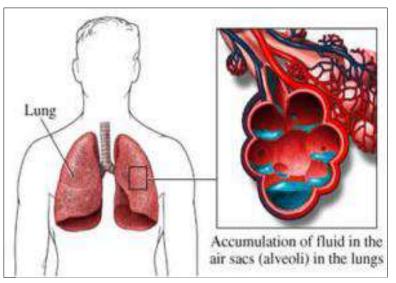
Breathing difficulties, even when resting

Tightness in the chest

a persistent cough, bringing up pink or white frothy liquid (sputum)

Tiredness and weakness

If the guide / leader listens to the clients breathing cycle (from the spine side of the lungs) a 'rattling' sound can be detected in the lungs. The symptoms of HAPE can start to appear a few days after arrival at high altitude. It can be fatal if it's not treated immediately.



Pulmonary edema; Sumathigopinath Author Stream

Drugs are not as effective as descent from altitude and oxygen in the treatment of high-altitude pulmonary edema (HAPE). Nifedipine, by reducing pulmonary arterial pressure, may be effective in treating HAPE.

Immediate improvement of oxygenation either by supplemental oxygen, hyperbaric bag treatment, or by rapid descent is the treatment of choice for HAPE. For the mountaineer in a remote area without medical care, descent has first priority, while the tourist with HAPE visiting a high-altitude plateau may stay at altitude if medical facilities are available. If it takes few days in a remote area to reach lower altitude, treatment with nifedipine is strongly recommended. In mountaineers with HAPE at 4559 m, treatment with 20mg slow-release nifedipine taken every six hours led to a persistent relief of symptoms, improvement of gas exchange, and radiographic clearance over an observational period of 34 h.

In an area where medical infrastructure and assistance are available, vasodilatory treatment is not strictly necessary because with bed-rest and supplemental oxygen for 24 to 48 hrs, relief of symptoms is achieved within hours and complete clinical recovery within several days while staying at the same altitude. (Praklikar S J 2012)¹²⁶

High Altitude Cerebral Edema (HACE) is the most severe form of altitude sickness and happens when there's fluid in the brain. It's life threatening and you need to seek medical attention right away.

Symptoms of HACE include:

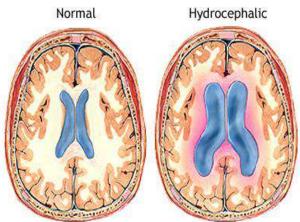
Headache

Weakness

Feeling and being sick

Loss of coordination

Feeling confused



Health Life Media

Hallucinations (seeing and hearing things that are not there)

A person with HACE will often not realise they are ill. They may insist they're OK and want to be left alone. HACE can develop quickly over a few hours and it can be fatal if it's not treated immediately.

If a client is suspected of having HACE:

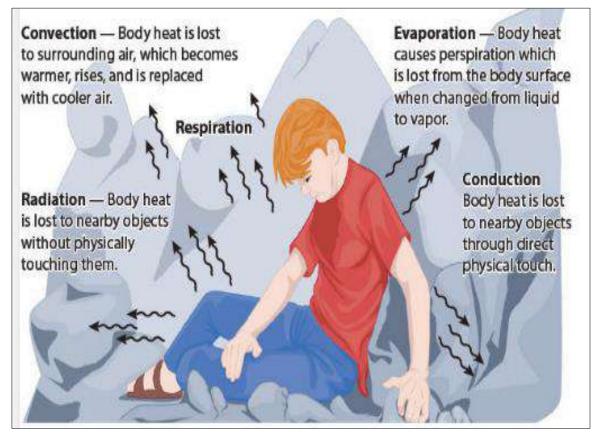
Move down to a lower altitude immediately

Take dexamethasone

Give bottled oxygen, if available

¹²⁶ Praklikar S J; High altitude pulmonary edema-clinical features, pathophysiology, prevention and treatment; IJOEM; 2012 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3617508/ Dexamethasone is a steroid medicine that reduces swelling of the brain. It's often carried by professional mountain climbers as part of their medical supplies. If clients cannot go down immediately, dexamethasone can help relieve symptoms until it's safe to do so. Clients should go to hospital as soon as possible for follow-up treatment. (Dr Jim Duff & Gormly P 2008)¹²⁷.

HYPOTHERMIA



Journal of Emergency Medical Services

Another major high altitude health problem associated with wet and cold conditions, is hypothermia. This is a potentially dangerous drop in body temperature, usually caused by prolonged exposure to wet / cold temperatures.

At high altitude or during exposure to cold temperatures, most heat loss up to 90% that it escapes through skin; the rest, we exhale from our lungs. The process of heat loss through the skin

¹²⁷ Drs Duff J & Gormly P; First Aid & Wilderness Medicine; Cicerone; 2008

happens primarily through radiation, and speeds up when skin is exposed to wind or moisture. If cold exposure is due to being immersed in cold water, in this situation heat loss can occur 25 times faster, than it would if exposed to the same air temperature. (DerSarkissian, 2021)¹²⁸. An individual can suffer from hypothermia at any time and at any altitude if the prevailing conditions are right. The normal body temperature averages 98.6 degrees. With hypothermia, the core temperature drops to below 95 degrees. In severe hypothermia, the core body temperature can drop to 82 degrees or lower. With exposure, the initial response of the body is to maintain a normal core temperature (approximately 37°C [99°F]) by means of active movement and involuntary shivering. Primary hypothermia occurs when heat production through involuntary muscle action in an otherwise healthy person is overcome by the stress of excessive cold, especially when the energy stores of the body are depleted. (Brown, Brugger, Boyd, & Paal. 2012)¹²⁹. At this point the body begins to shut down the blood flow to the body extremities causing a change in the skin colour and a stiffening, wooden effect, of the effected body parts. Restricting the blood flow to the extremities is also the cause of another 'cold conditions' related situation, frostbite. Frostbite is a situation, caused by the freezing of the skin and underlying tissues. The symptoms of frostbite are where the skin becomes very cold, numb, hard and pale. Frostbite is most common on the fingers, toes, nose, ears, cheeks and chin, body parts exposed to the windy, cold weather are most vulnerable to frostbite

¹²⁸ DerSarkissian, C. (2021, May 12). Hypothermia. Retrieved from https://www.webmd.com/: https://www.webmd.com/a-to-z-guides/what-is-hypothermia

¹²⁹ Brown, D. J., Brugger, H., Boyd, J., & Paal, P. (2012, November 15). Accidental Hypothermia. The New England Journal of Medicine. https://www.nejm.org/doi/full/10.1056/NEJMra1114208

Treating Hypothermia

As hypothermia sets in, it becomes more challenging to think, move, and take preventive action. This is dangerous because it means that people who have hypothermia will not seek to keep themselves warm and safe.

The body starts to slow down as the temperature drops. If the person stops shivering, it can be a sign that their condition is getting worse.

The individual is at risk of lying down, falling asleep, and dying. In some cases, people will paradoxically remove their clothes just before this occurs.

Treatment depends on the degree of hypothermia, but the aim will be to make the person warm.

First aid treatment

Anyone with symptoms of hypothermia will need immediate medical assistance.

Until medical assistance arrives, taking the following action can help:

- 4 moving the client to a warm, dry place, if possible, or sheltering them from the elements
- 4removing wet clothing, cutting items away if necessary
- 4 covering their whole body and head with blankets, leaving only the face clear
- #putting the individual on a blanket to insulate them from the ground
- #monitoring breathing and carrying out CPR if breathing stops

Providing skin-to-skin contact, if possible, by removing clothing and wrapping yourself and the individual in the blanket together to transfer body heat

+providing warm drinks, if the individual is conscious, but no alcohol or caffeine

It is vital not to use direct heat, such as heat lamps or hot water, as this can damage the skin. It can also trigger irregular heartbeats and, potentially, lead to cardiac arrest.

Do not rub or massage the person either, as these potentially jarring movements could also cause cardiac arrest and increases the flow of blood to the cold areas that will then return at a cooler temperature to the body core. (Drs Duff J & Gormly P; 2008)¹³⁰.

Effects of Wind Chill

Celsius to Fahre	enheit conversion
chart	
Celsius	Fahrenheit
- 40°	- 40°
- 30°	- 22°
- 20°	- 4°
- 10°	14°
0°	32°
10°	50°
20°	68°
30°	86°
40°	104°

The effect of the wind on the body feeling increases the of low temperatures; the air literally, takes the breath away. Wind chill is the temperature; it feels like outside due to wind speed. The greater the wind speed, the greater the wind chill, and the colder the environment will feel. (National Weather Service)¹³¹

For example, in a scenario, the actual

temperature outside might be -3.8 degrees Celsius, but wind speeds of only 20 miles per hour drive the temperature down to a frigid -11 degrees Celsius. This is the temperature the body skin is actually exposed to when outside in these wind-chill conditions.

Although wind chill is often described as the 'feels like' temperature outside, it really only refers to the temperature, the environment feels like due to the wind speed. Other factors contribute to what the temperature feels like outside such as sunlight, humidity, and precipitation.

 ¹³⁰ Drs Duff J & Gormly P; First Aid & Wilderness Medicine; Cicerone; 2008
 ¹³¹ National Weather Service

www.weather.gov/safety/cold-wind-chill-chart

<u>Causes</u>

Our body maintains a certain temperature, 37° Celsius (98.6° F). However, when the environment is cooler our bodies, particularly exposed skin in the extremities, lose heat. The body core temperature is maintained but other parts of the body cool off considerably in the cold.

								Tem	pera	ture	(°F)
Ca	lm 40	35	30	25	20	15	10	5	0	-5	-10
	36	31	25	19	13	7	1	-5	-11	-16	-22
1	0 34	27	21	15	9	3	-4	-10	-16	-22	-28
1	5 32	25	19	13	6	0	-7	-13	-19	-26	-32
2	0 30	24	17	11	4	-2	-9	-15	-22	-29	-35
2	5 29	23	16	9	3	-4	-11	-17	-24	-31	-37
2 3 3 4	0 28	22	15	8	1	-5	-12	19	-26	-33	-39
3	5 28	21	14	7	0	-7	-14	-21	-27	-34	-41
4	0 27	20	13	6	-1	-8	-15	-22	-29	-36	-43
4	5 26	19	12	5	-2	-9	-16	-23	-30	-37	-44
5	0 26	19	12	4	-3	-10	-17	-24	-31	-38	-45
5	5 25	18	11	4	-3	-11	-18	-25	-32	-39	-46
6	0 25	17	10	3	-4	-11	-19	-26	-33	-40	-48

There are two ways that we lose heat to a cool environment, radiation and convection. In either case, heat always moves from where there is more heat to where there is less heat. So, in a cold environment our bodies will always lose heat.

Radiation

Our body constantly radiates heat which is why even placing hand near another person allows feel their body heat. When temperatures are cooler, the body loses heat faster. So, a wind chill will increase the amount of heat loss via radiation.

Convection is the most relevant to wind chill, this is heat loss due to air or water currents. In the case of wind chill, the movement is through air currents, or wind. The cold air particles in the wind bounce off of our skin as we leave a warmer environment. The heat in the skin is carried away with the air molecules, leaving the skin colder. The transfer of heat from the body to the air is why high wind speeds cause wind chill, and thus makes the body feel colder than just the temperature alone. (Wenz J, 2019)¹³²

¹³² Wenz J: What Is Wind Chill, and How Does It Affect the Human Body? 2019 <u>https://www.smithsonianmag.com/science-nature/what-wind-chill-and-how-does-it-affect-human-body-180971376/</u>

Effects

Wind chill means the environment is going to feel a lot colder than just the temperature in high wind. As mentioned, the body temperature is 37° Celsius (98.6° F). If the body is too hot or too cold, our organs can shut down and this can lead to death.

<u>Treatment</u>

There should be immediate arrangement to reduce the loss of heat from the body, find shelter and insulate the body from the wind. The warmth from other bodies is a good way to increase the victims' core temperature. But it should be aware about the negative impact using inhibited activities like alcohol or aggressive rubbing which do not stimulate the circulation.

Frostbite

Frostbite is the freezing of the skin and tissue. While it may seem like just a problem that hikers or mountain climbers have to deal with, anyone can get frostbite when exposed to freezing temperatures. First skin becomes very cold and red, then numb, hard and pale.



Quora Medicine and Health

Ian Wall

Frostbite is most common on the fingers, toes, nose, ears, cheeks and chin. It is exposed skin in cold, windy weather is most vulnerable to frostbite. But it can occur on skin covered by gloves or other clothing.

Causes of Frostbite

Normally, frostbite can happen in just a few minutes or can take as long as an hour or two.

The onset/risk of frostbite is directly dependent on the ambient temperature (also taking into account the wind chill) and the length of exposure. The colder the temperature plus wind chill, the less time it takes for frostbite to occur.

Other factors come into play as well age or size of the individual. Typically, children will experience frostbite more quickly than someone larger and older. Those with less than poor blood circulation to body parts such as hands, fingers, feet or toes, or those with preexisting conditions including diabetes, autoimmune vascular disorders or atherosclerosis obliterans (hardening of the arteries) are also more at risk of getting frostbite.

Though frostbite can affect any part of the body, some areas are more susceptible. Any skin surface can suffer frostbite with significant cold exposure. However, the most susceptible skin areas are the parts farthest away from the center of the body and would include the hands, fingers, feet, toes, tip of the nose, face and ear lobes.

Signs and Symptoms

Common signs of frostbite are cold skin and a prickling feeling in the affected area. As frostbite progresses, the area may become numb, and the person may become clumsy because of muscle and joint stiffness. The skin will change colors, according to the severity of the condition. Skin may become red, white, bluish-white or grayish-yellow, and may become hard or waxy looking. Frostbite has stage of severity:

First stage frostbite, ice crystals form on the skin.

Second stage frostbite, the skin will start to feel warm, even though it has not defrosted.

Third stage frostbite, the skin will turn red, pale or white.

Fourth stage of frostbite is long lasting. The pain will last for several hours, and the area may turn dark blue or black under the skin.

Stages of developing Frostbite



1. The first stage is called frostnip. The skin may turn pale or red, and it may feel prickly or numb. As the skin warms up, it may hurt or tingle. This stage doesn't cause any permanent damage, though.

Healthline

The second stage is called superficial frostbite and is more serious. It occurs when the skin turns white or pale. At this stage, the skin may feel soft, but it may actually have ice crystals formed in the tissue, beneath the surface. The body part may also feel warm to the person with frostbite, even though the body part is still cold. When the area is rewarmed, it may turn a mottled purple or blue and may swell, burn or sting.

Within the next 24 to 36 hours, the area may develop fluid-filled blisters.

The final stage is severe or deep frostbite. This stage affects all layers of skin and the tissues beneath. The area may become numb, with no sensation of cold or discomfort. The joints and muscles of the affected area may also stop working. After the area is rewarmed, it will develop large blisters within 24 to 48 hours and the area will turn black and hard because the tissue has died. (Langmuir 2013)¹³³

Prevention of Frostbite

Frostbite can be prevented with the right protection when facing cold temperatures.

Dressing in loose, light, comfortable layers to trap warm air.

¹³³ Langmuir E; Mountaincraft & Leadership; Cordee 2013

Wearing a pair of moisture-wicking socks against your skin and a pair of wool or wool-blend socks on top to keep toes warm when combined with insulated, waterproof boots Keeping the head and ears covered with a heavy wool or fleece hat and the face covered with A scarf or mask

Covering hands with insulated mittens or gloves

Dehydration can increase the risk of developing frostbite

Treatment of Frostbite

Treatment of frostbite usually includes some type of re-warming process; those with signs of frostbite should be checked for hypothermia first, before receiving treatment for frostbite.

Those with symptoms of superficial or deep frostbite should see a doctor, but first, the client must be moved to a warm, stable area. If a frostbitten injury is rewarmed and then freezes again, significantly more damage can occur. Then, the affected area should be wrapped and splinted. Excessive movement can cause ice crystals within the tissue to cause further tissue damage, toes and fingers should be wrapped separately. Keeping hydrated.

The client should be transported to a medical facility as a matter of urgency. As peripheral (fingers, toes) tissues are rewarmed, there is a small risk of cooling of the body core, as the colder blood is circulating from the cold to the warmer body core, which carries the danger of irregular heartbeat and cardiac issues. The risk is very low unless the patient has preexisting risk factors such as heart disease and advanced age.

During treatment, the core body temperature must be monitored in at-risk patients. Clients with frostnip can self-treat by rewarming the body. This can be done by holding a warm cloth against the area or by putting the area into warm water. Do not rub the effected parts. DO NOT LANCE OR BURST BLISTERS, the liquid acts as a cushion and any rupture of the skin is likely to lead to infection. (Langmuir E; 2012)¹³⁴

¹³⁴ Langmuir E; Mountaincraft & Leadership; Cordee 2013

<u>Sunburn</u>

Sunburn is the result of exposed unprotected skin in an atmosphere of strong ultraviolet sun light, the skin quickly turns red, in more sensitive parts or extreme cases the affected area will swell and blister. Sunburn can vary from mild to severe. The extent depends on skin type and amount of exposure to the sun. Exposure to ultraviolet radiation (UVR) is the main risk factor for most skin cancers (Anderson P A, et al 2010)¹³⁵. Because of variations in the intensity of UV radiation passing through the atmosphere, the risk of sunburn increases as you approach the equator, and as you gain altitude. The higher the latitude, the lower the intensity of the UV rays.

Trekkers often forget those areas most likely to be affected by sunburn, the hands when using trekking pole.

<u>Treatment</u>

The best treatment is prevention, use a strong sun block, avoid prolonged exposure to strong sun light. In the mountains a cool breeze often disguises the burning effect the sun has and it is not until it is too late that trekkers often realise that they have sunburn.

Apply cold compresses to dissipate the heat

Use appropriate pain killers

Apply aloe vera or hydrocortisone cream 1% 8-hourly (Drs Duff J & Gormly; 2008)¹³⁶.

¹³⁵ Anderson P A, et al; Environmental Cues to Ultraviolet Radiation and Personal Sun Protection In Outdoor Winter Recreation; PMC 2010
 <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3364536/</u>
 ¹³⁶ Drs Jim Duff & Gormly; First Aid & Wilderness Medicine; Cicerone; 2008



Ian Wall
<u>Snow Blindness</u>

Snow blindness, also called arc eye or photokeratitis, is a painful eye condition caused by overexposure to ultraviolet (UV) light. When too much UV light hits the transparent outer layer of eyes, called the cornea, it essentially gives cornea sunburn. Photokeratitis symptoms don't always appear right away. Snow blindness may also refer to freezing of the cornea's surface, as well as severe drying of the corneal surface due to extremely dry air. Sometimes, it will take several hours after the corneas have been damaged. Eye damage from UV rays is particularly common in the North and South Pole areas or in high mountains where the air is thinner and provides less protection from UV rays. Skiing, snowmobiling and mountain climbing are activities commonly associated with this condition. (Toole A; 2019)¹³⁷

¹³⁷ Toole A; What is snow blindness? Ohio State University Wexner Medical Centre <u>https://wexnermedical.osu.edu/blog/snow-blindness</u>

Snow Blindness Symptoms

The symptoms of snow blindness might not be realized several hours after the corneas have been damaged. The common symptoms of snow blindness are:

Disorientation;

Pain in your eyes, swollen red eyelids;

Headache;

Blurred vision,

Temporary loss of vision; etc.

Snow blindness is easily treatable, and the eyes will heal quickly once the patient is removing from the UV rays and the eyes are rested. Water and white sand can also cause photokeratitis because they're very reflective. Severe cold temperatures and dryness can also play role of making photokeratitis more common in higher elevations or in mountain range.

Snow Blindness Prevention

The snow blindness or Photokeratitis is mostly preventable by wearing 100% UV protected sunglasses as prescribed by the medical doctor. There are some basic principles of protected the snow blindness or avoiding snow blindness:



Skitime.com

Photokeratitis is mostly preventable by wearing sunglasses.

If we participate in water sports or mountaineering or in general adventure activities at altitude, invest in quality, wraparound sunglasses with photochromic lenses.

We need to wear sunglasses that block out 100 percent of UV rays whenever we plan to be outdoors for more than three hours at a time.

We need to remember that reflective glare from sand, water, and snow can still harm our corneas even when the weather is overcast.

We need to wear a wide-brimmed hat or visor if we are outside for an extended period without sunglasses.

Snow Blindness Treatment

The symptoms of snow blindness tend to resolve gradually over a day or two. It is suggested the patient should rest and keep the eyes away from UV light is the best way to encourage healing. However, the snow blindness can be painful that might be a temporary condition. There are some common practices to make healing easier and prevent further damage.

Live in shade or get out of access of sunlight, try to get somewhere that has lower lighting. Being in a dark room or shaded outdoor area will prevent further UV damage.

Use a cold compress by putting an ice cubes in a plastic bag and wraps it with a paper or cloth towel; and should place it on closed eyes for 20 minutes. Then it helps to reduce pain and swelling.

We should remove the contact lenses if we are wearing them; remove them until the symptoms have subsided.

We must not rub our eyes while we have symptoms of photokeratitis.

Topical pain-relieving drops shouldn't be placed in eye if we have snow blindness.

Lubricating eye drops, also known as artificial tears, can help protect the surface of eyes. We can use them to help reduce eye pain and dryness. But we need to follow the prescriptions of using it.

If the symptoms worsen or don't get better within 3 days, then we need to get in contact with doctor (Drs Duff J & Gormly P; 2008)¹³⁸.

¹³⁸ Drs Duff J & Gormly P; First Aid & Wilderness Medicine; Cicerone; 2008

Dehydration

Dehydration happens when the body doesn't have as much water as it needs. Without sufficient water, the body can't function properly. There are degrees of dehydration, mild, moderate, or severe dehydration depending on how much fluid is missing from body.

Causes of Dehydration



A https://www.bestroofing.net/blog/what-isdehydration

It's normal for the body to lose water every day by sweating, breathing, peeing, and pooping, and through tears and saliva (spit). Usually this is replaced by drinking fluids and eating foods that contain water. If the traveler does not drink or is using a diuretic (Diamox) or drinks too much strong coffee; it could lose too much water, lack of food and water causes dehydration.

The body can lose more water than usual with: fever

Diarrhea

Vomiting

Excessive sweating

Peeing a lot (Diabetes and some medications like diuretics, can make clients pee more often)

Reasons for not replace the water the body loses:

Travelers are too busy and forget to drink enough.

They don't realize they're thirsty.

They don't feel like drinking because they have a sore throat or mouth sores, or split lips.

Sometime flavoring the water helps.

Symptoms of Dehydration

The symptoms of mild or moderate dehydration include:

Thirst

Dry or sticky mouth

Not peeing very much

Dark yellow pee

Dry, cool skin

Headache

Muscle cramps

The symptoms of severe dehydration include:

Not peeing or having very dark yellow pee

Very dry skin

Feeling dizzy

Rapid heartbeat

Rapid breathing

Sunken eyes

Sleepiness, lack of energy, confusion or irritability

Fainting

The symptoms for babies and young children can be different than for adults:

Dry mouth and tongu

No tears when crying

Dry diapers for 3 hours

Sunken eyes, cheeks, soft spot on the top of the skull

Sleepiness, lack of energy, or irritability

Severe dehydration is a medical emergency and needs to be treated immediately.

(Drs Duff J & Gormly P 2008)¹³⁹.

¹³⁹ Drs Duff J & Gormly P; First Aid & Wilderness Medicine; Cicerone; 2008

<u>Diarrhea</u>

When a traveler has severe diarrhea, bowel movements (or stools) are loose and watery. It's common and usually not serious. Many people get diarrhea on trek or other activities for a variety of reasons. It normally lasts 2 to 3 days. Some people get it more often.

Causes Diarrhea

Usually, diarrhea happens because of a virus that gets into the gut. Some people call it "intestinal flu" or "stomach flu." Other causes include: Alcohol abuse Allergies to certain foods Diabetes Diseases of the intestines Eating foods that upset the digestive system or unhygienic prepared food Unhygienic personal habits while of the trip not washing hands, biting dirty finger nails etc. Infection by bacteria (the cause of most types of food poisoning) or other organisms Laxative abuse Medications Overactive thyroid (hyperthyroidism) Running (Some people get "runner's diarrhea" for reasons that aren't clear) Some cancers Surgery on digestive system Trouble absorbing certain nutrients, also called "malabsorption" Diarrhea may also follow constipation, especially for people who have irritable bowel syndrome. Symptoms of Diarrhea General symptoms of diarrhea are:

Bloating in your belly

Cramps

Thin or loose stools Watery stools An urgent feeling that you need to have a bowel movement Nausea and throwing up More serious symptoms include: Blood or mucus in your stool Weight loss Fever Total lack of motivation and energy If clients have watery stools more than three times a day and they're not drinking enough fluids, they could become dehydrated. That can be a serious problem if it's not treated. (Drs Duff J & Gormly P; 2008)¹⁴⁰.

Helicopters Dangers

Most helicopters used for medical evacuation in Nepal can safely land at altitudes of up to 5,000 m but are limited by visibility, landing space, and weather conditions. Rescue helicopters may operate under visual flight rules (VFR), which means that flight conditions must be free of clouds and where airspeed can be slow enough for the pilot to see far enough to avoid a collision.

When calling for a helicopter, provide the following information:

Number of victims and their weight, injuries, and level of consciousness;

Reason why we need a helicopter;

Location of the landing zone; and the current and expected weather conditions (temperature,

visibility, distance [ceiling] from ground to clouds, and wind speed/direction);

Indicate whether an ambulance will be required once back in Kathmandu.

¹⁴⁰ Drs Duff J & Gormly P; First Aid & Wilderness Medicine; Cicerone; 2008

People on the ground should be aware of the limitations of maneuverability, and should obey certain rules when involved with a helicopter rescue:

Prepare and brightly mark a proper landing site. In popular trekking / adventure activity regions in Nepal Heli-pads are usually easily located. The ideal location is on level ground (bare rock is best; snow is worst) with no more than 10 degrees of incline and access from all sides. If possible, choose a site where the helicopter will be able to drop off during takeoff, rather than having to climb up. It is also desirable to have a helicopter take off or land into the wind, to increase lift. Unless otherwise instructed, stay at least 46 m from a helicopter with rotors spinning. Look away as it lands, so as not to be struck in the face or eyes by flying debris. Protect the casualty, secure all loose objects or clear them from the landing area. Coil and secure all ropes because of the strong gusts from the approaching helicopter can be strong, up to 161 km per hour, do not stand near the edge of a cliff, do not stand in the landing zone if on snow, in case the helicopter settles and slides.

Always approach or leave a helicopter at a 30- to 45-degree angle from the front, in sight of the pilot and crew (see above diagram). Never approach the helicopter from ground higher than the landing spot, to avoid walking into a rotor. Stay away from the tail rotor, because it is nearly invisible when rotating. All loading and unloading of a helicopter should occur on the downhill side of the aircraft, to avoid striking a rotor.

Keep your head down! You may not perceive that the rotor blade is dipping up to 1.2 m, from the center attachment until it chops your head off. Don't hold any objects particularly not your arms above your head; protect your eyes from dust kicked up by the rotor wash.

Do not smoke a cigarette near a helicopter.

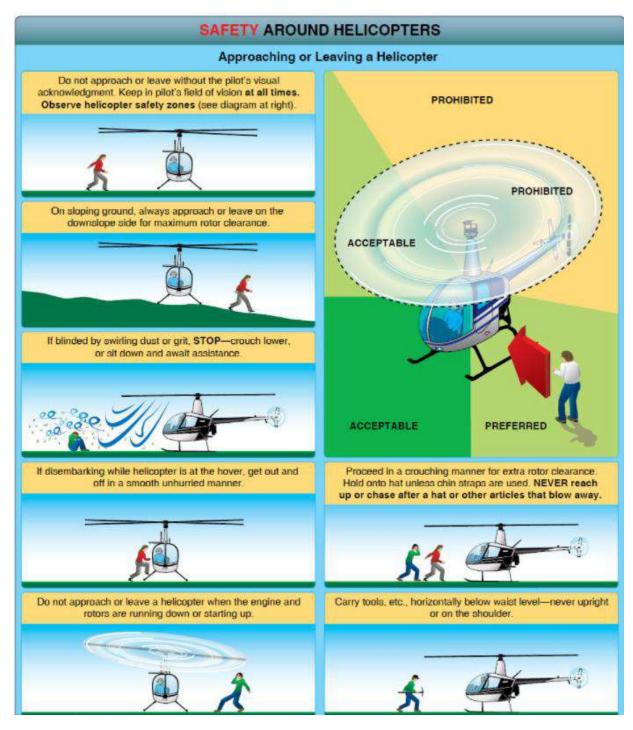
Follow the pilot's instructions. Do not approaches, enter, leave, or load a helicopter until he gives the command. Establish eye contact with the pilot and obey his signals.

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Do not stand under or anywhere near a helicopter during takeoff or landing. Everyone near the landing site should stay at a safe distance in a single group, clearly visible to the pilot. At night, carry a light or wear a reflective object or clothing.

If a cable or rope is lowered, allow it to touch the ground before you handle it, to avoid a shock from static electricity. Never tie the rope or cable to an immovable object on the ground; this could cause a crash.

Keep jackets zipped. Carry all packs, rather than wear them on your back.



(Safetree NZ 2015)¹⁴¹

Chapter 5

Leadership & Risk Assessment

<u>Leadership</u>

Sir Chris Bonington is probably the most experienced mountaineering expedition leader of the 20th Century. In his book Quest for Adventure, he analyses the adventurous expedition impulses which have driven men and women to accomplish remarkable feats in all of Earth's elements, crossing the oceans, deserts and Poles, canoeing its rivers, climbing it mountains ballooning above and caving beneath its surface, and in outer-space.

He analyses the motivation and drive of explorers, Theisiger 1910-2003 (he is remembered for his Arabian expeditions), as compared to Chichester 1901-1972 (he was knighted by Queen Elizabeth II for becoming the first person to sail single-handed around the world by the clipper route and the fastest circumnavigator, in nine months and one day). He explores the degree of risk accepted by Bonatti 1930-2011 on the Dru (he was noted for his many climbing achievements, including on his solo climb of a new route on the south-west pillar of the Aiguille du Dru in August 1955) and Knox-Johnson 1939 (he is remembered for many sailing adventures critically in 1968 when he entered his 9.8m boat, one of the smallest to enter the Sunday Times Golden Globe Race much of which took place in the wild Southern Oceans), Wally Herbert 1934-2007 (a British polar explorer, writer and artist who in 1969 became the first man fully recognized for walking to the North Pole, on the 60th anniversary of Robert Peary's disputed expedition). The content of Quest for Adventure includes a large section of mountaineering exploits as would only have been envisaged from a notable mountaineer and a leader who has played his own role in keeping adventure alive. (Bonington C 1981)¹⁴².

¹⁴² Bonington C; Quest for Adventure; Hodder & Stoughton; 1981

Many of the above-mentioned expeditions, solo expeditions apart, required a leader. In Chris Bonington, The Everest Years he provides a clear insight into two styles of leadership and the effect each style had on the related teams based on his experiences as a member of two different expeditions. Today these would be recognised as autocratic and democratic styles. He goes on to identify climbers (mountaineers) as 'an individualistic lot with power egos and antiauthoritarian attitudes they may never gel into a team but will remain as a cohesive group with the right leadership. On expeditions it is of paramount importance, if the expedition is to be successful, to adopt the right leadership style based on the expedition members. It is often said that a successful expedition will have been achieved not only its goal is reached, but also when all members return alive and still as a group of friends. (Bonington C 1981)¹⁴³.

In 1960 Bonington was part of the successful team to make the first ascent of Annapurna II under the leadership on Col Jimmy Roberts. In those days siege tactics were common practice in the Himalaya and required establishing a series of camps linked by fixed ropes if the terrain became too steep for safely ferrying loads up in the wake of the lead climbers. Once the line of supplies had reached the appropriate high point an attempt on the summit would be made. This approach requires coordination, cooperation and good communication between the different groups of climbers scattered up the route on the mountain. The flow of supplies and the manning of the camps and the inevitable issues that were bound to crop up required an overall plan in which individuals knew and accept their role and agree to the plan. This in turn provides the reward that every climber would, at some stage, be at the front pushing the route out, be acting as immediate support to the lead climbers or, resting in Base Camp.

The majority of mountaineers who signed up as members of expeditions back in the era of developing expeditions styles in the 1960s were conforming to the theories of Peak Experiences,

¹⁴³ Bonington C; Quest for Adventure; Hodder & Stoughton; 1981

The Expectancy Valence Theory, a concept that was developed by Abraham Maslow in his 1943 paper 'A theory of Human Motivation'. The Expectancy Valence Theory has three components:

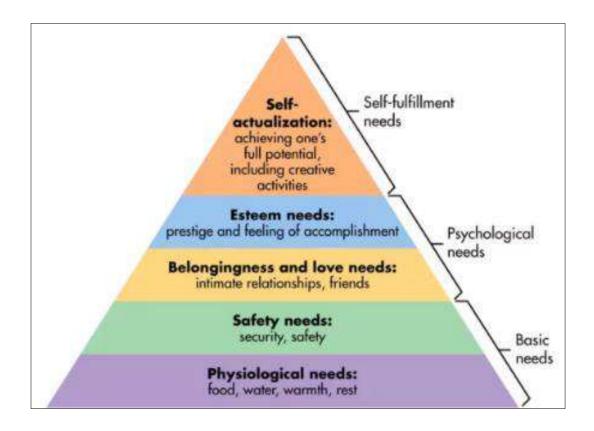
Expectancy is the individual's belief that effort will lead to the intended performance goals, successful outcome.

Valence is the unique value an individual places on a particular outcome, desirability of rewards on offer.

Instrumentality the belief that success will bring rewards; These theories were further developed by Victor H Broom (Maslow, A: 1943)¹⁴⁴

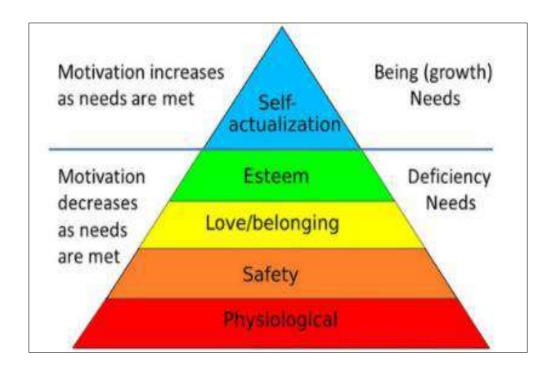
The mountaineers and adventurers of the era were still in the main coming from an element of society that were well established both financially and socially. As Maslow explained for people to develop into some sort of serious adventure, they first needed to have a well-established core of base essential elements as illustrated below. Only then will they be prepared to push, psychologically, hierarchy levels of self-actualization.

 ¹⁴⁴ Maslow, A: 1943 'A theory of Human Motivation' Updated; Dr. Saul McLeod, December 29, Simply Psychology; 2020
 www.simplypsychology.org/maslow.html



Every person is capable and has the desire to move up the hierarchy toward a level of selfactualization. Unfortunately, progress is often disrupted by a failure to meet lower-level needs. Life experiences, including divorce and loss of a job, insecurity in the social strata may cause an individual to fluctuate between levels of the hierarchy.

This was a situation faced in developing countries and thus in that era there were very few, if any adventurers, from these regions of the world. Today things have changed.





On Annapurna II in 1960 Col Jimmy Roberts, the leader of the expedition never went above Base Camp. Throughout the expedition he maintained a firm grip on the movement of logistics, personnel and he had a keen awareness of what was happening where, when, how and by whom on the mountain. The whole expedition ran smoothly because from the outset all members were aware of the plans and approximate shape the expedition would take and were aware that they would all get their turn 'pushing out the route' and they had understood and agreed to that format. In reflection they had followed Maslow's 'Theory of Human Motivation' within the framework of an autocratic leadership style.

¹⁴⁵ Maslow, A: 1943 'A theory of Human Motivation' Updated; Dr. Saul McLeod, December 29, Simply Psychology; 2020 www.simplypsychology.org/maslow.html

However, the leader of the Nuptse expedition, Joe Walmsley took a completely different approach. He got permission to climb the mountain, he had selected his team, he had masterminded the expedition preparations and all the logistics that enable the complete expedition to arrive at Base Camp. He had chosen the line through the huge and difficult face, at which point he virtually stepped back from the leadership role implying that 'now it's your turn lads, go climb the mountain!' The group of people (not as a solid team) did go and climb the mountain, the route was pushed out and the supplies were slowly being ferried up the umbilical cord keeping the lead climbers attached to the foot of the route. As the lead climbers progressed there was a growing feeling of discontent within the expedition, the group was beginning to fracture into smaller groups and when these groups were on the mountain they would instigate their own plans often in conflict with the others who were doing the same, eventually each thought they were doing the greater share of the work while everyone else was taking it easy. Despite the lack of cohesiveness, the expedition slowly crept towards the summit which they reached on the 16th May 1964. However, Bonington describes it as a bit of a case of every man for himself. Dennis Davis and Tachei Sherpa reached the summit leaving great boot holes for the rest to follow. Bonington and Les Brown made the second ascent the next day following the deep foot prints which allowed an ascent to be made without a rope and then as the individual climbers reached the top camp they summited as the conditions allowed and at the pace of the individual members. Although the expedition succeeded, it was concluded under a combination of both autocratic and democratic styles. (Bonington C 1986)¹⁴⁶

I believe that if it had not been composed of such talented climbers, things would not have turned out so successfully.

¹⁴⁶ Bonington C.; The Everest Years, A Climber's Life; Hodder & Stoughton; 1986

An expedition leader should process many talents, although there are exceptions like Tilman who always adopted a minimalistic approach to planning. Depending upon the size of an expedition organisational skills will be many and varied.

Expeditions may involve many different platforms above, on or below the earth's surface and either on terra-firmer or on water. Areas that will need attention could be divided into three sections and include: -

Before leaving home

Researching areas for suitable projects Researching archives for previous expedition reports Selection a team Identifying a budget to work around Logistics and transport issues Legal issues Medical issues/insurances Food and technical resources Delegating responsibility Developing a plan that all expedition members will agree to Finance - where will it come from? Sponsorship demands returns Problem solving throughout the expedition and in preparation Once in-country Completing formalities

Packing and transport

Adopting the pre-agreed walk-in plan

Leading team whilst on expedition Consulting with all member to ensure harmony Managing finances, itinerary, equipment and ensure that accurate records are kept Oversee the progress of the expedition, not to necessarily be part of the spear-head group Ensuring team safety whilst on expedition as much as possible Problem solving both on expedition and in preparation

Post expedition

Producing post-expedition reports and paperwork

Keeping sponsors happy

Assuring all interested parties are acknowledged

Today's world of expeditions is completely different to that of a by-gone era. Most areas offering reasonably accessible mountaineering, rock climbing, rafting, kayaking, paragliding etc have insitu companies and agencies offering a professional service and, in some regions, almost operate as a cartel, if you really want to get off the beaten track and develop your own high adrenaline packed adventure be prepared for some big expenses. There are still openings for low key and highly technical expeditions but these are almost entirely based on climbing Alpine-style. (Holeček M; Baruntse Expedition 2021)¹⁴⁷

In recent years the organisers of large expeditions to the Greater Ranges using siege tactics have felt compelled to justify their adventures, both to the public and to potential sponsors. Typically, they do this either by dedicating their projects to some fashionable cause, a charity, climate change, empowering women, or by creating some sort of record to position them above the mass of other climbers trundling up Everest on commercial expeditions.

¹⁴⁷ Holeček M; Baruntse Expedition 2021 www.mountain.ru/article/

The adjective 'Alpine Style' identifies the fact that the expedition will be a far simpler, less expensive affair but potentially a far riskier affair, no supplementary oxygen, no fixed ropes or porters beyond Base Camp. Lightweight expeditions can historically be traced as far back as Mummery's attempt on Nanga Parbat's Diamir Face in 1895, Shipton & Tilman summited Nanda Devi with only three Sherpas in the 1930s. But in both cases, and at that time, the term "alpine style" hadn't been invented. (Fanshawe A and Venables S 1996)¹⁴⁸.

In 1982 the ascent of Shishapangma's Southwest Face by Alex MacIntyre, Roger Baxter-Jones and Doug Scott involved the team going up in one push, with no previous exploration or partial climbing on the face, and with all gear, food and bivouac equipment on their backs. They reached the summit in three days and made it back to Base Camp a day later. As MacIntyre himself put it, 'The face was the ambition; the style became the obsession'. Mick Fowler summed it up as being 'all about mountaineering in a self-sufficient manner, carrying all one's food, shelter and equipment and leaving no trace of one's passing.' (Scott D and MacIntyre A 1994)¹⁴⁹

Some mountaineers consulted by ExplorersWeb suggested the following criteria for a proper alpine style climb, whatever the peak's height:

- Small team of no more than two or three

- No bolts or gear left on the wall

- No temporary fixing on the route (on the hardest pitches, for instance)

¹⁴⁸ Fanshawe A and Venables S; Himalaya Alpine Style; Mountaineers Books; 1996

¹⁴⁹ Scott D and MacIntyre A; Shishapangma Expedition; Cordee; 1994

- No previous trips up the wall to set camps or carry and cache supplies. Everything you need, you carry on your back.

- No acclimatization on the route itself. If you want to acclimatize, do so elsewhere, so that your first taste of the chosen route is the definitive one.

- Descend by your own means, not using fixed ropes, tracks, camps, etc. from any other source. (Benavides A; 2019)¹⁵⁰

This now raises the underlying question of ethics and should this style and standard be a bonus or the only way to climb? Is it really a question of go alpine or go home? Should the Himalaya be the private playground of a handful of superheroes dedicated to purity? Venables says that sometimes, fixed ropes are useful, as they were for him and his partner on Melungtse, unavoidable or simply the best way to summit. "Alpine style is more of an ideal than a set of rules". (Fanshawe A and Venables S 1996)¹⁵¹. The final question might then become not so much how to do things, but in how to report that they were done. If it's claimed a mountain was climbed alpine style, be prepared to fulfill the requirements or face debate. Or at least, make sure to explain clearly what was understood by alpine style, and that will be debatable too! In my opinion if people are trying to claim a record for the fastest, the first this, that or the other, the first of a nationality to climb all 14x 8000m peaks then reports should be honest and transparent. It can't be claimed the fasted marathon if a taxi was taken for 5 kilometers! Should 'firsts' be recognised if the participants are part of a commercial expedition when the routes will be fixed from bottom to top? A solo ascent of Everest today will not be in the same style as competed by Messner in 1980 so should it be recognised in the same category?

¹⁵⁰ Benavides A; So, What Exactly is "Alpine Style"? Explorers' Web; 2019 <u>https://explorersweb.com/users/angelab/</u>

¹⁵¹ Fanshawe A and Venables S; Himalaya Alpine Style; Mountaineers Books; 1996

On an individual basis there are many organisations advertising on the web for independent expedition leaders for which there is usually a demand for extensive certification.

If you are on any expedition as its professional leader whether in an independent capacity or as an employee of a third party you have to manage Duty of Care. This is the legal responsibility of a person (the leader) or organization to avoid any behaviour or omissions that could reasonably be foreseen and thus to cause harm to others. For example, a duty of care is owed by an expedition leader in correctly managing an expedition, to minimize the chance of an accident occurring to the clients. Similarly, manufacturers owe a duty of care to consumers in making sure that their products (equipment) are safe for public use. This is a moral and legal obligation. (Legal Definition 2017)¹⁵²

Risk Assessment

Of all the responsibilities that fall to a leader that of Risk Assessment is of paramount importance especially if leading a commercial expedition. In the modern world and if using a commercial agent then the in-country agent will be responsible for many of the fundamental issues. However, it is of high importance that the foreign leader has a close relationship with the agents so as to be aware of exactly what their overall plan is. If the expedition is a private, smaller low-key operation in terms of personnel and logistics then the leader is totally accountable for all issues from the concept plan through to the execution and finally the returning back to home.

'A problem shared is a problem halved', a sentiment that all leaders of independent expeditions should keep close to their heart, working to Abraham Maslow 'A theory of Human Motivation'

¹⁵² Legal Definition; Content Team; 2017 www.legaldictionary.net/duty-of-care

will help develop a strong team and therefore a team eager to accept delegated responsibility

for tasks assigned to them by the expedition leader. (Maslow A; 1943)¹⁵³

Risk Assessment is defined by the Royal Geographical Society as follows: -

RISK ASSESSMENT A	ND CRISIS	MANAGEMENT
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RISK ASSESSMENT (TABLE 10.1)

TABLE 10.1 RISK ASSESSMENT: SOME DEFINITIONS

Hazard	A situation or set of circumstances that have the potential to
	cause harm
Risk	The likelihood of harm potentially caused by a hazard
Risk assessment	The conscious process applied to the identification of hazards and the risks associated with them and the subsequent
	identification and implementation of a series of control measures to minimise the risk highlighted

(Barrow C; Royal Geographic Society; 2004)¹⁵⁴

All mountain ranges on earth are formed as a result of movement within the earth's crust whether it be from a volcanic, tectonic or a pressure source (fault valleys / block mountain) (Williams M; 2017)¹⁵⁵

Therefore, any form of mountain-based activity will include inherent dangers, many caused as a result of nature and further potential movement in the earth's crust, however, many of these

www.simplypsychology.org/maslow.html

¹⁵⁴ Barrow C; Royal Geographic Society; 2004

file:///C:/Users/Computer/Downloads/HBSREracm.pdf

¹⁵⁵ William M; Universe Today; December 30, 2015

¹⁵³ Maslow, A: 1943 'A theory of Human Motivation' Updated; Dr. Saul McLeod, December 29, Simply Psychology; 2020

https://www.universetoday.com/29833/how-mountains-are-formed/

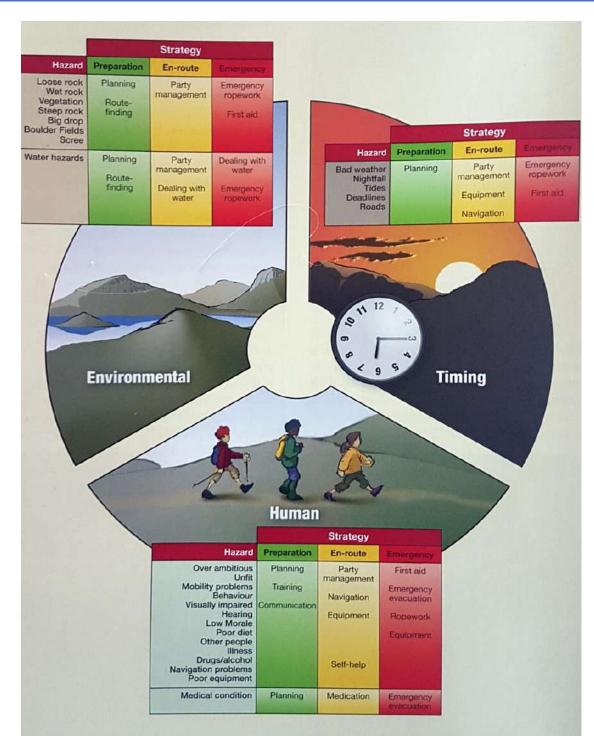
dangers can be avoided if the expedition leader is aware of issues of risk. Risk can come from three sources: -

- The environment
- The strategy / planning
- Human action

In terms of the environment, risks can be found in avalanche, snow or icefall conditions, precipitation resulting in flooded rivers, land slips, rockfall, erosion and weather.

In terms of strategy and planning, this risk comes as a lack of understand of the client's capabilities resulting in camps being spaced too far apart, the ability to cover the anticipate terrain in the proposed time or the lack of skills required and fitness to meet the planned schedule and objective.

Risk from the human angle implies the client's over ambitious objectives, lack of technical skills and fitness, a lack of mental preparation and or the degree of motivation.



(Langmuire E;2013)¹⁵⁶

¹⁵⁶ Langmuir, E; Mountaincraft and Leadership: 4th Edition; Mountain Training Board; 2013 www.mountain-training.org/shop/42/books/mountaincraft-and-leadership-by-eric-langmuir

As leader of a large expedition the planning and risk assessment is a very detailed and complex tasks requiring a multitude of skills. For an overview of this refer to (Bonington C 1976)¹⁵⁷, Chris Bonington's detailed planning for the SW Face of Everest Expedition 1975, however, that was then and this is now. Today commercial expedition agencies take on the basic logistical role however, it is the team leaders who manage the movement of personnel on a day-to-day basis.

In the modern era more and more expeditions are carried out Alpine Style and generally consist of two or four climbers being completely self-reliant, planning, and executing their own expedition. As an expedition there is often no direct leader but the team members agree a basic plan and then set off sorting other issues out collectively as they go.

In the commercial world of adventure failure to develop and implement a Risk Assessment protocol could have catastrophic consequences for the destination, as well as the legal and economic consequences on operators and the field staff.

A systematic approach to risk management and compliance with proven work standards is necessary for successful safety management, and the creation of quality and competitive tourism products. Modern standards in adventure tourism imply quality risk management, safety in tourism operations that plays a key role in the competence and competitiveness of the tourism location and activity. The safety concept of adventure and location in adventure tourism should be seen as the necessary qualitative component with an extremely important implication on the sustainability of the location's financial viability, the organisation and the staff associated with the overall activity. Due to the nature of activities in adventure tourism, the risks cannot be eliminated but can be significantly reduced by taking appropriate preventive measures and limiting activities that carry a very high degree of risk, which comes out of the usual standard

¹⁵⁷ Bonington C; Everest the Hard Way; Hodder & Stoughton; 1976

for the respective tourism adventure activity. In managing risk, it is important not to take the adventure out of the equation.

The right approach to successful management of security and risks in adventure tourism is to create a safety management system (SMS). The employees in the agencies, especially the guides, should be familiar with the risk management system and be trained to implement it.

As previously stated, risk identification is done to create the best procedures that will provide possible solutions and actions in case of an emergency, how likely is a risk to become reality and how life threatening could it be?



(Ciriviri K 2019)158

¹⁵⁸ Ciriviri K; Manual of Risk Management in Adventure Tourism, Ohrid Red Cross Mountain Rescue Service; 2019 www.manual-for-risk-management-in-adventure-tourism.pdf

A safety management system in adventure tourism will largely depend on the type of activity that is being undertaken, however all protocols should include these sectors.

Risk assessment - It aims to systematically analyze the possible risks and reasons for their occurrence.

Creating a system of work procedures - Procedures that are primarily aimed at preventing and minimizing risks.

Contingency plan - The plan should provide a set of specific guidelines for actions undertaken in case of an accident or an emergency, that is, whenever there is a deviation of the usual program or procedures.

Incident Report - A record-keeping form for each incident.

Analysis - After every situation/incident analysis of the incidents or emergencies is necessary. Periodic analyses should be done on all segments of the management system to evaluate and update them.

To develop a Risk Assessment Plan / Policy the 'risk' should first be put into context, to define procedures to allow for a proper risk assessment and analysis it and then to create a real system of procedures for dealing with the emergencies. The basic rule is that the risk must be placed in some context that aims to better manage it. Ignoring the risks is the worst option for a guide or tour operator.

It is not possible to develop a Policy until you clarify and identify potential risks and considered them within the adventure activity. The following is an overview of the basic terms that need to be recognised when planning risk management.

Danger - Circumstances or activity that contains possible factors for violation of physical or mental health.

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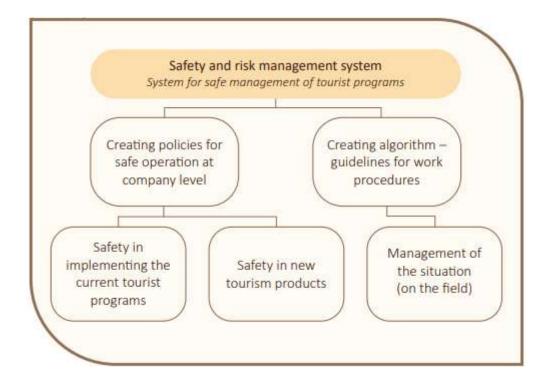
Risk - Assessing the likelihood of an incident and how serious the consequences may be, for example, of people's safety.

Risk control - The process that includes risk management in its entirety, among other things, defining the scope of risk assessment, monitoring, analysis, as well as the processes of communication and collaboration. Risk control should be explained in the safety plan.

Risk assessment - a process that assesses the likelihood of a risk and the consequences thereof, taking into account the usefulness of the control procedures in force. At the same time, the assessment should identify whether the risk can be managed or not.

Control procedures - Measures to minimize the risks and consequences of them.

A risk management system should contain clear guidelines for the specific activities that will be undertaken. In creating a Risk Assessment Policy for the operation of the relevant activity, awareness of developing new activities should also be included, as well as guidelines for managing situations "in the field".



(Ciriviri K; 2019)159

Every element of the program needs to come under scrutineer from the moment the clients arrive and become the agencies responsibility until the moment they leave. Safety management in adventure situations begins with a thorough analysis of the programs so as to identify areas where certain risks may arise. Analysis should be done for each activity that is part of the overall program and should include: -

<u>Analysis of the planned tourist activities</u> (according to the type of activity - hiking, cycling, paragliding, rock climbing, skiing, kayaking ...).

Customer Analysis are they up to the task?

<u>Analysis of the locations</u> where activities are planned to be performed.

Analysis of weather conditions and weather forecasts and implications.

<u>Analysis of the guide's competencies</u> is he/she experienced in the activity that they are in charge of?

<u>Analysis of the appropriate equipment</u> all should be of original manufacture, safety stamped, regularly checked and maintained, and written off according to the manufacturers' advice.

If the aim is to do an organizational Business Policy, then additional sectors need to be assessed:

1. <u>The market</u> for which the programs are intended.

2. <u>The legal framework</u> under which the agency operates.

3. <u>The legal framework</u> for regulating the work of guides in adventurous activities.

 ¹⁵⁹ Ciriviri K; Manual of Risk Management in Adventure Tourism, Ohrid Red Cross Mountain Rescue Service;
 2019
 www.manual-for-risk-management-in-adventure-tourism.pdf

4. <u>The type of company's products</u> does the company have the expertise to deliver those activities?

5. <u>Who are the clients</u> are the activities suitable for all clients or should there be graded activities to suit all clients?

6. The company's infrastructure and the corresponding product?

7. **Preparation of the Risk Analise**, what are the qualifications of the person responsible for this segment?

Away from the front line of the adventure activity a company will need to consider business risks connected with standard operating procedures, their information literature, staffing protocols, the use of check lists, the appropriateness of hire vehicles for the clients and the activity, the standard of the activity v the clients capabilities and expectations, contingency plans, managing critical situations, communication protocol, incident reports, communicating with the clients / patients families and the guide's role and clarity of responsibilities in managing an emergency situation.

Above all in an emergency situation the client will be stressed, as well as maybe others in the group. The psychological welfare is extremely important, the patient will need reassurance not only in a verbal format but also from what they can see. An organised site and casualty management system will not only reassure the patient but it will provide immediate comfort knowing what is going on and will also aid recovery once in the care of medical specialists. (Ciriviri K; 2019)¹⁶⁰

 ¹⁶⁰ Ciriviri K; Manual of Risk Management in Adventure Tourism, Ohrid Red Cross Mountain Rescue Service;
 2019
 www.manual-for-risk-management-in-adventure-tourism.pdf

Chapter 6

Sustainable and Responsible Tourism

Sustainable Tourism - Definition

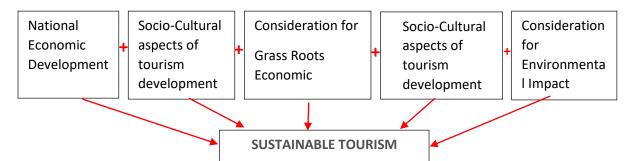


Sustainable tourism must preserve the traditional way of life ©lan Wall

Sustainable Tourism is tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment, host communities and stakeholders as well as involving strong political leadership to ensure wide participation and consensus building. (Wikipedia)¹⁶¹. Tourism has become a multibillion-dollar industry, which spans from the high concentration urban cities to remote islands in the Indian

¹⁶¹ Wikipedia, the free encyclopedia www.en.wikipedia.org

Ocean. But, in some cases, the economic benefits come hand in hand with negative environmental and social impacts. Several regions in the world have had to overcome disastrous environmental damage or the loss of their traditions and local culture due to the growth of the tourism industry. This is the main cause for the emergence of new forms of tourism (adventuretourism, alternative-tourism, eco-tourism, rural-tourism, responsible tourism, geo-tourism, voluntourism etc.) all gathered under the generic term of sustainable tourism.



Sustainable tourism must preserve the traditional way of life and cultures for future generations, it must maximize the positive contribution of tourism to biodiverse conservation and thus to poverty reduction and the achievement of common goals towards sustainable development. Sustainable tourism provides crucial economic incentives for habitat protection. Revenues from visitor spending should be channeled back into nature conservation and capacity building programs for local communities to manage protected areas. (World Tourism Organisation (UNWTO) 2004)¹⁶²

A short history of sustainable tourism

Strictly, and from a historical point of view, some authors (Lane 2009; Weaver 2006) consider that the first ideas regarding sustainable tourism belonged to Jost Krippendorf from the University of Bern. In his book, "The Landscape Eaters", he identified several negative impacts

¹⁶² World Tourism Organisation; Sustainable Development (UNWTO) 2004 www.unwto.org

of tourism, and he subsequently argues for an alternative - a soft form of tourism ("sanfter turismus".) (Bâc D.P; 2006)¹⁶³

Since the early 1990s, the concept of sustainable tourism had begun to be used more often in academic circles and, to a lesser extent, among tourism entrepreneurs. It is considered that the birth of the concept of sustainable tourism was with the publication of the first issue of the Journal of Sustainable Tourism in 1993 (Weaver 2006:10; Hunter 2002:3; Dodds and Butler, 2009: 43), which included six articles (Weaver 2006:10; Hunter 2002:3) and two articles by (Dodds and Butler, 2009: 43) and a book review. (Bâc D.P; 2006)¹⁶⁴

This new form of practicing tourism involved small companies or entrepreneurs, which aimed to support the community, preserving the environment and protecting local culture. One of the most prominent spokesmen of sustainable tourism, David Weaver, considers that "the main difference between the old and the new form of tourism is moving the focus from the wellbeing of the tourist to the wellbeing of the host community" (Weaver 1998:31)

At that time, the concept had been highly debated, and it was received with hostility by the tourist industry, dissatisfied with putting any limits to growth and in turn considered it an "ivory tower" unrelated to the market. Sustainable tourism was also considered "intellectually arrogant, expensive, elitist and useless" (Lane 2009:20).

This attitude was not only limited to the tourism industry. Governments and local authorities did not take seriously the concept, as the classical model of tourism was bringing them many lucrative benefits. Conventional mass tourism was generating jobs and wealth transfers from

¹⁶³ Bâc D.P; The Emergence of Sustainable Tourism; Quaestus Multidisciplinary Research Journal; a literature review (Lane 2009; Weaver 2006)

https://www.quaestus.ro/wp-content/uploads/2012/03/bac4.pdf

¹⁶⁴ Bâc D.P; The Emergence of Sustainable Tourism; Quaestus Multidisciplinary Research Journal; a literature review (Lane 2009; Weaver 2006)

https://www.quaestus.ro/wp-content/uploads/2012/03/bac4.pdf

developed countries to developing ones. The mass-media did not pay much attention to the concept of sustainable tourism, considering that it is much easier to denigrate than it is to explain.

In academic circles, there were researchers that considered sustainable tourism "an impossible dream" (Lane 2009: 21). This was best explained by Wheeler: "On one hand we have the problems of mass tourism, which is recording steady and uncontrolled growth. And what is our response? Small scale, slow and controlled development. It is simply impossible!" (Wheeler, quoted by Miller and Twining-Ward 2005:32). Like sustainable development, sustainable tourism has been the central or secondary theme of conferences and international meetings during which experts in the field discussed the concept, but most importantly it caught the world's attention. (Bâc D.P, UN 2012)¹⁶⁵

The most important institution for the development of sustainable tourism was the United Nations. Since Agenda 21, which was an output from the Earth Summit in 1992, tourism began to be considered as a tool for sustainable development: 'We support the development of tourism programs that respect the environment and culture, as a strategy for sustainable development of urban and rural communities by decentralizing urban development and reducing disparities between regions' (UN 1992 Chapter 7)¹⁶⁶

Several UN departments have focused on tourism, in general, and sustainable tourism in particular. In 1999, in New York, the 7th Session of the Commission on Sustainable Development was held. The main topics of discussion were: consumption and production trends, seas and oceans, the development of small island states and sustainable tourism. (UN Sustainable

¹⁶⁵ Bâc D.P The Emergence of Sustainable Tourism – a literature review 2012 (UN 2012:25) <u>https://www.quaestus.ro/wp-content/uploads/2012/03/bac4.pdf</u>

 ¹⁶⁶ UN 1992 Chapter 7; United Nations Conference on Environment & Development Rio de Janerio, Brazil,
 3 to 14 June 1992 AGENDA 21
 www.sustainabledevelopment.un.org

Development Goals)¹⁶⁷. For tourism, the Commission recognized the importance of this sector for national economies, but it also drew attention to the negative impact that tourism activity can have. It presented a number of challenges ahead for the tourism industry, national governments and the international community. For the tourism industry, the main challenges mentioned in the documents resulting from the meeting were: -

a) Sustainability is central to the whole range and forms of tourism, not only for niche tourism;

b) Applying methods for waste management and other forms of pollution to minimize negative impacts of tourism activity on the environment;

c) Involvement of all partners (customers, staff, other local entrepreneurs, all other stakeholders) in the decision-making process and creating partnerships with the local community or the State to ensure the sustainable development of tourism (UN 1999)¹⁶⁸.

In 2002, the World Tourism Organization launched the Sustainable Tourism - Eliminating Poverty program. This initiative was launched in the context of the Millennium Development Goals. (UNWTO Sustainable Development)¹⁶⁹ WTO experts considering that tourism can be an alternative in many regions of the world. With its partners, the STEP initiative materialized in many developing countries, through the implementation of projects including; tourism legislation, promotion of destinations, creating themed packages, assistance in national parks and protected areas, etc.

 ¹⁶⁷ UN Sustainable Goals; International Year of Sustainable Tourism for Development, 2017
 www.sustainabledevelopment.un.org
 ¹⁶⁸ UN 1999; Commission on Sustainable Development, 7th session; New York, 19-30 April 1999
 www.un.org
 ¹⁶⁹ UNWTO Sustainable Development
 www.unwto.org

The next stage occurred in 2006 with the establishment of the International Task Force on Sustainable Tourism Development, subordinated to the United Nations Environment Program. The main objectives and outcomes of the task force focused on several areas:

Policy - recommendations on policies, standards and certification process, international funding mechanisms;

Best practices - collection, classification and dissemination of good practices;

Education - development and dissemination of manuals and e-learning tools, focusing on sustainable tourism;

Strategies and pilot programs - activities in the field of corporate social responsibility (CSR) framework for national and international development strategies and examples of pilot programs;

Information, communication and networking - information dissemination, collaboration between web pages, sharing best practices and awareness raising activities. (Marrakech Task Forces 2006)¹⁷⁰

The latest entry in the history of sustainable tourism took place at the RIO+20 United Nations Conference on Sustainable Development. The final document, entitled "The future we want", has a chapter for sustainable tourism, where the importance of tourism for sustainable development is recognized and the importance of funding sustainable tourism is emphasized at the UN 2012:25 conference (Bâc D.P 2014)¹⁷¹

¹⁷⁰ Marrakech Task Forces 2006

www.un.org

¹⁷¹ Bâc DO; The emergence of sustainable tourism-A literature review; - Quaestus Multidisciplinary Research Journal, 2014 - quaestus.ro (UN 2012:25) https://www.quaestus.ro/wp-content/uploads/2012/03/bac4.pdf

What is apparent from the history, as presented above, is that tourism is given special attention from the international community and numerous projects are trying to implement sustainable tourism in different regions of the world and in different formats. But questions can still be raised regarding the results of these projects and the industry's ability to replicate them elsewhere. It was also noticed some redundant proposals and advice that were offered by international institutions, with largely the same concepts, but lack of the tools of coercion to compel the implementation of these proposals. A harsh critique is made by Schyvens who states that "everything the UNWTO makes, except promotion, is just dust in the eyes of public opinion" (Bâc D O; 2014:)¹⁷²

The failure to adopt a Sustainable Tourism Policy often results in 'over-tourism', an excessive growth of visitors leading to overcrowding in areas where residents suffer the consequences of temporary and seasonal tourism peaks, which have enforced permanent changes to their lifestyles, access to amenities and general well-being. (Milano et al Sustainable Tourism 2017)¹⁷³

The Sustainable Tourism - Eliminating Poverty program along with its partners, the STEP initiative, materialized in many developing countries, through the implementation specific niche tourism themed packages: -

Responsible Tourism

Responsible tourism is like sustainable tourism, however, as often as the word 'sustainability' is overused and not understood, 'responsible' tourism has been adopted as a term used by industry.

¹⁷² ¹⁷² Bâc DO; The emergence of sustainable tourism-A literature review; - Quaestus Multidisciplinary Research Journal, 2014 - quaestus.ro (UN 2012:25)
 <u>https://www.quaestus.ro/wp-content/uploads/2012/03/bac4.pdf</u>
 ¹⁷³ Milano et al Sustainable Tourism; the conversation; 2018
 <u>https://www.researchgate.net/publication/323174488_Overtourism_and_Tourismphobia_Global_trends_and_local_contexts</u>

Responsible tourism is any form of tourism that can be consumed in a more responsible way and that creates better places for people to live in, and better places to visit.

Responsible tourism is tourism which: -

- minimizes negative social, economic and environmental impacts
- generates greater economic benefits for local people and enhances the well-being of host communities
- improves working conditions and access to the industry
- involves local people in decisions that affect their lives and life chances
- makes positive contributions to the conservation of natural and cultural heritage embracing diversity
- provides more enjoyable experiences for tourists through more meaningful connections with local people, and a greater understanding of local cultural, social and environmental issues
- provides access for physically challenged people
- is culturally sensitive, encourages respect between tourists and hosts, and builds local pride and confidence. (Cape Town Declaration, 2002)¹⁷⁴

Eco-tourism

Eco-tourism is a form of sustainable tourism - all forms of tourism can become more sustainable but not all forms of tourism can be ecotourism.

"Ecotourism is environmentally responsible travel and visitation to relatively undisturbed natural areas, in order to enjoy, study and appreciate nature (and any accompanying cultural features - both past and present), that promotes conservation, has low visitor impact, and provides for

¹⁷⁴ Cape Town Declaration; Cape Town declaration on research for Sustainable Development 2002 <u>https://www.iau-hesd.net/sites/default/files/documents/acp_2002_ec_acp_cape_town_declaration.pdf</u>

beneficially active socio-economic involvement of local populations" (Ceballos-Lascurain, 1993)¹⁷⁵

Geo-tourism

"Geo-tourism is very similar to sustainable tourism and is a definition brought about by National Geographic Traveler, the concept is the same but the focus is on the 'sense of place' in an area rather than the industry's efforts".

<u>Environmentally Responsible</u> - committed to conserving resources and maintaining biodiversity <u>Culturally Responsible</u> - committed to respecting local sensibilities and building on local heritage

<u>Synergistic</u> - bringing together elements of geographical character to create a travel experience that is richer than the sum of its parts and appealing to visitors with diverse interests (National Geographic)¹⁷⁶

<u>Voluntourism</u>

Voluntourism is a form of travel where one volunteers on projects which give back to the community. However, beware - not all voluntourism is good tourism... be careful what is promised and who provides it!

On the 75th anniversary of the United Nations and the 5th anniversary of the adoption of the Sustainable Development Goals - in the midst of a pandemic radically transforming our economies and societies - this 30-minute film tells the story of the world as it is, as it was, and

¹⁷⁵ Ceballos-Lascurain, Tourism, ecotourism, and protected areas : the state of nature-based tourism around the world and guidelines for its development 1993
 <u>https://www.iucn.org/content/tourism-ecotourism-and-protected-areas-state-nature-based-tourism-around-world-and-guidelines-its-development</u>
 ¹⁷⁶ National Geographic Geo-tourism
 <u>https://www.nationalgeographic.com/travel/article/geotourism-principles-1</u>

as it could be. Directed by renowned film maker Richard Curtis and produced by the documentary film company 72 Films, "Nations United" presents the facts, data, and opportunities we have as a human family to reimagine and reshape the future. The film was broadcast on numerous television channels, radio stations and streaming services around the world. (The United Nations Sustainable Development Goals 2020)¹⁷⁷

Community Based Tourism (CBT)

A form of tourism defined by The Mountain Institute and Regional Community Forestry Training Center as a visitor-host interaction that has meaningful participation by both, and generates economic and conservation benefits for local communities and environments.

Conservation Tourism

As defined by tourism researcher Prof. Ralf Buckley, is "commercial tourism which makes a net positive contribution to the continuing survival of threatened plant or animal species." Buckley notes that while there are a variety of ways for tourism to add positive contributions to conservation, the key issue is to calculate net outcomes after subtracting the negative impacts. A broader definition of conservation tourism is tourism that delivers experiences that support the protection of natural and cultural resources through: -

Impact: creating financial incentives for conservation;

Influence: engaging travelers, communities, and other stakeholders on the value of protecting the integrity of nature and culture;

Investment: driving financial support from the travel sector and the travelers for conservation

Pro-Poor Tourism

¹⁷⁷ UN Sustainable Goals; International Year of Sustainable Tourism for Development, 2020 <u>https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf</u>

Is tourism that provides net benefits to poor people as defined by the Pro-Poor Tourism Partnership.

(UNWTO Global Report on Adventure Tourism)¹⁷⁸

Adventure tourism

Adventure tourism is defined as the movement of the people from one to place to another normally outside their comfort zone for the purpose of exploration or travel in remote areas, exotic and possibly hostile locations.

ACTIVITY	TYPE	ACTIVITY	TYPE
Archeological expedition	Soft	Hunting	Soft
Attending local festival/fairs	Other	Kayaking/sea/whitewater	Soft
Backpacking	Soft	Learning a new languaje	Other
Birdwatching	Soft	Orienteering	Soft
Camping	Soft	Rafting	Soft
Canoening	Soft	Research expeditions	Soft
Caving	Hard	Safaris	Soft
Climbing (mountain/rock/ice)	Hard	Sailing	Soft
Cruise	Other	Scuba Diving	Soft
Cultural activities	Other	Snorkeling	Soft
Eco-tourism	Soft	Skiing/snowboarding	Soft
Educational programs	Soft	Surfing	Soft
Environmentally sustainable activities	Soft	Trekking	Hard
Fishing/fly-fishing	Soft	Walking tours	Other
Getting to know the locals	Other	Visiting friends/family	Other
Hiking	Soft	Visiting historical sites	Other
Horseback riding	Soft	Volunteer Tourism	Soft

(UNWTO Global Report on Adventure Tourism)¹⁷⁹

https://www.e-unwto.org/doi/pdf/10.18111/9789284416622

¹⁷⁸ UNWTO Global Report on Adventure Tourism

¹⁷⁹ UNWTO Global Report on Adventure Tourism

https://www.e-unwto.org/doi/pdf/10.18111/9789284416622

Adventure Tourism can in simple terms be divided into two main categories, hard and soft although there is a third of a more social nature. Another definition is that if the activity is hard then participants will require to put in a lot of hard physical training prior to the adventure.

The Development of Tourism in Nepal

Nearly 6,000 tourists arrived in Nepal in 1960, but by the mid-1960s tourism was becoming an established source of foreign income for Nepal. Everest and the other 8000m peaks in Nepal had been climbed and wide spread press coverage of these events was provided by the leading newspapers and magazines of the day. The early tourism pioneers of the like of Boris Lisanevitch, Jimmy Roberts, Jim Edwards and Toni Hagen all contributed to 'advertising' Nepal in their own ways. Nepal was beginning to attract visitors from around the world and in greater numbers. (Tourism Development in Nepal, Stevens)¹⁸⁰

The 'Hippy Trail' was a popular access route to Nepal established through the 1950s and into the late 1970s that offered freedom and enlightenment for travellers with little money but plenty of time, 'well, you may not reach enlightenment, but you'll see some crazy stuff trying!' The availability and access to hashish and other drugs through Nepal Government owned and licensed hashish shops in Jhochhen Tole (Freak Street) generated a certain lure and reputation among the hippy travellers wishing to visit Nepal. Thousands of hippies, wanting to get as far away as possible from the capitalist societies of the West, sought places of "enlightenment and freedom." The overland route to Nepal usually started at a European capital, most commonly London and Amsterdam, and continued all the way through Germany, Austria, Hungary, Yugoslavia, Greece, and Turkey and from there to the Middle East. The final destination, Nepal, but sometimes with a prolonged stay in India, and many were going even farther to Thailand and

¹⁸⁰ Stevens S; Tourism and Development in Nepal <u>https://digitalassets.lib.berkeley.edu/anthpubs/ucb/text/kas067_068-011.pdf</u>

Vietnam. These journeys were usually completed in old ex-military vehicles offering little comfort but cheap and sociable travelling. (Day M; 2016)¹⁸¹

At that time very few people paid much attention to the environmental, economic or the sociocultural aspects of developing tourism, only the positive possibility of the potential financial impact could be clearly envisaged by the host nation, the negative impact, if any, was never recognised or considered.

The emergence of Sustainable Tourism in Nepal



Many local young people get their first job in adventure tourism working as porters © Ian Wall

¹⁸¹ Day M; The 1970s Hippie Trail: Drugs, Danger, and a Magical Pudding Shop in Asia; 2016 <u>https://timeline.com/hippie-trail-asia-drugs-55abce249d1</u>

The late King Mahendra, who was a strong environmentalist, began to have concerns regarding the developing tourism trend on ill prepared communities, vulnerable eco-systems and fragile mountain environments. In 1982 he established the King Mahendra's Trust for Nature Conservation which later became known as The National Trust for Nature Conservation (NTNC). The founder member-secretary, Dr. Hemanta Raj Mishra played a key role in bringing international donors to support the trust with its mission to conserve nature and the natural resources in Nepal while addressing the needs of the local people in a sustainable way. Geographically, the Trust's activities spread from the sub-tropical plains of Chitwan, Bardia and Kanchanpur in the Terai to the Annapurna and Manaslu regions of the high Himalaya, including the trans-Himalayan region of Upper Mustang and Manang. (National Trust for Nature Conservancy)¹⁸²

With the death of King Mahendra in 1972 the newly crowned King Birendra took on a more proactive role in developing 'Tourism' with one of his main goals being to rid Nepal of its 'freak and drug heaven' image and to replace it with 'adventure tourism'. After studying at Eton (UK) until 1964, he returned to Nepal where he began to explore the country by travelling on foot to the remote parts of the country where he lived on whatever was available in the villages and monasteries. Birendra enjoyed traveling in his youth, and went on trips to Canada, Latin America, Africa, many parts of India, and a number of other Asian countries. He was also an art collector, a supporter of Nepalese crafts people and artists, and learnt to fly helicopters. During these trips he became aware as to how other countries adapted to the impact of tourism.

Nepal, on the Right Lines

Within a very short period of time Nepal established its first Ministry of Tourism, its first National Park and Wildlife Reserve and its first Cultural Zone. This proactive approach gave Jimmy

¹⁸² National Trust for Nature Conservancy www.ntnc.org.np/about-us

Roberts' new trekking initiative a boost as it began to promote Nepal as an 'Adventure Tourism' destination. Up to this point tourism in Nepal had more or less developed accidentally but from 1973 all that changed.

The Annapurna Conservation Area Project (ACAP) was established in 1986 to address these rising concerns. It undertook an innovative and successful approach to natural resource and tourism management in the Annapurna region. It practiced a multiple land use method of resource management, combining environmental protection with sustainable community development and tourism management.

The multifaceted problems of ACAP have been addressed through an integrated, communitybased conservation and development approach, an experimental model which has been in the vanguard of promoting the concepts of "Conservation Areas" through an "Integrated Conservation and Development Program" approach in the country and abroad. ACAP was first tested as a pilot Program in the Ghandruk Village Development Committee (VDC) in 1986. After being notified in the Gazette as a "Conservation Area" in 1992, ACAP's program covered the entire Annapurna area.

Additionally, ACAP was the first protected area that allowed local resident to live within the boundaries as well as own their private property and maintain their traditional rights and access to the use of natural resources. It was also the first protected area, which refrained from using army assistance to protect the dwindling natural resource base on which the region depends. Instead, it invested whatever financial resources available for community development and social capital building in the region. NTNC receives no regular funding support from the government for the operation of ACAP, but has been granted the right to collect entry fees from visiting trekkers. The focus is on local capacity building, both at the institutional and individual levels, to meet all the conservation and development aspirations of the people.

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The natural and cultural features of ACAP have made it the most popular trekking destination in the country, drawing more than 60% of Nepal's total number of trekkers. Tourism, over the years, has been firmly established as one of the most important and competitive sectors of the local economy. There are over 1,000 lodges, teashops and hundreds of other subsidiary services to cater to the thousands of trekkers, pilgrims and their support staff. All the proceeds from these visitors go towards the socio-economic benefits of the communities in which they are generated. (National Trust for Nature Conservation; ACAP Project)¹⁸³

The soaring number of visitors into the ACAP region has exerted immense pressure on forest resources that are already stressed as a result of the growing local population and whose fuel wood consumption is twice that of the local people. Similarly, litter, particularly the wastes produced by trekkers and hoteliers, is another major concern. It is estimated that an average trekking group of 15 people generates about 15 kgs. of non-biodegradable and non-burnable garbage in 10 days trekking, producing tons of garbage in mountain regions annually. This has on many occasions brought local communities through their Buffer Zones into conflict with the Central Administration. In the ACAP region this has led to a situation where the local people want to abolish ACAP or at least seriously realign it so as it recongises the limitations the local communities believe it unfairly places on those communities, in part because they feel that the Central Government does not disseminate the finances gained from the permits and other taxes placed on the tourists. Consequently Community-based approaches to decision-making in the management of protected areas are increasingly being implemented in many areas. However, information on the outcome of these approaches for conservation is often lacking. In the study 'Effectiveness of community involvement in delivering conservation benefits to the Annapurna Conservation Area, Nepal' the effectiveness of community-based approaches for conservation

¹⁸³ National Trust for Nature Conservation; Annapurna Conservation Area Project (ACAP) Annapurna Conservation <u>https://ntnc.org.np/project/annapurna-conservation-area-project-acap</u>

of biodiversity was examined in Annapurna Conservation Area (ACA) (Nepal) through a combination of ecological assessments and social surveys undertaken both within and out-with ACA. Forest basal area and tree species diversity were found to be significantly higher inside ACA than in neighbouring areas outside. The mean density of cut tree stumps was significantly lower in- side ACA, associated with a decline in use of fuel wood as an energy source over the past decade. Social surveys also indicated that wild animal populations have increased inside ACA since the inception of community-based conservation. Observations of animal track counts, pellet counts and direct observations of selected species such as barking deer (Muntiacus muntjak) and Himalayan tahr (Hemitragus jemlahicus) indicated higher abundances within ACA. The community-based management has been successful in delivering conservation benefits in ACA, attributable to changing patterns of resource use and behaviour among local communities, increased control of local communities over their local resources, increased conservation awareness among local people resulting from environmental education, and the development and strengthening of local institutions such as Conservation Area Management Committees (CAMC). (Upadhyay P; 2019)¹⁸⁴

Broughton Coburn makes a strong case for change to the established system of management in his article 'It's time to restructure conservation area projects in Nepal published on 20th November 2019 (Coburn B; 2019)¹⁸⁵

Nepal at a Cross-Road - Development v Sustainable Tourism?

Are the Principles of Sustainable Tourism now giving way to the Pressures of Commercialism and maybe Development?

https://www.nepjol.info/index.php/GAZE/article/view/22776

¹⁸⁴ Upadhyay P; Tourism Policy of Nepal and Sustainable Mountain Tourism Development in Retrospect; Nepal Journals Online 2019

¹⁸⁵ Coburn B; It's time to restructure conservation area projects in Nepal; 2019 <u>https://english.onlinekhabar.com/its-time-to-restructure-conservation-area-projects-in-nepal-says-conservationist-writer.html</u>

It is extremely important that those in charge of developing not just tourism but sustainable tourism fully understand the expectations of trekkers and other visitor sectors that spend time in Nepal.



Rapid road development is changing the landscape in Nepal, but does it add to sustainable tourism? It certainly adds to the family income @ Ian Wall

Most visitors expect to see the local wild life, cultural architecture, a pristine environment and local customs and traditions, however this must be managed in such a way to also meet the expectations of the local communities - access to essential services, good communications and the opportunities to generate a livable income from tourism. After all what is the point of developing tourism if it actually has a negative impact on the local communities and environment? (Nepal Visitor Arrivals 1991 - 2021) (2019 data)¹⁸⁶

Although today the 'Tourism' industry contributes only around 7.9% (2018) to the national GDP its potential is far from exhausted. The grass-root operators and mountain communities see the

¹⁸⁶ Nepal Visitor Arrivals 1991 - 2021 | MONTHLY | PERSON | CEIC DATA; https://www.ceicdata.com/en/indicator/nepal/visitor-arrivals

value of tourism as supporting their financial sustainability but, in the vacuum, created by a lack of direction and monitoring from senior levels of administration, they are often taking things into their own hands. However, these positive achievements are threatened by the current political and dare I say moral situation in Nepal. (Nepali Sansar 2018)¹⁸⁷

In short, the communities hosting tourists are not getting the benefits that they expected.

Although systems are in place to manage a positive expansion of the tourism industry the rapid development accompanied by a lack of transparent monitoring by some of the major players of today has also allowed some dubious practices to enter into the industry and in many areas, this is having a negative impact on Nepal reaching its sustainable tourism potential. This is especially so with regard to the environment and the impact of tourism on the wild-life. (Anup KC 2018)¹⁸⁸

Whilst recognising that the remote communities need to be more included in mainstream planning, Nepal developers must keep in mind the expectations of all shareholders and the impact on sustainable tourism.

There has been a rapid expansion of rural road development over the last few years. The situation along the Annapurna Circuit has been well aired and documented, now there is aggressive road development in Dolpa, one of the most unique regions in Nepal. Recent reports have highlighted the fact that the new roads would only be used for motor bikes and tractors taking goods to remote villages. But at what point will the first 4 x 4 head into Dolpa? Helambu is crisscrossed by roads and many villages have had a total change in character, and many locals regret the modernisation that is affecting many remote hill communities. In some regions conflict has broken out between local people and the contractors. The development of new

¹⁸⁷ Nepal Tourism Industry 2018 https://www.nepalisansar.com/tourism/nepal-tourism-industry-2018-usd-2-1-bn-revenue-1-mn-jobs/
 <u>https://www.nepalisansar.com/tourism/nepal-tourism-industry-2018-usd-2-1-bn-revenue-1-mn-jobs/</u>
 ¹⁸⁸ Anup KC; Tourism and its Role in Environmental Conservation 2018
 <u>file:///C:/Users/Computer/Downloads/20009-Article%20Text-63745-1-10-20180525.pdf</u>

roads will always impact on the environment and wild-life. Over the years the balance might well be addressed but in the short term the negative impact on both the environment and wild life will be compounded by the probable loss of revenue from mountain tourism, the destruction and displacement of the very elements that trekkers visit these areas to witness. Across Nepal's mid-hills, unplanned roads are leading to more landslides – and more deaths (Rai B: 2020)¹⁸⁹

The UNWTO has defined sustainable tourism as "tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities. (EU Euroaid; 2021)¹⁹⁰

Sustainability principles refer to the environmental, economic, and socio-cultural aspects of tourism development, and a suitable balance that must exist between these three dimensions to guarantee long-term sustainability. Are the administrators paying attention to these principles?

The second question to be asked is 'Is Nepal's approach to modern tourism sustainable?' Data shows that the tourism industry contributes 7.9% to the country's gross domestic product (GDP) and that the actual economic contribution of the sector to the GDP has increased in recent years. It was anticipated that the sector would grow but without any pre-determine indicators, as opposed to recorded data, these advancements are difficult to monitor and the published 7.9% contribution to the GDP has caused many to ask Why? (Nepali Sansar 2018)¹⁹¹

¹⁸⁹ Rai B; Across Nepal's mid-hills, unplanned roads are leading to more landslides – and more deaths: Centre for Investigative Journalism-Nepal https://cijnepal.org.np/across-nepals-mid-hills-unplanned-roads-are-leading-to-more-landslides-and-more-deaths/

¹⁹⁰ EU Euroaid; <u>Sustainable Tourism for Development; 2021</u>
<u>https://www.e-unwto.org/doi/pdf/10.18111/9789284415496</u>
¹⁹¹ Nepali Sansar; Nepal Tourism Industry 2018: USD 2.1 Bn Revenue, 1 Mn Jobs
https://www.nepalisansar.com/tourism/nepal-tourism-industry-2018-usd-2-1-bn-revenue-1-mn-

jobs/

Ask any local person in any one of Nepal's tourist destinations, 'Are you getting what you expected from the developing tourism market in your area?' And the answer is nearly always 'NO!' If there is no long-term financial advantage from tourists visiting 'attractions' then tourism is not having a positive impact on that area. Money taken in the form of business taxes, permit fees, tourism taxes and other related costs paid by the tourists don't always go to the related communities who then feel cheated. Schools, health and income generating activities, issues which local communities regard as being the benefactors of hosting the tourism industry do not always materialise. In economic terms although the country's GDP contribution is growing it has not reached a sufficient level for 'tourism' to be recognised at government level as a major area of income generation that should be heavily invested in for long term sustainably. The local players feel that they are not being supported from the senior administration level the financial benefits from tourism are maybe seen as 'disposable income' rather than a resource to reinvest in the sustainable tourism industry.

The environment; flora and fauna are under extreme pressure from tourism. Deforestation to make way for new airports, wider roads, creating productive subsistence agricultural land, developing new road networks, destroying natural water courses, building new lodges or other tourist facilities are all expanding issues with little consideration for the delicate balance of the Himalayan environment and thus are all contributing to a less sustainable industry.

Nepal must now consider the effects of global warming and climate change on the development of Sustainable Tourism. The Nepal Government is well aware of the changing weather patterns and its effect on natural productivity and this is nowhere more obvious than in the present-day condition of the high Himalaya, the decreasing 'permanent' snow cover and potential reduction in water supply. Action must be taken immediately to address the carbon footprint of tourism. In the greater scheme of reducing global warming Nepal will have little impact but in issue like

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reducing local pollution, waste disposal, the reduction of single use plastic then there are national initiatives that should be implemented to preserve the environment and reduces the negative impact of tourism.

The development of the tourism industry, in its present form has several major socio-economic and cultural consequences. Not all tourists are travelling from abroad and in Nepal there is a huge upturn in domestic tourism. Tourism may have many different effects on the social and cultural aspects of life in a particular region or area, depending on the cultural and religious strengths of that region. The interaction between tourists and the host community can be one of the factors that may negatively affect a community as tourist may not be sensitive to local customs, traditions and standards. The effects can be both positive and negative on the host communities. (Dérioz P, Upadhayaya P, Bachimon P & Loireau M 2020)¹⁹²

Positive impacts from a well-structured Sustainable Tourism Plan

Local community can mix with people from diverse backgrounds with different lifestyles which through 'demonstration effect' may lead to the development of improved lifestyles and practices from the tourists' examples.

There can be an improvement in local life through better local facilities and infrastructure (developed to sustain tourism) which could lead to better education, health care, employment opportunities and income. Tourism related business opportunities can be developed.

The conservation of local and cultural heritage of an area and rebirth of its crafts, architectural traditions and ancestral heritage to meet client expectations. The income generated from

¹⁹² Dérioz P, Upadhayaya P, Bachimon P & Loireau M; Development of mountain domestic tourism close to the major urban areas of Nepal: South side of the Annapurna Massif and Helambu 2020 <u>https://journals.openedition.org/viatourism/5586?lang=ca</u>

permits and fees should be reinvested back into the local communities to strengthen capital development.

The Government would benefit financially from the taxes and other tourism related charges.

Without a good Sustainable Tourism Plan there would be negative effects

Existing infrastructure may not be able to cope with the greater stress created by influx of tourists.

Local population's activities and lifestyles may suffer intrusion from tourists leading to resentment towards tourists.

The local population may copy lifestyles of tourists through the 'demonstration effect' and the result could be a loss to local customs and traditions as well as lower standards of behaviour.

Increased crime could develop through decline in moral values, leading to greed and jealousy of wealthier visitors.

Traditional industries may be lost and local goods substituted by imported and mass-produced goods which lack authenticity but appeal to a mass market.

Tourists may act in an anti-social manner which could cause offence to the local population. Unless sufficient information is provided by the host nation and tourist providers on the standards of behaviour expected in that area, local populations come to resent tourists and act aggressively towards them.

Language barriers between the tourist and the host community which may create communication problems.

(Pros & Cons of Ecotourism; Jochen Zeitz, 2020)¹⁹³

Present Day Overview

¹⁹³ Zeitz J; Pros & Cons of Ecotourism; 2020 <u>https://environmental-conscience.com/ecotourism-pros-cons/</u>

In general, tourism entrepreneurs, at local level do not believe that tourism as delivered in its present form will, in the long term, be sustainable.

On the other-side of the coin the tourists also have expectations, and they pay a relatively high price thinking that their financial contribution to Nepal's GDP will ensure a sustainable outcome. At national level and in general terms visitors have common expectations, to be safe, to have value for money based on their payments for permits and other services. They expect a litter free environment, efficient methods of transport, good customer care provision and exposure to Nepal's unique culture, festivals, architectural and ethnic heritage. There are then specific expectations based on, religious tours, mountain trekking, wild life safaris, bird-watching or adventure tourism, niche activities.

In the context of sustainable tourism development, it must be born in mind that Nepal has only been developing a tourism industry for the last nearly 70 years, for the mountain and remote communities this has been considerably less. As a developing nation it is unfair to expect that Nepal can provide the same standard of service and facilities as more developed tourism destinations, however, it must have a positive vision with predetermine positive indicators to enable it to move in the right direction.

To understand exactly what is required to create a sustainable tourism sector it is worth considering the World Tourism Organisation's definition of Sustainable Tourism and cross reference that to activities that are being played out in Nepal's tourism industry at the present time.

Sustainable tourism development guidelines and management practices are applicable to all forms of tourism in all types of destinations, including mass tourism and the various niche tourism segments. Sustainability principles refer to the environmental, economic, and socio-

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cultural aspects of tourism development, and a suitable balance must be established between these three dimensions to guarantee its long-term sustainability.

To develop a truly sustainable tourism industry

There are three key issues that need to be addressed: -

There must be optimal use made of environmental resources, those that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural heritage and biodiversity.

Respect must be given to the socio-cultural authenticity of host communities, conserve their original and living cultural heritage and traditional values, and contribute to inter-cultural understanding and tolerance.

Viable, long-term economic operations must be ensured to provide socio-economic benefits to all stake- holders that are fairly distributed, including stable employment and income-earning opportunities and specific services to host communities, and contributing to poverty alleviation. (González et al., 2018; OECD, 2018; Peeters et al., 2018; Postma and Schmuecker, 2017; UNWTO et al., 2018; WTTC-McKinsey, 2017)¹⁹⁴.

Sustainable tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires the constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary.

¹⁹⁴ González et al., 2018; OECD, Peeters et al., 2018; Postma and Schmuecker, 2017; UNWTO et al., 2018; WTTC-McKinsey, 2017. OECD Tourism Trends and Policies 2020; OECD iLibrary; https://www.oecd-ilibrary.org/sites/82b46508-en/ en/index.html?itemId=/content/component/82b46508-en/

Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them.

It has been suggested by PATA, Nepal Chapter that a tourism arrival goal for 2030 could be 5 million tourists. Within the next 10 years is it possible for Nepal to have sufficient infrastructure in place to meet all the criteria for a sustainable tourism industry? Several leading travel writers have already voiced their concerns. (PATA Nepal launches campaign of "Vision 5 Million" Travelbiznews)¹⁹⁵

Viable, long-term economic operations

Tourism must contribute to three high-priority goals of developing countries: the generation of income, employment, and foreign-exchange earnings.

There is a need to improve access to the environment or facility, and for a mode of development that does not interfere with a sensitive habitat or historic /cultural diversity of an area.

Address issues of the boom in outdoor recreation and the new interest in health and fitness sustainable tourism needs to keep up with changing demands

Climate change and environmentalism are elements that have changed people's attitudes about how they should spend their vacations.

To increase the value-added of tourism land only provision needs to be improved (at present long-term eco- nomic growth is being squeezed between foreign operators and local financial expectations

¹⁹⁵ PATA Nepal launches campaign of "Vision 5 Million" <u>https://travelbiznews.com/this-is-test-news/</u>

Tourism can become a dynamic force in regional economies, recognition of these attractions, preserve them and appropriately monitor control and market them.

The way to developing Sustainable Tourism

Optimal use must be made of environmental resources Mitigate the negative impact of tourism on the environment Restrict the negative impact of road development Reduce the pollution in major cities, rivers and rural environments Provide adequate toilet/washroom facilities Restrict and monitor inappropriate building and other development Recognise and preserve natural land water drainage course Reduce the impact of noise pollution on the wild life (helicopters/vehicles etc) Monitor and control deforestation Preserve the pristine Himalayan high altitude environment

Respect must be given to the socio-cultural authenticity

Preserve local and ethnic culture so that it is not reduced to conforming to a tourism model

Avoid developing 'destination standardising' to satisfy tourist demands

Avoid dilution of cultural designs, architecture, souvenirs, festival and cultural

dances to satisfy commercial expectations

Preserve security in the midst of being tourist friendly

Balance the use of local resources between tourism and local needs

Avoid conflict of land development

Reduce economic inequality

Train and include local work force, keep locally developed finance, local

Viable, long-term economic operations

Tourism must contribute to three high-priority goals of developing countries: the generation of income, employment, and foreign-exchange earnings.

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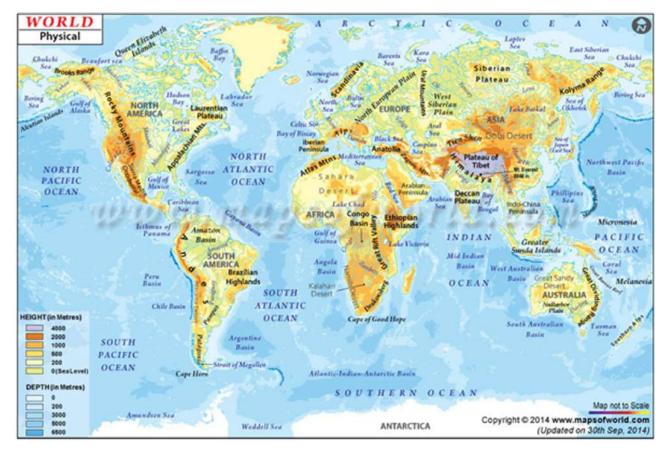
Conclusion

The world in 2021 is a very different place to that of the world in 1990. Nepal and its tourism industry are constantly affected by many global issues that are beyond Nepal's ability to adjust to, political crisis, financial crisis, health crisis not only in Nepal but in other regions are now being more intensified by the over-arching issues of climate change. Nepal does not have the resilience to withstand the down-turn in tourism to maintain is national economy and infrastructure. David Weaver contends that tourism's expanding engagement with climate change, as it is currently unfolding, is not necessarily conducive to the interests of sustainable tourism. At present research on the effect of climate change on sustainable tourism is based on research from early 2000 but over the two last decades climate issues have gone far beyond what the earlier research would suggest. There has to be a much greater investment in research and even with a reasonable degree of scientific veracity it is only possible in relation to, and based on, the observable present or the recorded past data. Climate change is a long-term phenomenon that requires knowledge about the likelihood of future climatic scenarios and their impacts on the tourism system. For the required level of financial investment to be made firstly all the stakeholders must recognise the problems. It has long been recognised that sustainable tourism is a major played in lifting developing countries above the poverty line. Collectively and individually, the tourism industry appears to be following the UNWTO in its embrace of climate change action. The World Travel and Tourism Council (WTTC), for example, has set a 25-30% target reduction in greenhouse gas emissions from a 2005 baseline (Scott & Becken, 2010). However, and notably, this target is "aspirational" only: Scott, Peeters and Gössling (2010) speculate whether such statements can be regarded as more than empty rhetoric.

Weaver concludes that is difficult to imagine a cause more tragic and destined to fail than climate change action, with its inherent unpredictability, long-term timeframes, lack of directly tangible consequences or clearly identifiable villains (except perhaps for air travellers), issues about credibility, the powerful vested interests involved and its cost implications in an era of chronic economic uncertainty (Gössling, 2009). The failure of the international community to arrive at a consensus for concerted action is therefore unsurprising. Further complications arise specifically within the tourism sector from the rudimentary state of knowledge about the relationships between the tourism and climate change, an apathetic and fickle travelling public and a reciprocally uncommitted (or superficially committed) tourism industry. (Weaver D; 2010)¹⁹⁶

Chapter 7

Global Mountains and Mountaineering



(Maps of the World 204)¹⁹⁷

¹⁹⁶ Weaver D; Can sustainable tourism survive climate change? Journal of Sustainable
 Tourism Volume 19, 2011 - Issue 12010
 <u>https://www.tandfonline.com/doi/full/10.1080/09669582.2010.536242</u>
 ¹⁹⁷ Maps of the World; Quora; 2014
 <u>https://www.quora.com/Geology-Why-do-mountain-ranges-tend-to-run-north-south</u>

To understand the linage of the world's mountain ranges there needs to be recognition of four opposing forces, the earth's rotation (west towards east), gravity, the shape of the earth, and plate tectonics (aka "continental drift")

Given the fluid (or somewhat fluid) conditions on the surface of a sphere, it is known that intuitively those fluids will tend to pile up in a direction which is perpendicular to the direction of rotation. This can be demonstrated by coating a ball with a high viscosity (sticky) substance and then spinning it. When it suddenly stops spinning, some of the substance will pile up at the north to south axis of the ball. If the ball was NOT a perfect sphere, the imperfection will influence the results. The earth, in fact, is NOT a perfect sphere; rather, it is an "oblate spheroid" which means is somewhat wider than tall the length of the equator is greater than the longitudinal line that links the Poles.

Gravity enters the equation, because it is what keeps object from floating in the atmosphere. But gravity is not uniform across the earth; rather, it is influenced by the moon and other objects (or the lack of them) in space.

Tectonics refers to more "local" influences arising from the interaction of the earth's crust with the layers below. Such interaction will vary in accordance with the thickness of the crust and the degree of activity in lower regions. A study of the Himalaya, in which the action of one tectonic plate colliding into another on a basically north-south path caused Everest and its companions to emerge in a more east-west orientation.

All of the above, taken independently, will be very subtle in measurable impact at any given moment. But taken together, and acting over vast expanses of time, there are some pretty stunning results. (John Geare; 2015)¹⁹⁸

Mountain ranges on planet Earth [odt]

By size [edt]

Name	Continent(s)	Country/les	Highest point	Altitude (metres above sea level)
Himalayas	Asia	Pakistan, Nepal, India, China, Bhutan	Everest	8848
Karakoram (Note 2)	Asia	Pakistan, China, India	К2	8611
Hindu Kush (Note 2)	Asia	Afghanistan, Pakistan	Tirich Mir	7708
Pamirs (Note 2)	Asia	Tajikistan, Kyrgyzstan, China, Afghanistan	Kongur Tagh (Note 1)	7649
Hengduan Mountains (Note 2)	Asia	China, Myanmar	Mount Gongga	7556
Tian Shan	Asia	China, Kyrgyzstan, Kazakhstan, Uzbekistan;	Jengish Chokusu	7439
Kunlun	Asia	China	Liushi Shan	7167
Transhimalaya (Note 2)	Asia	China	Mount Nyenchen Tangiha	7162
Andes	South America	Argentina, Chile, Peru, Bolivia, Ecuador, Colombia, Venezuela	Aconcagua	6962
Hindu Raj	Asla	Pakistan	Koyo Zom	6873
Alaska Range	North America	United States	Denali	6194
Saint Elias Mountains	North America	United States, Canada	Mount Logan	5959
Caucasus Mountains	Europe and Asia	Georgia, Russia, Azerbaijan	Mount Elbrus	5642

(Wikipedia¹⁹⁹)

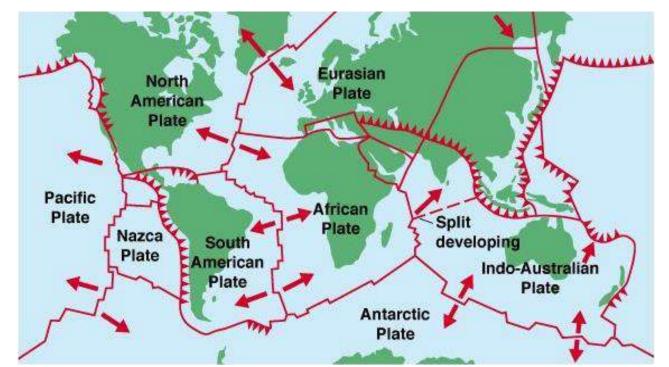
The Earth's surface - the crust- is not one smooth unbroken covering. It is composed of different sections called plates (like a cracked egg shell). There are eight major plates: Eurasian, Pacific, Indo-Australian, Antarctic, Nazca, North American, South

¹⁹⁹ Wikipedia; Mountain Ranges on Planet Earth; <u>https://en.wikipedia.org/wiki/List_of_mountain_ranges</u>

¹⁹⁸ John Geare; Why do mountain ranges tend to run north-south? Quora 2015 <u>https://www.quora.com/Geology-Why-do-mountain-ranges-tend-to-run-north-south</u>

American and African. Tectonic plates can be continental (on land) or oceanic (under the sea). For the most part continental plates mark the boundaries of the seven continents (in the case of the North American plate, the South American plate, the Antarctic plate). In other cases, the plates include more than one politically defined continent (the Eurasian plate). An example of an oceanic plate is the Nazca.

The tectonic plates basically float on the underlying Mantle which is semi-molten rock or magma. A useful analogy is to think of the mantle having the consistency of



Blu-tack, not quite a liquid and not quite a solid. It is composed of many different rocks and minerals including iron, magnesium, nickel, silicon and oxygen. Within the Mantle are strong convection currents which move and in turn cause the tectonic plates to move as they float on the upper layer of the Mantle. These plates occasionally collide creating intense pressure causing the surface of the plates to buckle forming mountains. Note all mountains are formed in exactly the same way. (Addison Wesley Longman; 1999)²⁰⁰

<u>Fold Mountains</u> - the most common formations of mountains were formed between 40-50 million years ago, which in geological terms makes them quiet young. However, they did not just appear and that was the end of it, even today as the plates continue to exert pressure on neighboring plates the mountains continue to move. Examples of fold mountains are - The Himalaya, The Andes, The Rockies and The Alps.

<u>Fault Block Mountains</u> - These are formed when two plates move towards each other. Rather than the crust folding under the pressure of the moving plates, it cracks along lines of weakness called fault lines. The crust then breaks into blocks, which are pushed upwards. If the reverse process takes place the crust situated between to fault lines may sink to produce Rift Valleys. Example of Fault Mountains are - the Sierra Nevada. The Great Rift Valley in Kenya is where the earth's crust has sunk.

<u>Dome Mountains</u> - These Mountains are produced by incredible pressure from within the Mantle. This pressure may not burst the Earth's crust and thus remain as a big geological lump. If the pressure within remains the same eventually the molten magma will cool and solidify. An example of a Dome Mountain is the Black Hills in Dakota.

<u>Volcanic Mountains</u> - If the pressure from the molten mage is so great that it breaks through the Earth's crust a volcano erupts. This spews out molten magma when it cools it becomes a Volcanic Mountain. An example of a Volcanic Mountain is

²⁰⁰Wander M; Plate Tectonics; Addison Wesley Longman; 1999 https://www.slideshare.net/MissWander/plate-tectonics-9

Kilimanjaro, the highest peak in Africa and the highest free-standing mountain. (Royal Geographical Society)²⁰¹

Once the tectonic plates have produced the mountains they are continually being reshaped by the forces of nature, erosion. The temperature changes develop freezing and thawing conditions as ice ages change and the effect of global warming impacts the frozen regions of the world. Earthquakes, wind, sea and rivers all help to erode and change the appearance of the mountains. (Pinter N and Brandon M T; 1997)²⁰²

Many countries have looked at how Nepal and Col Jimmy Roberts developed the trekking industry, they have recongised the work done in terms of alternative education programs (Claiborne L, Morrell, Bandy J and Bruff D)²⁰³. There has been a lot of focus from the UN on the benefits of sustainable Tourism as a vehicle to help third-world countries develop (United Nations2021)²⁰⁴ Such attention to the developing nations, and coincidentally those countries with large mountain ranges, it is no wonder that so many mountain regions of the world now support a mountaineering industry and have their own Mountaineering Associations.

²⁰¹ Royal Geographical Society; The formation of mountains; RGS
 <u>https://www.rgs.org/CMSPages/GetFile.aspx?nodeguid=162760ce-8d64-42be-b354-5f1670ad7112&lang=en-GB</u>
 ²⁰² Pinter N and Brandon M T; Scientific America; How Erosion Builds Mountains; 1997
 <u>https://cpb-us-</u>
 <u>w2.wpmucdn.com/campuspress.yale.edu/dist/7/538/files/2016/01/Pinter1997Scientific-American_How-erosion-builds-mountains-1k8c5m2.pdf</u>
 ²⁰³ Claiborne L, Morrell, Bandy J and Bruff D; Teaching Outside the Classroom; Updated in 2020 by Gregory Smith and Heather Fedesco; Vanderbilt University 2020
 <u>https://cft.vanderbilt.edu/guides-sub-pages/teaching-outside-the-classroom/</u>204
 United Nations; Peace, dignity and equality on a healthy planet, 2021
 <u>https://www.un.org/en/global-issues/ending-poverty</u>

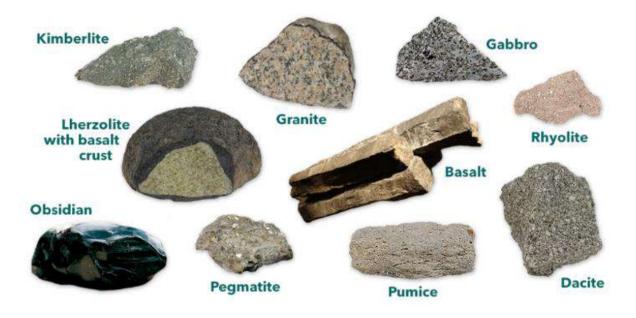
In general terms, those mountain ranges nearer to the greater centers of populations around the world will have easier access and be better serviced with the appropriate infrastructure based on the financial capacity of those countries. There will also be well-established links to other developed areas of the world via air travel. On the other hand, those mountain ranges in the more remote regions of the world will be less tourist centered and more expensive to reach. The remoteness also has a big implication on the risk and safety aspect of an expeditions visiting those parts. Those regions nearer the north and south poles and with high mountain summits will produce extreme cold weather systems while those mountain ranges nearer the equator will also have extremes of warm temperature and rainfall creating different challenges.

Mountains play an important role in the cultures of many countries to such an extent that the United Nations designated 11th December, from 2003 onwards, as "International Mountain Day". Covering around 27 percent of the earth's land surface, mountains play a critical role in moving the world towards sustainable economic growth. They not only provide sustenance and well-being to 720 million mountain people around the world, but indirectly benefit billions more living downstream.

Through the International Mountain Day, it is hoped that countries around the world will recognise the challenge to identify new and sustainable opportunities that can bring benefits to both highland and lowland communities and help to eradicate poverty without contributing to the degradation of fragile mountain ecosystems. International Mountain Day is observed every year and FAO is the UN coordinating agency for the preparation of this annual celebration. (UIAA)²⁰⁵

Mountains are basically composed of three different types of rock.

Igneous rocks which are formed as a result of molten rock deep inside the earth. In the mountains these will appear as shown below.



<u>The vast majority of Yosemite</u> is comprised of plutonic igneous rocks. Plutonic rock forms deep underground when molten rock cools and solidifies very slowly, allowing large crystals to form. In contrast, volcanic igneous rocks form at the surface when molten rock cools and solidifies quickly, resulting in small crystals. Granite, granodiorite, tonalite, quartz monzonite, and quartz monzodiorite are all forms of plutonic rock that are found in Yosemite, and are loosely referred to as granitic

²⁰⁵ UIAA; International Mountain Day; UIAA https://www.theuiaa.org/home/happy-international-mountain-day/

rocks. Quartz diorite, diorite and gabbro are plutonic rocks found in Yosemite, but are not technically considered to be granitic rocks. Plutonic rocks are primarily



comprised of 5 minerals: quartz, potassium feldspar, plagioclase feldspar, biotite, and hornblende. Plutonic rocks, including granitic rocks, differ primarily in the relative proportions of quartz and feldspar, although texture is also an important consideration. The plutonic rocks were generally formed during the Cretaceous period. (Yosemite Park;2019)²⁰⁶

Yosemite Park;2019

²⁰⁶ <u>https://www.nps.gov/yose/learn/nature/geology.htm</u>

Yosemite Valley and the giant granite walls ©Yosemite National Park

<u>Sedimentary rocks</u> are formed from layers of sand, silt, dead plants, animal skeletons and glacial morane.

The rocks of the Himalaya are metomorphis and sedimentary in structure, with a few granite intursions they were formed millions of years ago under the Terathic Sea. Over the intervening years the presure created by the tectonic plates forced the Himalaya to rise while at the same time the sea level dropped. A good example of the lavering of sedimentary rock can be seen in the band known as the Yellow Band high on Everest, Further proof of the rocks origin was the discovery of a fossel in this band. Three major thrust fault systems, namely, Himalayan Frontal Thrust (HFT), Main Boundary Thrust (MBT) and Main Central Thrust (MCT), divide the rocks of the Himalaya into Siwalik, Lesser Himalaya and Higher Himalaya from south to north. The MBT and HFT are active faults that can create major problems for any infrastructures. On the other hand, based on the field evidences, the MCT is no longer active and will not to create problems. Besides these major thrust faults, there are several minor fault and shear zones. Most of all faults and shear zones systems generally extend from east to west of Nepal, which are oriented parallel to foliation with north dipping. (Sunuwar 2016)²⁰⁷. The Himalayan rock is, in geological terms, regarded a 'soft' rock and thus it is easily eroded. As the earth's climate warms up and the ice melts the 'glue' holding these steep mountains

 ²⁰⁷ Sunuwar S C; Geological mapping in the Nepal Himalaya; Journal of Nepal Geological Society;
 2016 <u>file:///C:/Users/Computer/Downloads/24096-Article%20Text-73901-1-10-20190515.pdf</u>

together is melting so over time rock fall and landslides will become more frequent.

(Shrestha A B & Aryal R;2010)²⁰⁸



Glaciated peaks of the Himalaya ©lan Gray

The Rocky Mountains are also formed from a metamorphic rock structure which is

millions of years old (Rocky Mountain National Park; 2006)²⁰⁹

²⁰⁸ Shrestha A B & Aryal; Climate change in Nepal and its impact on Himalayan glaciers; <u>Regional Environmental Change</u>; Springer 2010

https://link.springer.com/article/10.1007/s10113-010-0174-9

²⁰⁹ Rocky Mountain National Park; A Guide to the Geology of Rocky Mountain National Park, Colorado; 2006

https://www.nps.gov/parkhistory/online_books/romo5/wegemann/sec6.htm



The Rocky Mountains, Valley of the Ten Peaks, $\ensuremath{\mathbb{O}Banff}$ National Park

<u>Volcanic rocks</u> are rocks that are changed as a result of being subjected to by extreme heat





Kibo (Kilimanjaro) with the highest point being Uhuru Peak ©lan Wall

<u>Kilimanjaro is comprised of three volcanoes</u>. Roughly 750,000 years ago, molten lava burst through a gap in the surface of the Great Rift Valley. The great pressure that caused this eruption also pushed part of the Earth's crust skywards, creating the Shira volcano, the oldest of the volcanoes forming the Kilimanjaro massif, which stopped



erupting and became extinct roughly 500,000 years ago. The Shira volcanic cone collapsed leaving the Shira Ridge as part of its Caldera Rim. Subsequent eruptions over the following 50,000 years gave birth to Mawenzi and Kibo.

Kibo erupted a number of times over the preceding 100,000 years or so which took its summit ever higher and also brought about the black volcanic rock which today helps make Kilimanjaro such an incongruous and fascinating sight, especially when taken in contrast to the white glacial summit. The main summit point of Uhuru Point is located on Kibo's outer crater rim.

The striking and imposing rock walls on Kilimanjaro and Mawenzi are generally composed of lava and ash. While Mawenzi has been significantly eroded over the years, it retains a striking

volcanic shape and makes for great photographs on your way to Uhuru Peak. (Kilimanjaro National Park)²¹⁰ (Hayes J S; 2004)²¹¹

Mawenzi with its fine volcanic spires ©lan Wall

²¹⁰ Kilimanjaro National Park;

https://www.kilimanjaro-experience.com/mt-kilimanjaro/geology/ ²¹¹ Hayes J S; Magmaticv Evolution of the Shira Volcanics, Mt Killimanjaro, Tanzania, Queensland University if Technology; 2004 https://core.ac.uk/download/pdf/10884662.pdf

<u>The Andes in South America</u> are comprised of volcanic rock and the area is geologically described in the paper authored by Iddings JP in the Journal of Geology 1893 and published by the University of Chicago (Iddings JP; 1893)²¹²



The Andes ©Live Science

<u>The Caucasus Mountains</u> rose as the result of collision-related volcanism in the Lesser Caucasus. Three major styles of volcanic activity occurred in the Lesser Caucasus. The first of these were relatively low-volume eruptions from mostly small eruptive centres in monogenetic volcanic fields. In both the north and south of the Lesser Caucasus, this style of volcanism becomes increasingly dominant in the most recent eruptive periods. Second, large composite volcanoes found throughout the Lesser Caucasus. In the central Lesser Caucasus, such a volcano is Aragats, and in the south the smaller stratovolcanoes Tskhouk and Ishkhanasar. An illustration of the progressive closure of the oceanic domains that separated Arabia from Eurasia during

²¹² Iddings JP; The Volcanis Rocks of the Andes; Journal of Geology; University of Chicago; 1893 <u>https://www.jstor.org/stable/30054852?seq=1#metadata_info_tab_contents</u>

the Mesozoic, is the South Armenian Block (SAB) and South Armenian Block-Bitlis Poturge (BP) terrane. Such large volcanoes (4090 m altitude, 70 km diameter in the case of Aragats), were capable of generating many caldera collapse eruptions, that were required to produce the ignimbrites that are widespread throughout the Lesser Caucasus. Finally, large fissure-fed 'flood basalt' style lava flows are found predominantly in some of the older volcanic successions (Sugden PJ, Savov I P, Wilson M, Meliksetian K, Navasardyan G, Halama R; 2018)²¹³

²¹³ Sugden PJ, Savov I P, Wilson M, Meliksetian K, Navasardyan G, Halama R; The Thickness of the Mantle Lithosphere and Collision-Related Volcanism in the Lesser Caucasus; Journal of Petrology; 2019

https://watermark.silverchair.com/egy111.pdf?token=AQECAHi208BE49Ooan9kkhW_Ercy7Dm3ZL_ 9Cf3qfKAc485ysgAAAs0wggLJBgkqhkiG9w0BBwagggK6MIICtgIBADCCAq8GCSqGSIb3DQEHATAeBglg hkgBZQMEAS4wEQQM_oQ9hImb9sf07hW0AgEQgIICgBNbnHL0xItzGuXJ9Gnrv5le8I4Js4lvc7v3S78dSB066Dgh_y1aUX0DNSqO5rV6H2FwYOtyzrXjBiUaDv37bUHPoloa8e0aN1qQr5PSFex-VNtmlsIU0CSrvA6TxU5mhusPk4h6K4mzA7YceIFcXI7IZUkcvGITIA_J_qD2-

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⁷xgLn1G57DpDwwB8cBpWoZlAEOc1IV5OWsk0ddWZwXQ488cNmaYi5441oskFneXvA9IMCwr8mt39 2-Tr6_iGKpoTxTZfpNzNKCMPwT0Lu2TJHoP718sqdgsDTguFX897wAImykUTpZNon-

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dg41tpbhpvvcAq3UrXmqeEt6XSCbNG4QADN5JSlYTDOXp2UFCJJ1PiZUh6cShCmyicKqZLYz6sHaX9rLIS KM01jaJhlgFzC8HNAPQaL2UEKvgioNMOzbFtUzNBs52tQq4DqKeCnsxQEJN0Jg6YWKHpyLndpAVxnfeN EBITejKcWY



Elbrus, the highest mountain in the Caucasus Range

<u>The Euopean Alps</u> are composed of a vast number of rock types, such as limestone or prehistoric rock in the form of gneiss or granite, play a key role for climbers. These rock types are crucial in determining the shape of the mountain, the grip and the protection, as well as the strength and breakage behavior.

The rock types that are relevant to climbers in the Alps are limestone, slate, granite and gneiss. Alpine climbing rocks differ in quality, weathering, shape and breakage behavior. The rock type is therefore a fundamental factor for every climber and also relevant to safety. (RÜegg P; Zurich; 2020)²¹⁴

²¹⁴ Rüegg P; Zurich; Formation of the Alps: Detaching and uplifting, not bulldozing; Science Daily; 2020 https://www.sciencedaily.com/releases/2020/09/200917105413.htm



The European Alps, the playground of climbers the world over ©Ian Wall

References

Allen C; The Prisoner of Kathmandu; Brian Hodgson in Nepal 1820-43; Haus Publishing 2015

Alpine Club Journal;1922

Anderson P A, et al; Environmental Cues to Ultraviolet Radiation and Personal Sun Protection In Outdoor Winter Recreation; PMC 2010 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3364536/

Anup K C; Tourism and its Role in Environmental Conservation 2018 file:///C:/Users/Computer/Downloads/20009-Article%20Text-63745-1-10-20180525.pdf

Amataya S; British Diplomacy and its various missions in Nepal 1767 - 1799 <u>http://himalaya.socanth.cam.ac.uk/collections/journals/ancientnepal/pdf/ancient_nepal_06_0</u> <u>4.pdf</u>

Bâc D O; The emergence of sustainable tourism-A literature review; - Quaestus Multidisciplinary Research Journal, 2014 - quaestus.ro (UN 2012:25) https://www.quaestus.ro/wp-content/uploads/2012/03/bac4.pdf

Bâc D O; The Emergence of Sustainable Tourism; Quaestus Multidisciplinary Research Journal; a literature review (Lane 2009; Weaver 2006) https://www.guaestus.ro/wp-content/uploads/2012/03/bac4.pdf

Bâc D O; The Emergence of Sustainable Tourism; Quaestus Multidisciplinary Research Journal; a literature review (Lane 2009; Weaver 2006) https://www.guaestus.ro/wp-content/uploads/2012/03/bac4.pdf

Bâc D O; The Emergence of Sustainable Tourism - a literature review 2012 (UN 2012:25) https://www.quaestus.ro/wp-content/uploads/2012/03/bac4.pdf

Bajracharya I.S; Buddhism during early medieval Nepal Maṇḍala (733 A.D - 1396 A.D) <u>http://103.69.125.248:8080/xmlui/bitstream/handle/123456789/36/79.%20Dr.%20Indra%20Sidd</u> <u>hi%20Bajracharya.pdf?sequence=1&isAllowed=y</u>

Band G; 'Summit: 150 years of the Alpine Club', Collins, 2006

Barrow C; Royal Geographic Society; 2004 file:///C:/Users/Computer/Downloads/HBSREracm.pdf

Bennet C S; 'The Golden Age of Mountaineering', Alpine Club Journal; 1950

Benavides A; So, What Exactly is "Alpine Style"? Explorers' Web; 2019 https://explorersweb.com/users/angelab/

Blakeney T S; The first steps towards Mount Everest; Alpine Journal;1971

Bonington C; Everest the Hard Way; Hodder & Stoughton; 1976

Bonington C; The Everest Years, A Climber's Life; Hodder & Stoughton; 1986

Bonington C; Quest for Adventure; Hodder & Stoughton; 1981

Brown D J; Brugger, H., Boyd, J., & Paal, P. (2012, November 15). Accidental Hypothermia. The New England Journal of Medicine. https://www.nejm.org/doi/full/10.1056/NEJMra1114208

Buchana J; EMS Management of Traumatic and Medical Disorders in A Wilderness Environment; 2020

www.statpearls.com

Cape Town Declaration; Cape Town declaration on research for Sustainable Development 2002 https://www.iauhesd.net/sites/default/files/documents/acp_2002_ec_acp_cape_town_declaration.pdf

Ceballos-Lascurain; Tourism, ecotourism, and protected areas : the state of nature-based tourism around the world and guidelines for its development 1993 https://www.iucn.org/content/tourism-ecotourism-and-protected-areas-state-nature-basedtourism-around-world-and-guidelines-its-development

Chamson M; 'le roman de la montagne', Etrépilly, C. Bardillat, 1987 https://www.summitpost.org/how-the-british-created-modernmountaineering/713630/p2#chapter_3

Choegyal L; Hippie Trail nostalgia Kathmandu, Times; 2020 in Nepali https://www.nepalitimes.com/banner/hippie-trail-nostalgia-in-kathmandu

Coburn B; It's time to restructure conservation area projects in Nepal; 2019 https://english.onlinekhabar.com/its-time-to-restructure-conservation-area-projects-in-nepalsavs-conservationist-writer.html

Cripps K; Thomas Cook: A history of one of the world's oldest travel firms; CNN; 2019 https://edition.cnn.com/travel/article/thomas-cook-history-timeline/index.html

Ciriviri K; Manual of Risk Management in Adventure Tourism, Ohrid Red Cross Mountain Rescue Service: 2019 www.manual-for-risk-management-in-adventure-tourism.pdf

CIWEC: Altitude Illness Advice for Trekkers 2019 https://ciwec-clinic.com/health-articles/altitude-illness-advice-for-trekkers/

Cusick J; The Independent; 1997

www.independent.co.uk/news/matterhorn-conqueror-cleared-over-fatal-falls-1248170.html

Danvers F C; The Trigonometrical Survey. (With a Sketch-map.) http://wgbis.ces.iisc.ernet.in/biodiversity/sahyadri/wgbis_info/trigonometrical_survey.htm Day M; The 1970s Hippie Trail: Drugs, Danger, and a Magical Pudding Shop in Asia; 2016 https://timeline.com/hippie-trail-asia-drugs-55abce249d1

Davis W; Into the Silence Wade; Penguin Random House Canada; 2012

Deimberger K; Summits and Secrets; George Allen & Unwin 1971

DerSarkissian C; (2021, May 12). Hypothermia. Retrieved from https://www.webmd.com/a-to-z-guides/what-is-hypothermia

<u>Dérioz P</u>, <u>Upadhayaya P</u>, <u>Bachimon P</u> & <u>Loireau M</u>; <u>Development of mountain domestic tourism</u> close to the major urban areas of Nepal: South side of the Annapurna Massif and Helambu 2020 <u>https://journals.openedition.org/viatourism/5586?lang=ca</u>

Dickinson L; Everest Unmasked; IMDb Documentary film; 1979 https://www.imdb.com/title/tt0219676/

Drs Duff J & Gormly P; First Aid and Wilderness Medicine; Cicerone; 1984

Dr. Surendra KC; 2062 BS. Sabita Prakashan, Taplejung. Appendix 4, Annual Returns of the Native Army 1875-1942 in Gorkha Bharti <u>https://www.spotlightnepal.com/2018/11/23/reflecting-celebrations-all-over-world-except-nepal-centenary-end-first-world-war/</u>

Engle C E; Mountaineering in the Alps - A Historical Survey; Allen & Unwin; 1971

EU Euroaid; Sustainable Tourism for Development; 2021 https://www.e-unwto.org/doi/pdf/10.18111/9789284415496

Farlex; The Free Dictionary https://www.thefreedictionary.com/expedition

Fanshawe A and Venables S; Himalaya Alpine Style; Mountaineers Books; 1996

González et al., 2018; OECD, Peeters et al., 2018; Postma and Schmuecker, 2017; UNWTO et al., 2018; WTTC-McKinsey, 2017. OECD Tourism Trends and Policies 2020; OECD iLibrary; <u>https://www.oecd-ilibrary.org/sites/82b46508-</u><u>en/index.html?itemId=/content/component/82b46508-en</u>

Grupp P; 'faszination Berg: die Geschichte des Alpinismus', Keulen, Böhlau, 2008 <u>http://ieg-ego.eu/en/threads/europe-on-the-road/the-history-of-tourism/burkhart-lauterbach-the-mountain-calls-alpine-tourism-and-cultural-transfer-since-the-18th-century</u>

Hackett & Shlim D R; High-Altitude Travel & Altitude Illness; CDC Travelers' Health 2000 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6191821/

Hansen P H; Albert Smith, the Alpine Club, and the Invention of Mountaineering in Mid-Victorian Britain', The University of Chicago Press, in: The Journal of British Studies, Vol. 34, 3, Victorian Subjects (Jul., 1995),

https://www.semanticscholar.org/paper/Albert-Smith%2C-the-Alpine-Club%2C-and-the-Invention-of-Hansen/175518f8bdc0a281081045e5dfd17ff7049ebeca

Hansen P H; Albert Smith, The Alpine Club, and the invention of mountaineering in Mid-Victorian Britain; Cambridge University Press 1995 https://www.jstor.org/stable/175982

Harrier H; Seven Years in Tibet; E. P. Dutton & Co Inc, 1954

Hertzog M; Annapurna; J Cape; 1952

Holt R; Sport and the British: a Modern History, Oxford, Clarendon Press, 1989

Holeček M; Baruntse Expedition 2021 www.mountain.ru/article/

Hunt J; Ascent of Everest; Hodder & Stoughton, 2002

High Altitude Medicine; Guide Hyperbaric Treatment; modified 2001 www.high-altitude-medicine.com

International Mountain Trekking Handbook; Mountain Training UK 2012

Kaine D; Tackling insurance fraud in Nepal, International Travel & Health Journal, 2019 https://www.itij.com/latest/long-read/tackling-insurance-fraud-nepal

Kauffman A J & Putnam W L; K2 and the 1939 Tragedy; 1993

Krakauer J; Into Thin Air; Pan MacMillan; 2011

Kunda D; The lake that was once Kathmandu; Nepali Times; 2010 <u>http://archive.nepalitimes.com/news.php?id=17327#.YNMO4egza70</u>

Landon P; Nepal; Chiswick Press, London 1928

Langmuir E; Mountaincraft & Leadership; Cordee 2013

Lauterbach B, On-Line: 2018-08-30; Ball, 1859

Legal Definition; Content Team; 2017 www.legaldictionary.net/duty-of-care

Linder B; Thamel through Time 1968-2018; KGH 2018

Luks A M, Swenson E R, Bärtsch P; Acute high-altitude sickness; European Respiratory Review; 2017 https://err.ersjournals.com/content/26/143/160096.short

Maslow A H; Hierarchy of Needs - "A theory of Human Motivation and Personality 1954 https://www.simplypsychology.org/maslow.html

Maslow A; 1943 'A theory of Human Motivation' Updated; Dr Saul McLeod, December 29, Simply Psychology; 2020 www.simplypsychology.org/maslow.html

Mason K; Abode of Snow A History of Himalayan Exploration; London: Rupert Hart-David 1955

May J; Alternative Society 1970s: BIT Travel Guide; The Generalist; 2006 https://hqinfo.blogspot.com/2006/08/alternative-society-1970s-bit-travel.html

Mount Everest Foundation; https://www.mef.org.uk/expeditions?region=himalaya-nepal&purpose=mountaineering#filter

Milano et al Sustainable Tourism; the conversation; 2018 https://www.researchgate.net/publication/323174488_Overtourism_and_Tourismphobia_Global _trends_and_local_contexts

National Geographic Geo-tourism https://www.nationalgeographic.com/travel/article/geotourism-principles-1

National Trust for Nature Conservancy www.ntnc.org.np/about-us

National Trust for Nature Conservation; A Annapurna Conservation Area Project (ACAP) Annapurna Conservation https://ntnc.org.np/project/annapurna-conservation-area-project-acap

National Weather Service www.weather.gov/safety/cold-wind-chill-chart

Neale J; Tigers of the Snow; Abacus; 2002 Nepali Sansar; Nepal Tourism Industry 2018: USD 2.1 Bn Revenue, 1 Mn Jobs <u>https://www.nepalisansar.com/tourism/nepal-tourism-industry-2018-usd-2-1-bn-revenue-</u> <u>1-mn-jobs/</u>

Nepali Times; Himalayan Odyssey; Nepali Times; 2020 https://www.nepalitimes.com/here-now/the-himalayan-odyssey/

Nepal Tourism Government 2019 www.tourism.gov.np/tourism_statics_2019

Nepal Tourism Industry 2018 <u>https://www.nepalisansar.com/tourism/nepal-tourism-industry-2018-usd-2-1-bn-revenue-1-mn-jobs/</u>

Nepal Visitor Arrivals 1991 - 2021 | MONTHLY | PERSON | CEIC DATA; https://www.ceicdata.com/en/indicator/nepal/visitor-arrivals

Open Skies; The Rise and Fall of the Hippie Trail <u>https://openskiesmagazine.com/the-rise-and-fall-of-the-hippie-trail/</u>

PATA; Nepal launches campaign of "Vision 5 Million" https://travelbiznews.com/this-is-test-news/

Pradhan K; The Gorkha Conquests, Himal Books;1991

Praklikar S J; High altitude pulmonary edema-clinical features, pathophysiology, prevention and treatment; IJOEM; 2012 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3617508/

Pyatt E; Passage of the Alps from Hannibal to the Motorway; Robert Hale; 1984

Pierse S; Kangchenjunga; School of Arts, University of Wales; 2005

Pun S. B; Spotlight 2018 <u>https://www.spotlightnepal.com/2018/11/23/reflecting-celebrations-all-over-world-except-nepal-centenary-end-first-world-war</u>

UIAA; Mountain Medicine UIAA 2020

UN; 1999; Commission on Sustainable Development, 7th session; New York, 19-30 April 1999 www.un.org

UN; 1992 Chapter 7; United Nations Conference on Environment & Development Rio de Janerio, Brazil, 3 to 14 June 1992 AGENDA 21 www.sustainabledevelopment.un.org

UNWTO; Global Report on Adventure Tourism https://www.e-unwto.org/doi/pdf/10.18111/9789284416622

UNWTO; Sustainable Development www.unwto.org

UN; Sustainable Goals; International Year of Sustainable Tourism for Development, 2017 www.sustainabledevelopment.un.org

UN; Sustainable Goals; International Year of Sustainable Tourism for Development, 2020 https://unstats.un.org/sdgs/report/2020/The-Sustainable-Development-Goals-Report-2020.pdf

Rai B; Across Nepal's mid-hills, unplanned roads are leading to more landslides – and more deaths: Centre for Investigative Journalism-Nepal

https://cijnepal.org.np/across-nepals-mid-hills-unplanned-roads-are-leading-to-more-landslidesand-more-deaths/

Reeves J T, Weil J V; Barometric Pressure, Reduced; Encyclopedia of Occupational Health and Safety

https://www.iloencyclopaedia.org/contents/part-vi-16255/barometric-pressure-reduced

Roche C. Women Climbers 1850 - 1900 A Challenge to Male Hegemony https://www.tandfonline.com/doi/abs/10.1080/17460263.2013.826437

Roach R C, Hackett P H, Oswald O, Bärtsch P, Andrew M. Luks A M, Martin J. MacInnis M J and Kenneth Baillie J; High Altitude Medicine & Biology, US National Library of Medicine; 2018 www.ncbi.nlm.nih.gov

Ruttledge H; Everest, The Unfinished Adventure. London: Hodder & Stoughton. 1937

Safetree NZ; Working with Helicopters https://safetree.nz/wp-content/uploads/2015/03/Working-with-Helicopters.pdf

Seylaz L; Les origins de l'alpinisme suisse, in: Alpes, 39, 1963 <u>https://www.summitpost.org/how-the-british-created-modern-mountaineering/713630#chapter_2</u>

Smelser N J; Social Paralysis and Social Change. British Working-Class Education in the Nineteenth Century, Oxford, University of California Press, 1991

Spotlight Nepal; in the Accounts of Early Jesuit Travellers; 2013 https://www.spotlightnepal.com/2013/04/28/nepal-in-the-accounts-of-early-jesuit-travellers/

Spotlight Nepal; Nepal's Pioneer Tourism Entrepreneur Tek Chandra Pokharel; 2018 https://www.spotlightnepal.com/2018/07/23/nepals-pioneer-tourism-entrepreneur-tekchandra-pokharel-no-more/

Stevens S; Tourism and Development in Nepal, https://digitalassets.lib.berkeley.edu/anthpubs/ucb/text/kas067_068-011.pdf

Stoddart D R; The RGS and the 'New Geography': Changing Aims and Changing Roles in Nineteenth Century Science; The Geographical Journal <u>Vol. 146, No. 2 (Jul., 1980)</u>, <u>https://www.jstor.org/stable/632860</u>

Stöppler M C; Definition of Altitude Sickness; 2021 www.rxlist.com

Taylor A T; High-Altitude Illnesses: Physiology, Risk Factors, Prevention, and Treatment; RamBam Maimonides Medical Journal; US National Library of Medicine; 2011 www.ncbi.nlm.nih.gov

Toni Hagen Foundation; Toni Hagen 17.08.1917 - 18.04.2003 https://www.tonihagen-stiftung.ch/English-Dr-Toni-Hagen.html

Toole A; What is snow blindness? Ohio State University Wexner Medical Centre https://wexnermedical.osu.edu/blog/snow-blindness

The Conversation; Because it is there: commercialising Mount Everest; 2013 <u>https://theconversation.com/because-it-is-there-commercialising-mount-everest-14767</u>

The Himalayan Club; A Brief History of The Himalayan Club

The Sunday Times; Jim Edwards: philanthropist and pioneer of eco-tourism; 2009 <u>https://www.thetimes.co.uk/article/jim-edwards-philanthropist-and-pioneer-of-eco-tourism-nbf5p8l78r7</u>

Tilman H W; Nepal Himalaya, The most mountainous of a singularly mountainous country; Vertebrate Publishing; 2017

Tissot L; How did the British Conquer Switzerland?; Journal of Transport History; 1995 https://journals.sagepub.com/doi/abs/10.1177/002252669501600105?journalCode=jthc

Trekking Agencies Association of Nepal https://www.taan.org.np/about-us/introduction

Upadhyay P; Tourism Policy of Nepal and Sustainable Mountain Tourism Development in Retrospect; Nepal Journals Online 2019 https://www.nepjol.info/index.php/GAZE/article/view/22776

Vroom V H; Vroom Expectancy of Needs Theory; 1964 www.potentialunearthed.co.uk

Waller D; The Pundits: British Exploration of Tibet and Central Asia; University Press of Kentucky; 1990

https://core.ac.uk/download/pdf/232564131.pdf

Weaver D; Can sustainable tourism survive climate change? Journal of Sustainable Tourism V19; 2011 https://www.tandfonling.com/doi/full/10/1080/09669582/2010/526242

https://www.tandfonline.com/doi/full/10.1080/09669582.2010.536242

Wells C A; Brief History of British Mountaineering; The Mountain Heritage Trust 2001

Wenz_J; What Is Wind Chill, and How Does It Affect the Human Body? 2019 https://www.smithsonianmag.com/science-nature/what-wind-chill-and-how-does-it-affecthuman-body-180971376/

Whymper E; 'Scrambles amongst the Alps'; John Murry; 1871

William M; Universe Today; December 30, 2015 <u>https://www.universetoday.com/29833/how-mountains-are-formed/</u>

Wikipedia; the free encyclopedia www.en.wikipedia.org

World Tourism Organisation; Sustainable Development (UNWTO) 2004 www.unwto.org

Zeitz J; Pros & Cons of Ecotourism; 2020 https://environmental-conscience.com/ecotourism-pros-cons/