

# Apex

Indian Mountaineering Foundation  
Risk Management Unit

Newsletter \* 2nd Special Edition on Accidents & Safety \* May 2020







On the trail to Tenta base camp, for Deo Tibba peak. Image courtesy : Maninder Kohli



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## President's Note

**A**dventure and Risk are synonymous with each other, as by its very nature, adventure is a risky or a daring activity. While undertaking such activities in the outdoors, there is always a lurking possibility of an individual or a party getting injured, either by way of losing life or limb. Man by nature, is intrinsically drawn to the element of risk, continuum of which is indeed large, especially depending on the nature of the chosen activity. In the Project Management of undertaking outdoor expeditions, especially related to Mountaineering and Mountains, as a leader or a responsible member, understanding the manifestation of risk and proper Risk Assessment, is an integral part of the planning process. While the overall, risk factor would entail a gamut of correlated factors, perhaps throwing a caution at the group from the very beginning of the venture, the key lies in breaking and addressing the risk factors, manifesting within each segment of conduct of the activity. As a result, it is extremely crucial to understand the risk associated with the overall conduct of the adventure, as also its sub parts being undertaken, thus arriving at an effective Risk Mitigation Strategy, understanding of which, requires a high degree of training and hands on experience.

The **Meet on Risk Management** in India organised by the IMF, is an ongoing effort on part of the Foundation's continuous and proactive attempt, to generate awareness amongst all stake holders, so as to bring down the accident rate in the Indian Himalaya. The IMF is convinced, that this has to be a continuous, evolving process and must translate to appropriate measures being taken, for enhancing safety at all levels.

The IMF Risk Management Unit, conducted a very professional 'second' edition of this Conference on 02 March 2020, at the IMF Complex, with more than 50 experts and participants, from adventure community, deliberating on some of the incidents and case studies, which occurred during the recent season. This **2nd Special Edition of the IMF Newsletter on Accidents and Safety** being released today, summarises the key deliberations of this Meet.

I exhort the outdoor adventure community to use the information made available herein, so as to ensure a more conducive and a safer environment for undertaking outdoor activities, in the Indian Himalaya.

**Let us all make a concerted effort to make our Mountains and Outdoor Activities safe !!!**

**Brigadier Ashok Abbey**



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# Further Evolution of the Risk Management Unit at the IMF

**- Maninder Kohli**

*Head, Risk Management Unit, Indian Mountaineering Foundation*

After the conclusion of the second Meet of the IMF Risk Management Unit, it is indeed most encouraging to notice the interest building up on looking at ways to reduce the occurrence of incidents and accidents while participating in adventure sports. This is evident from the number of delegates who attended the meet, with several coming in from outstation locations. The enthusiasm was also evident from the multiple speakers who also took time out to address the delegates and then follow it up by writing for the Apex Newsletter.

One of the crucial issues when looking at Risk Management is the accurate collation of data on incidents and accidents. This is a big task as teams where incidents and accidents have taken place tend to suppress the information. In addition, most locations are remote and at times information does not get collated.

Through 2019, Dr. Hari Mohan established a WhatsApp group of supporters of Risk Management in multiple locations. The group remained active through the year and individuals would flash information as incidents took place. Dr. Hari Mohan would investigate the incidents further and collate the data.

One consistent feedback from delegates who have attended the two Risk Management Meets till date has been that the Meets should be held twice a year and should also travel to other locations, so that more people from the outdoor community can attend.

While the endeavour will always be to hold Meets at a higher frequency in multiple locations, we are happy to announce that we will shortly be starting a Risk Management Webinar Series. This Series will allow us to create a digital library of information in the risk management space. Speakers will be invited to develop webinars which will be uploaded on the YouTube Channel of the IMF. Through this process, all key information in the space of risk management will reach the outdoor community across India.

Thanks are due to Dr. Hari Mohan, Rama Goyal and Mayank Vyas Singh and all the volunteers who supported Dr. Hari Mohan for all the assistance through the year in collating information and assisting in organising the Risk Management Meet.

# Review of Accidents & Deaths in 2019

- Dr. Hari Mohan

*Risk Management Unit, Indian Mountaineering Foundation*

Risk management is a proactive process that forms the basis for causality management planning and helps those who hold safety responsibilities to provide effective, relevant and informed services to Himalayan climbing communities. This includes undertaking risk assessment and management using an approved, recognised methodology that considers all reasonably foreseeable hazards, both natural and human-made. As a part of this, a review of causalities which occurred in the period from January 2019 to February 2020, was carried out. So far in India, there was no structured method to capture the data. The current data was compiled by review of information available on internet, news clippings and information shared by few individuals passionate about climbing/trekking in Himalayas.

Following is an account of different types of accidents that happened in Indian Himalayas (January 2019 to February 2020). The categories of religious pilgrims and army personnel were consciously kept out of the scope of the documentation. This review includes casualties that happened during mountain climbing, trekking, rafting, skiing and paragliding. An estimated 29 deaths occurred during this period.

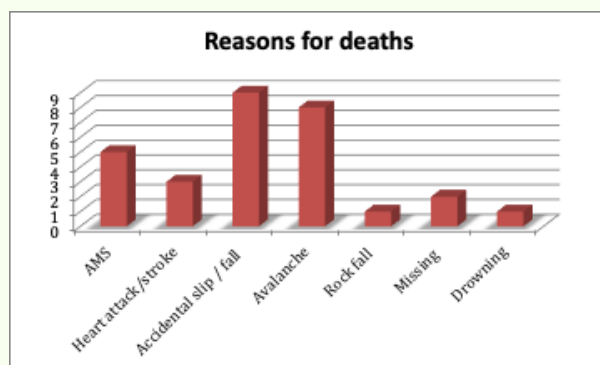
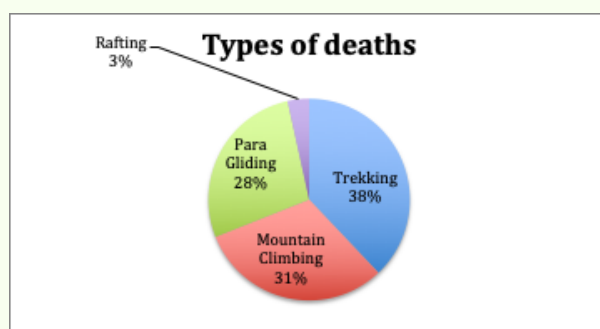
Majority of the accidents happened while trekking (38%), followed by climbing incidents (31%), paragliding accidents rose this year with 28 percent. One rafting death was reported from Rishikesh area. No deaths were reported under activity of skiing.

Para gliding has become a popular adventure sport in the recent past. The reporting has also increased and accounts for the death of eight persons, due to falls from a life-threatening height. Equal number of deaths happened due to Objective hazards like Avalanche. Five trekkers died due to Acute Mountain Sickness (AMS). From this it is evident that, trekkers are not taking proper acclimatisation seriously. Moreover all the deaths except on the Chadar trek, were of young adventure enthusiasts.

One person each died due to accidental fall and hit by rocks. Two climbers went missing and one person drowned during a rafting accident in Rishikesh area.

A Hungarian climber Mr. Peter Wittek went missing during his expedition to Mt. Trishul. He was part of a six-member Singaporean-Vietnamese-Hungarian-Mauritian mountaineering expedition to Mount Trishul between September 13 and October 8, 2019.

In June 2019, eight mountaineers heading for the summit near Nanda Devi East in Uttarakhand's Pithoragarh met with an accident during an avalanche. ITBP search team retrieved bodies of seven of the eight mountaineers, while one still remains missing.



| Reason                 | Number | %   |
|------------------------|--------|-----|
| Altitude Sickness      | 5      | 17  |
| Heart Attack / Stroke  | 3      | 10  |
| Accidental Slip / Fall | 9      | 31  |
| Avalanche              | 8      | 28  |
| Rock Fall              | 1      | 3   |
| Missing                | 2      | 7   |
| Drowning               | 1      | 3   |
| Total                  | 29     | 100 |



# Seven Sigma & Managing Risk in Adventure Operatives

- **Ajeet Bajaj**

*M.D., Snow Leopard Adventures Pvt. Ltd.*

"A ship is safe in a harbour  
But that's not what ships are built for"

We human beings are safe in our homes and offices.... but that is not what we humans are built for.....adventure, risk taking and nature connect are inherent parts of the human DNA. In the 1970s and 80s when I first got into adventure sports, adventure was considered synonymous with daredevilry and 'death defying' in nature. Over the years, the realization has dawned that done properly with all safeguards, adventure can be very safe.... much safer for instance than driving around in the National Capital Region of Delhi.



Six Sigma was a process started by Motorola in the manufacturing sector in 1986. According to the concept, defect levels have to be below 3.4 defects per million, or 99.9996 % of the products have to be defect free. In adventure, we cannot accept a single defect or accident. Hence the concept of seven sigma which goes beyond six sigma, to ensure 100 percent risk mitigation in adventure. I thought of the concept of seven sigma before attempting to ski across the Greenland icecap with my 17 year old daughter Deeya, the youngest person ever to attempt the crossing. The expedition entailed cross country skiing for a total distance of approx. 600 kms, from the west to east coast of Greenland, close to the Arctic Circle.

The planning and execution of adventure has to be done to ensure that while there is an inherent risk involved in adventure, we leave nothing to chance and leave no stone un-turned to ensure complete risk mitigation. I feel that there are six Gs that are of paramount importance for managing risk in adventure operations and to move towards 7 sigma:

**1. Group Risk Ethos:** It should be mandatory to have national permissions and certifications to operate any adventure activity and preferably international certifications and accreditations. Whether you are an outdoor club or an adventure tourism institution or outfitter, it is vital to have proper Standard Operating Procedures and a well-laid down policy to mitigate risk. A well documented Risk Assessment, Insurance and Emergency Response Plan are mandatory before undertaking any field operations. This must include strict communication protocols within the organisation (a 24x7 emergency/duty officer) and a daily pre and post activity briefing for adventure participants. Adventure team training at regular intervals is a must for any professional adventure tour organisation or institution.

**2. Gear:** 'Look after your gear...and your gear will never let you down', is an old saying in the world of adventure. Gear used in adventure operations has to be internationally certified. Proper checking of gear before and after any adventure activity is a must. Proper storage of gear and discarding or repairing it as soon as any defect is noticed, has to be an integral part of SOPs of all organisations.

**3. Guides:** Adventure guides / instructors can make the difference between an average trip or an adventure experience of a lifetime. Adventure guides must not only be skilled and certified in their adventure field but must have great communication skills, should be certified in First Aid / CPR and must have a positive attitude to life. Knowledge of local conditions, equipment repair, respect for the environment and local culture and traditions all add up to make a great guide/instructor. Adventure guides must ensure that a comprehensive safety briefing is given prior to

conducting any adventure activity. On multi-day trips, a daily pre and post activity briefing is a must.

**4. Guidelines:** The organisation conducting the adventure activity must strictly adhere to Risk Management Guidelines of the country/state government/organisation. This has to be set in stone with no deviations allowed under any circumstances. The Safety Guidelines of Adventure Tour Operators Association of India, which have been endorsed by the Ministry of Tourism, Government of India and most state governments, must be strictly followed in letter and spirit on any adventure outing.

**5. Guests:** This is the people embarking for the adventure activity. Excellent communication about the level of difficulty, technical skills required, gear to bring on the trip, fitness levels, medical concerns/ allergies if any, dietary requirements, personal insurance cover and expected conditions is a must before the trip. Daily briefings during the trip covering gear and clothing, level of difficulty, weather forecast, safety measures and precautions, environmental and cultural concerns, food and hydration, are equally important. A post trip feedback is vital and should be an integral part of SOPs.

**6. Geographical Conditions:** This is about being aware of local conditions and weather forecasts. It is equally important to have the flexibility to alter plans depending on prevailing conditions and skill & experience level of the participants.

While adventure institutions and operators play a vital role in mitigating risk, it is vital for all adventure participants to prepare hard for the adventure and to be disciplined during the activity. Participants must be physically fit, get a comprehensive medical check up (depending on the activity), ensure that they have the right gear, insurance and have the requisite skills for the adventure they are to embark on. Adventure and alcohol do not mix and alcohol and illicit drugs have to be avoided at all costs during adventure. No matter which adventure sport you choose, do remember the basic rule – ‘less than three, there should never be’ and never venture out alone. Always inform responsible people/organisations about your plans and have a backup/rescue plan in position.



The level of risk is measured by the adventure activity (climbing the South West or Kangshung face of Everest or the first descent by kayak or raft of a grade VI river would be the highest risk possible), style of adventure (for instance climbing the above mentioned face of Everest without supplemental oxygen), team profile (ability, experience, fitness etc) and prevailing conditions. If in doubt, always err on the side of caution and tone down the adventure or change the objective.

**Partner diligence:** While working with any organisation for conducting adventure activities, proper due diligence must be done to mitigate risk. This should include but not be limited to :  
Company certifications : Undertake adventure trips with a certified organisation only. If you are working with an adventure tour operator, you must ensure that they are certified by the Ministry of Tourism, Government of India or the state government. Membership of the national adventure tourism body, Adventure Tour Operators Association of India, is always a positive factor.

A reference check of the operator by other adventure operators or past customers for the activity to be undertaken and their safety record must be done.

A comprehensive check of the company risk management/safety policy, insurance and emergency protocols.

Guides and their experience on the particular activity to be undertaken, years of experience and related skills such as First Aid certifications.

Equipment used for the activity. Is it certified to international standards, in what condition and how old is the gear?

Sustainability practice of the company. Do they follow a 'strict leave no trace ethos' in the outdoors in letter and spirit?

Since adventure trips invariably entail travel to remote, mountainous areas, another vital aspect of seven sigma is to mitigate risk during transportation. A similar exercise must be done for all aspects of the adventure activity/trip. Due diligence of the transportation company to be used is a must and should include:

- Company registration and license
- Vehicle condition, serviceability and maintenance
- Vehicle registration, insurance and permits
- Driver license and hill driving experience
- A peer and customer review
- Spare parts
- Proper seat belts are a must

A vehicle inspection and driver briefing by the team leader prior to commencing the drive, are a must. If rash or negligent driving is observed, the team and the team leader/instructor/guide should not be passive and take appropriate steps immediately. The driver's briefing should include:

- Driving within speed limits
- No overtaking on bends
- Mobile phone to be on silent mode
- No alcohol consumption ( even the night before )
- No smoking while driving
- All participants must wear a seat belt

It is highly recommended that all Adventure Operators and Institutions, maintain a ' learning incident' or 'near miss' register. This should be an integral part of the adventure team training conducted at regular intervals. The idea is to learn from incidents before they lead to major or fatal accidents.

While managing risk for participants is of paramount importance, it is equally important to adhere to a strict 'leave no trace' ethos during adventure operations. India has adopted UNWTO's (United Nations World Tourism Organisation) Global Sustainable Tourism Criteria. The criteria has four pillars and looks at minimizing environmental impact while being sensitive to the social, cultural and economic impact on local communities.

Adventure Tourism Development Index is a tool developed by the Adventure Travel Trade Association and George Washington University, USA to measure adventure competitiveness against competing destinations. It allows countries to identify where their strengths and weaknesses lie in terms of developing a strong adventure market. India currently ranks 86th out of the 163 countries surveyed. We have every conceivable geographical terrain in India, are a global bio-diversity hot spot, have 73 percent of a culturally diverse Himalayan range, rich fauna, flora and avifauna. Given our huge potential vis a vis adventure & sustainable tourism, we have to work hard and endeavour to place India among the top five global destinations for adventure in the next ten years. Our ability to change global perception about Indian adventure will depend largely on our ability to manage risk in adventure operations.





# Review of Accidents taking place in Nepal for Indian Community

- **Prateek Gupta**

CEO, Adventure Sports Cover 360



## ASC360 in Nepal



- ✓ **ASC360** is India's first and biggest provider of adventure insurance and search & rescue packages.
- ✓ Provided Adventure cover to more than **175,000 people** across globe.
- ✓ Evacuated more than **183 people**, from extreme emergency situations in last two years.
- ✓ Treated, consulted more than **3000 people** in outdoors and post evacuation procedures.
- ✓ Conceptualised established **India's first** High Altitude Medical and Rescue centre.
- ✓ Settled accidental & sickness claims and multiple death claims worth more than **5 crore!**
- ✓ **Insured 65%** of all the Indian Nationals travelling to Nepal for various treks and big expeditions.
- ✓ Dedicated ASC360 team present at Lukla helipads and Kathmandu during the Season.
- ✓ **24X7** on call medical advisory for all the trekkers and the climbers.
- ✓ Partnered with **8** Indian and International Insurance companies.
- ✓ Provider of extreme adventure insurance and provide rescue assistance to defence forces.
- ✓ Partnered with **international rescue companies** for specialized Evacuation capabilities.

## EBC - Statistics

### 2 seasons

☀ **Summer: March to May**

🍁 **Autumn: Sep to Nov**

Total numbers of trekkers entered Sagarmatha national park is close to **50,000** as per park data in 2019.



Out of 50,000 trekkers who entered, **2100** were Indian Nationals in 2019.

This number comprises of EBC, Everest, Gokyo, 3 passes, Amadablam etc.



Indians prefer summer season more for the EBC trek in **65:35** ratio. Lately the autumn season is also picking up for Indians.

Males to Females ratio on the EBC trek is **70:30**



In 2019 Nepal registered the decline in adventure tourists by **2000 pax** for the first time in the recent history.

Out of approximately 1800 Indian trekkers on EBC, **ASC360 insured 45%**.

ASC360 insured more than **60%** of the Indian trekkers in Autumn.



Estimated **20%** people out of 1800 were either not insured or had normal travel insurance without proper adventure cover.

**Maharashtra** is by far the biggest state to trek in Nepal (25%) then comes **Karnataka** (15%) and **Tamil Nadu** and **Telangana** at 8% each.



At least 3 major global insurance companies either stopped completely issuing the policy for Nepal or has increased the premiums especially for Indian nationals by **300 to 600%**.

**85%** of EBC and ABC insurance sold were for 15 days, 13% were for 21 days and 2% were of more than 30 days or more.

Biggest month for EBC and ABC trek is April then mid September to Mid October.

Current pricing for the comprehensive adventure insurance on EBC trek varies from 7500 INR to 26,000 INR. ASC360 Started selling the insurance for **1800 INR** in 2016.

Surprisingly, in recent years more trekkers have trekked EBC from age group **40 to 50 years** and **30 to 40 years!** This is more than double of 18 to 30 years age bracket.

In fact ASC360 insured more trekkers from the age group **50 to 60 years** in Autumn than **18 to 30 years**.

Cost of the EBC and ABC trek has fallen by 20% during the same period whereas the cost of **porters and guides** alone has increased by **30%**.



Since 2019 summer, most of the prominent insurance providers has imposed considerable deductible on **medical evacuation** and **hospitalisation** (\$500 to \$825). It was \$0 till beginning of 2019.

## Everest-statistics

2019 till today is the worst and the best season on Everest.

Over **700 people** reported successful summits and 11 people lost their lives including 4 Indian nationals.

Out of 21 climbers, **7** were **Indian nationals**, 4 died on Everest and 2 died on Makalu and 1 on Kanchenjunga.



On Average **130 Indian** nationals attempt 8000ers from India every year.



Apart from 2018 where **40 people** attempted Summit from North Side in Tibet-China, average **80%** of the climbers attempt Everest from South Side in Nepal.

**No Death** of Indian nationals was reported in 2018 climbing season.

In total **21 people** lost their lives on all 8000ers in Nepal, 11 on Everest, 4 on Makalu, 2 on Kanchenjunga, 1 each on Anapurna, Cho oyo and Lhotse.



2019 season saw more than **30 climbers** suffering from high grade **frost bites**.



## Everest-statistics

More than **20 people** were evacuated from camp 2 or higher this year.

**ASC360** evacuated and hospitalised 21 of the climbers.

Camp 2 air evacuation can cost about **\$20,000** and Camp 3 air evacuation costs about **\$35,000**.

Only **40% climbers** in 2019 had comprehensive insurance as compared to 2018 where **99% were insured**.

**55% of the climbers** in 2019 only had the rescue insurance and 5% didn't had any insurance.

**ASC360** paid claims on average **\$8,000** for hospitalisation.



## Causes of Evacuation & Claims



### COST

Average cost of an EBC package is INR 44,000 +



### FOOD

currently 70% packages are being sold without food.



**GUIDE QUALITY AND GUIDE TO CLIENT RATIO**  
"porter cum guide"



**TREKKERS EXPERIENCE**



**OPERATORS**



**CLOTHING AND GEAR**



**ALCOHOL**



**COMMISSIONS**



**HELI JOY RIDE**



**SOLO TREKKING**



**FITNESS**

## Major Reasons

**Everest Jam was not the real killer but not turning back in**

- ✓ Shorter Summit windows
- ✓ Summit fever
- ✓ Too many people
- ✓ **COST: Cutting costs results in inexperienced sherpas.**
- ✓ Low speed and fitness levels
- ✓ Inadequate training and experience
- ✓ Debts and loans by the family members
- ✓ Operators greed
- ✓ Peer pressure

## Observation and Recommendations

- ✓ The price for comprehensive insurance for Everest was **\$750** in 2017 and 2018 which was increased to **\$1000** in 2019.
- ✓ Most of the insurance companies have stopped insuring mountaineering above **7000 meters**.
- ✓ More **unqualified people** are joining the fixed departures due to negligible or no checks.
- ✓ By **2020 or 2021**, Indian nationals will be the biggest community to attempt and summit Everest and other **8000ers**.
- ✓ If we don't take hard steps as soon as possible then we will continue to be the highest in terms of death ratio in Nepal.
- ✓ Like immigration into a country for a long stay, every climber should undergo **Full body check ups**, must provide previous climbing experience, financial proofs and certificate of payments to the operators before getting the final permits.
- ✓ As insurance simply is to create a **pool of money** and resources to help someone in need, comprehensive adventure insurance should be made compulsory
- ✓ Operators should also lists their roles and responsibility in case of any eventuality



# Review of Accidents taking place in the Paragliding Industry

**- Roshan Lal Thakur**

*Himalayan Institute of Adventure Sports*

Paragliding started in India in 1991. Due to its easy handling and as it is possible on mountain, flat land and seashore, flying is done all over India. Paragliding is an exciting and safe high adventure sport, and is today one of the fastest growing adventure activities. As it gains popularity among tourists for joy ride, hence it needs to be regulated for the safety of tourists.

There are 700 paragliding Tandem pilots (500 – Himachal Pradesh, 50 – Uttarakhand, 50 – North East, 50 – Western India, 50 – Southern India approx.) and more than 300 solo paragliding pilots in India. There are about 30 paragliding sites in the country where paragliding joy rides for tourists are being organized. On an average, one pilot takes 300 to 400 flights a year, so a total about 2,50,000 tourists enjoy paragliding flights in a year. Due to heavy tourist participation some serious accidents also taken place. About 5–6 Tandem pilots and 8–9 Tourists lost their lives while doing paragliding. A large number of people got injured and some of them lost limbs as well. Some solo flyers' accidents have also happened.



Here we need to look into the points where paragliding can be regulated and organized more safely. For paragliding operation there are following points:

- **Pilot's Skill:** Pilot needs to be fully qualified. To certify the pilot, a test must be conducted by 5–6 qualified Paragliding pilots on the ground. Before that pilot must be trained under qualified and authorized paragliding trainer, and needs to prove sufficient flying experience. Whole test format must be in black and white and every pilot must be well aware of it.
- **Paragliding Equipment:** Nowadays paragliding equipment is really good. It needs to be checked whether it is certified or not. In inspection of used equipment experts must confirm that it should be safe for use.
- **Paragliding Site:** Paragliding site must be safe to carry out tourists rides. There are no parameters in black and white to certify paragliding sites, hence it needs to be worked upon.
- **Paragliding Commercial Operation:** Tourist paragliding rides, wherever they take place, need to be organised in a safe manner. At the launch area there must be two launch masters to assist the launch and ensure a safe take-off. The take-off must be stopped if the weather or wind is not favourable for launch and flying. The landing area must be kept free of tourists. To deal with emergencies, an ambulance with first-aid facilities must be stationed at the landing area. Medical accident insurance of every tourist/passenger must be done. Paragliding training must be organized by qualified and authorized trainers / institutions only. Visiting foreign paragliding pilots must fly under the guidance of a local flyer.

More serious is that some of pilots are flying after use of alcohol, Charas and drugs, which needs to be stopped immediately. DOPE test of every pilot could be made mandatory.

This whole paragliding regulation and organization matter needs to taken up with Ministry Sports / Aviation/ Tourism. There is no national organization/ Association who has authority with proper knowledge to regulate the paragliding.



# Review of Accidents taking place while Rafting and Kayaking

**- Akshay Kumar**

*CEO, Mercury Himalayan Explorations Ltd.*



As we look at the year 2020, one realizes that this symbolizes 35 years since commercial white water rafting started in India. Even though amateur and exploratory rafting attempts date back to almost 100 years ago, true commercial rafting only started in 1985. From then till now the rafting industry turned a full circle and more.

There are more than 25 rivers in India that offer commercial operations today. A new breed of kayakers is discovering new creeks and rivers every year. Ganga alone accounts for 400 rafting outfits and over a 1000 river guides, Beas and Zaskar are not far behind. Big businesses are getting involved. More and more commercialized operations are coming up with focus on quantity rather than quality. Training and upskilling remains minimal. Accident rates are getting higher every year, while administration continues to take a myopic view. There is a complete absence of reliable statistics and data, and accident reporting and review is at a minimal. However there is some move forward at the Central government level... but overlapping roles of central and state governments pose new challenges

## Overview of accidents in 2019

**March 2019:** Gurugram woman drowns when her boat flips on the Ganga.

**April 2019:** Mumbai tourist dies while rafting on Beas.

**June 2019:** Rafting guide dies on Lidder, Pahalgam while rescuing clients.

**June 2019:** Two die during a Rafting Championship organized in memory of the rafting guide who died a week earlier. Again marked absence of a rescue boat/kayak when incident happened. Only newspaper reports are available for drawing conclusions.

**September 2019:** Kerala resident dies while rafting on the Beas. Looks like a lone boat operation with no kayak support. No official reports available.

**September 2019:** Two Kayakers drown during a flash flood in Kadanthara, Kerala while practicing for the Malabar River Festival.

## Conclusion

### **Beas: Two dead**

Both related to boat flips and seemingly no kayak support. Boat entrapment.

### **Lidder: Three dead**

One guide. Boat flipped and seemingly no kayak back up.  
2nd accident due to similar causes within a month.

### **Ganga: One confirmed. One doubtful**

Cause is boat flipping. Long swim. Flush drowning.

### **Kandanthara, Kerala: Two Dead**

High water kayaking accident.  
Professional kayakers.

Looking at the growing trend of numbers and related accidents it is important to figure out a way forward for the industry looking at following parameters:

- Aggressive skilling and up skilling for everyone in the trade. Swift Water Rescue and Wilderness First Aid to be made mandatory
- Make industry and customer risk aware. This has to be an intense exercise in creating a positive awareness on risk and managing the same. Clients need to be aware to make the right choices and the operators have to understand risk to be able to safely ramp up operations to global standards.
- Empower and enforce. Empower the community to report incidents and the administration to enforce standards.
- Assess and manage risk at all levels from office operations to on field service delivery.
- Qualify as per job role.
- Standards, standards, standards. Lay down standards for operators and guides to follow. There are already industry standards available which need to be enforced down the chain.
- Inculcate a culture to report and discuss. This is needed to start a process of fearlessly reporting incidents and accidents. Its only when we generate a study these reports that trends will begin to show and then we can act with knowledge.

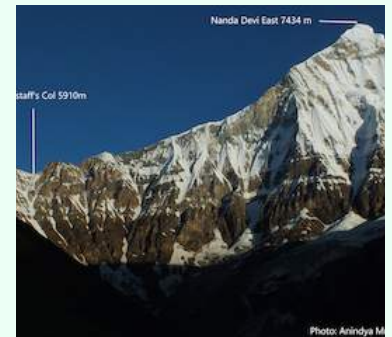
# Nanda Devi East: The Chronicle of a Tragic Accident

- **Wing Commander Amit Chowdhury**  
*Chairman - IMF Mountaineering Steering Committee*

Western Kumaon, the outer lip of the Nanda Devi Sanctuary, on the ridge leading to Nanda Devi East across Longstaff Col, Peak 6477 didn't seem to be a formidable objective. Another ridge leading to the peak from the East separates the Lawan and Pindari Valleys. On this ridge, Trail pass sits at 5312 m. This ridge was the route to the rather unknown peak. More like a high point on the ridge. One of the few remaining untrodden peaks in the region and hence attractive. The climbers were looking forward to an exciting first summit. Unknown to the rest of the world a major tragedy was unfolding.

Summit camp was set up by the team at 5891 m on the ridge. Though it had snowed a few days ago, the weather on May 27, 2019 was perfect. The team probably set out early to cover the last 500 odd metres to the peak, about 900 metres distance on ground, which they should have covered in 3–4 hours and made their way back to the comfort of their Base Camp by the evening. They roped up in two groups and started moving up, leaving two tents at the summit camp. They would have probably moved 50 to 100 metres when a complete slab on the ridge broke away taking all the climbers with it. Roped-up, the climbers had no escape, and collided with rock and ice in their steep fall of 200 metres with absolutely no chance of arresting themselves. With the severe injuries they sustained, even if they were alive after the fall, no one could have come to their rescue and they would all have succumbed to their injuries by the time the tragedy was discovered at least 3 days later, when they failed to turn up at Base Camp.

Martin Moran was back in India to attempt Nanda Devi East with fellow mountain guide Mark Thomas after their failed attempt in 2016, when they were beaten back from 6800 metres due to poor snow conditions. Accompanying Martin and Mark were 10 clients of the Scotland based family-run Moran Mountain Company founded in 1985 by Martin and his wife Joy. One of the clients fell sick in the early stages of the expedition and had to return. The team reached Nanda Devi East Base Camp after six days of trek on May 18, (Munsyari, Lilam to Bogdhar to Rilkot to Martoli to Base Camp). The load ferry and base camp set up was completed on May 21, 2019.



Mark Thomas along with 3 British members Ian Wade, Kate Armstrong and Zachary Quain, and 3 Sherpas, went on to open the route to Nanda Devi East. Going via Longstaff Col they managed to establish and stock Camp 2 at 6100 m by May 29. Meanwhile Martin Moran along with two American climbers (Ronald Beimel, Anthony Sudekum), three Brits (John McLaren, Richard Payne, Rupert Whewell), an Australian (Ruth McCance), and the Indian Liaison Officer went off to climb the virgin unnamed 6477 m peak.

Ronald led tours for his father's company Espirit Tours, was fluent in Japanese, a musician and a photographer besides being a mountaineer, who hiked and climbed extensively throughout California and the Western United States, including Mt. Shasta, Mt. Whitney, Mt. Kaweah in Sequoia National Park, Yosemite and the Sierras, as well as the Scottish Highlands, the Cascade volcanoes in British Columbia, and Iceland. The other American, Dr. Anthony Sudekum, a plastic surgeon specialising in upper extremities, was from O'Fallon, Missouri.

Among the Britons were Richard Payne, a Senior Lecturer in Environmental Geography at the University of York, an Environmental Scientist interested in environmental change and management, Rupert Whewell, managing director of executive search firm Bateman Gray, who,





as an experienced climber was “on the trip of a lifetime” to mark his 50th birthday. John McLaren, from Kirkcaldy/Cambuslang, a Scotsman like Martin was in the Himalayas to celebrate his 60th year. Ruth McCance, corporate coach, experienced mountaineer from Sydney was returning to climbing after more than a decade and had prepared well for the climb. Chetan Pandey, the Liaison Officer from IMF was a tough hill man. An experienced climber, he had been with Martin before and a trust had built up between them. Normally a Liaison

Officer stays back at Base Camp and climb only is the leader allows them. The fact that Martin took him along speaks highly of the trust that Chetan enjoyed. Eight climbers, all from different parts of the world, enjoying a seemingly easy climb on a sunny day.

On 29th May, Mark Thomas expected to find the team back in base camp. He hadn't been able to raise them on the walkie talkies even though they were supposed to be within line-of-sight. Fearing the worst, he went out looking for them. He could see a tent but no sign of people. Hardly a few metres from the tent, there was evidence of a large slab having broken off the ridge. He knew something was very wrong when he searched the area, whistled and shouted but couldn't find any trace of the missing climbers. He quickly despatched a camp helper to raise the alarm at the nearest habitation. Unfortunately the satellite phone at Martoli was not working and it was only by late afternoon on May 31 that news of the tragedy reached the IMF, and the tour operator and local authorities could be alerted in Munshiari, the sub-division HQ.



Disaster management has been a priority area for the Government. National, State and District Disaster Relief Forces have been set up in the last few years. The District Administration despatched a team of 10 people from the Force to Base Camp. As can be expected, ill equipped and without any mountain rescue training, this team would hardly progress half way to Base Camp. But it was clearly an attempt for the District Administration to be seen doing “something”. Maninder Kohli's call at 6 AM woke me up. He usually doesn't call so early, and I knew something was wrong. The information at this stage was sketchy. The news from Munshiari was that Martin Moran with 7 climbers had set off to climb somewhere near Longstaff's Col, and they were missing since May 26. A few calls to the District Administration made me aware that they had no clue about the situation or the immediate action plan. Fortunately, a request had already been made to the Air Force to deploy rescue helicopters.

IMF member Dhruv Joshi had been up in the mountains above 5000m for a couple of weeks, and had just returned home in Almora and was all set to leave for a mountain training cum selection camp at NIM Uttarkashi. He did not hesitate a bit when he was told about the tragedy and that a rescue effort was imminent, and drove up to Pithoragarh. We at the IMF had quickly assembled 4 mountaineers, including Dhruv, and they were on their way to Pithoragarh by June 1st.

Helicopters arrived, the DM briefed them, but for some reason did not send Dhruv up for the search even though he was fully acclimatised and geared. This is June 2 and the accident had taken place on May 26, so already 5 days since the catastrophic incident! Chances of survival were bleak and the need to act swiftly and decisively was primary. Yet for some reason, the orders were to pick up the remaining mountaineers at Base Camp, displaying a complete lack of understanding by the District Administration. Calls to the DM evinced a terse reply “I know what I am doing”. Zachary Quain, Kate Armstrong, Ian Wade and Mark Thomas who were perfectly fine and waiting to join a rescue effort, were “rescued” from Base Camp and brought to Pithoragarh, where they were sent for a medical check up and then confined to the ITBP camp. Before bringing them back from Base Camp, Mark was flown over the accident site but they couldn't spot anything.

It's June 3 and still no one knows what the plan is. Dhruv, who knows the area like the back of his hand, is begging the DM to let him go up with the helicopter to locate the victims, but he's not allowed. Finally Mark is sent up and they do a high pass over the area to take pictures. When they are back and zoom in on a large screen, they discover what appear to be 5 bodies on the South of the ridge at the bottom of what looks like an avalanche chute, 4 huddled together and one lying separately at a distance of 30 odd metres.

Mark and the IMF mountaineers were denied permission to be sent up to look for survivors. Another attempt was made on June 5 with ITBP mountaineers. The plan, go in close, look for survivors, winch them up if found or if possible. The ALH Air Force helicopters unfortunately did not have enough power to carry out the operation at 5600 m where the bodies were seen, and the rescue plan was abandoned. All attempts by IMF and the rescue agencies appointed by the insurance company to find a civilian helicopter capable of winching at that altitude and arranging a winching crew failed. Chances of survival being impossible, the efforts now turned to launching a ground party to locate and evacuate the bodies.



Back at IMF, I quickly assembled and sent up a team of 12 fully equipped mountaineers, who along with 2 support staff established Base Camp 3 Km SW of Pindari Glacier Zero Point on the true right bank of the Pindari river on June 13. Meanwhile, the DM of Pithoragarh, initially having decided to abandon the recovery process until post monsoon, ordered an ITBP team to Nanda Devi East (NDE) Base Camp, where they were airlifted on June 14. At over 4500 m, the decision to drop un-acclimatised mountaineers is a questionable one and it's still a mystery how the ITBP leadership were convinced about this.

The weather in the region, particularly in the Pindar Valley, was bad, with fog and snow every day. In the North, the valley leading to Longstaff Col had better weather, and the Polish team attempting a celebratory climb of 80 years of the first Polish ascent of Nanda Devi East, made good progress.



Meanwhile, the ITBP team made slow progress towards the accident spot. The IMF and ITBP teams were to meet up at the accident site on June 23, but white out conditions on the South of the ridge prevented the IMF team from making progress. The ITBP team located 7 bodies and next day the IMF team met them to decide what to do next. They searched the area but could not locate the missing body, which later turned out to be that of Martin Moran. The seven that were located were

roped up. The ITBP never revealed in what configuration they were found and we haven't yet seen the pictures they clicked. The IMF team reported that the bodies had severe injuries sustained from hitting rock and hard ice. We can only guess the sequence of events.

The fall from the ridge would have been about 200 metres, a vertical drop of 160 metres corresponding to a slope of 40 degrees, the perfect angle for an avalanche to occur. It had been snowing for the last few days and 2-3 feet of snow had accumulated. Soft snow on old, hard ice on what appears to be a cornice would have triggered a slab avalanche while the climbers were walking over. Hard ice would have broken away and hit the climbers as they struggled to maintain balance on the sliding mass, coming to rest at the bottom of the slope.



# Choosing Participants for a Commercial Trip

- **Avilash Bisht**

*Chairman - Founder, White Magic Adventures*

My experience of being a mountain guide and running a business which offers trekking & mountaineering trips is condensed into this article. I feel these points could be relevant for other adventure sports as well. This subject – ‘How to choose a participant on a Commercial Trip’ is a really interesting one. We all know that it is important to select the participants carefully but when you are running a business there are many situations when one is in a dilemma whether to accept a participant on a particular trip or not, specially if the person’s suitability is right on the border line.

While on one hand you would like to encourage the participant and make this person push himself/herself, but on the other hand you would like to play safe and not expose the person to challenges which he/she is not prepared for which at times can have a bearing on the safety of the entire group.



## What is Risk?

We all know that when it comes to adventure trips there is always an inherent risk in participating in an activity..and not all risks are obvious and can be identified. Situations are too complex and involve too many variables for us to fully understand the underlying risks just through our experience and knowledge. Apart from standard risks – there are also other risks associated with travelling into remote areas (road accidents / political unrest/ disease etc) Knowledge and experience are an essential foundation but they can never fully prepare us to deal with all unforeseen eventualities.

We can understand Risk (R) as a product of Probability of an incident happening (P) x Extent of damage (E);  $R = P \times E$

## Risk Management

Risk Management is a strategy for handling different and unexpected challenges. As an example, in everyday life the use of seat belts whilst driving has become a standard operational procedure. Although it does not reduce the probability of a traffic accident occurring it significantly reduces the possible extent of damage (degree of injury). Risk Management therefore, is the systematic effort to reduce the two components of Risk:

- Its Probability of occurrence (P)
- Extent of damage (E)

Depending on the activity they conduct the operators should have a set of SOPs to be followed. ATOAI has published a set of SOPs for 29 different adventure sports which operators should definitely refer.

Some standard SOPs for trekking & mountaineering are –

- wear helmets in a rock fall area
- go roped up on a glacier
- have a lead guide & a sweep guide at all times
- have well laid out acclimatisation plan with enough buffer for bad weather and other contingencies



- have a plan B
- have an emergency evacuation plan
- maintain high level of hygiene at camps
- stick to pre-decided turnaround times etc.

### **Acceptable Level of Risk**

- Risk in some ways is subjective too
- Risk is perceived differently by different individuals and everyone has an acceptable level of risk.
- It depends on their
  - Experience
  - Skill Level
  - Attitude & Psychology (how an individual deals with his fears)



### **How to Choose Participants on a Commercial Trip**

- Important to understand the acceptable level of risk of each individual in the group
- Risk is high when the degree of challenge is high on trips and hence it becomes important to assess participants even more carefully on high risk trips.
- Finally it is the Tour Operator who is responsible for the final selection of participating clients

### **What to Assess?**

- Medical Fitness (person signs a declaration or gets a certificate of medical fitness from a doctor or is required to get some tests done)
- Physical fitness – cardio fitness, strength, endurance etc
- Experience gained from Previous Trips (how recent?)
- Skill Level  
(if the activity demands knowledge of certain skills)
- Participant's motivations and expectations
- Mental Strength
- General Attitude & Behavioural Aspect (Group Compatibility)
- Questionnaire – for detailed information about the individual & experience they have gained on previous treks/climbs
- Basis of responses, if individual qualifies it is good to
  - Talk to the person on phone
  - If possible meet the person
  - If meeting is tough – one could use tools like video chat etc
- Doing a short trip with the person
- There is nothing like knowing the participants and having had them on adventure trips before
- Someone from the audience mentioned that getting references from participants could be a good way to cross check their capabilities.
- Assessment is also subjective (meaning there is room for judgement) and hence it is important to have a few people (and not one person) to decide if a participant is a suitable candidate or not.
- People deciding should have the experience of doing similar trips themselves, and should be well versed with company's SOPs
- The person who is leading the trip is the most important participant and hence should have the maximum say in deciding whether to take an individual or not.

### **Conclusion**

- Exposing participants to risks they are not prepared for is highly dangerous and irresponsible.
- Each business should have a well documented criteria for selecting the participants.
- The responsibility of the commercial operator to minimise the risks to as low a level as possible is not only an ethical one, but it also ensures long-term business sustainability.

# High Altitude Medical Rescue Centre Chadar Trek 2019

- **Prateek Gupta**

CEO, Adventure Sports Cover 360

Every year lakhs of tourists visit Leh for tourism and adventures. Chadar trek is fast becoming the most popular trek for adventure lovers all across India. However, many trekkers may develop altitude related illnesses because of lack of proper acclimatization. Also, there is always a risk of accidental injuries to the trekkers which may necessitate rescue and evacuation efforts. The presence of a Doctor with an emergency medical establishment at such a difficult terrain is always beneficial for the trekkers as well as the organizers, since it not only helps to negotiate any unexpected emergency situation but also boosts morale of the trekkers and support staff.

## About the Medical Rescue Centre

Medical Centre Established on: 01st January, 2019

Medical Centre Shut Down On: 20th February 2019

Duration of Operations: 51 Days

Project Type: Pilot Project

Check-Up & Treatment Open To: All

Funding: Wholly funded by private company, Adventure Sports Cover 360 (ASC360)

Parent Company: Mission Outdoors Pvt. Ltd.

Founder of ASC360 & Parent Company: Mr Prateek Gupta & Mrs Nisha Gupta

Location of Medical Centre: Shingra Gongma, Chadar trek, Zaskar

Location of Rescue camps: Tsono Paldar, Tibb Cave and Neyraks.

Registration office in Leh Started on: 01/01/2019

Registration office in Leh closed by: 15/02/2019

Total Leh operation days: 46 days

Total Team Strength in Leh: 12

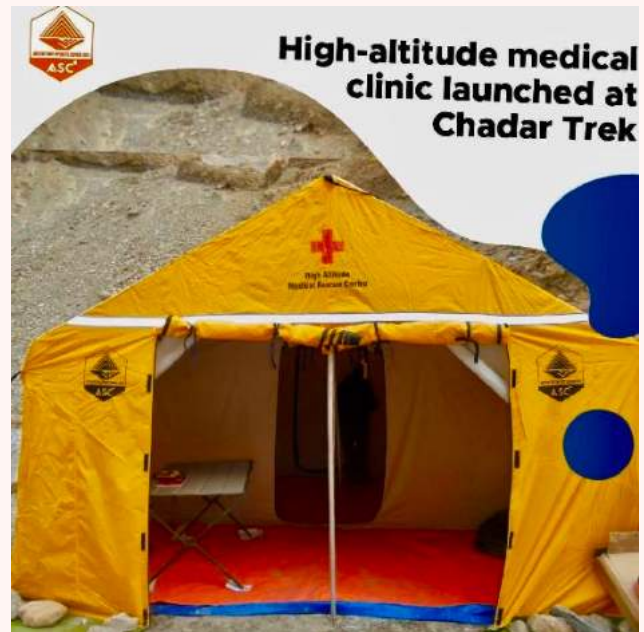
Total team strength on Chadar: 24

Total local employment: 22

Total Porters employed: 47

Total Potential claim value: 55 lakhs

Temporary Helipad Built by ASC360 at: Shingra Base Camp & Tibb Cave



**Free Check-Up & Treatment Given To:** All registered trekkers (Indian & Foreigners) Locals, Guides, Porters, Cooks, Helpers, Trek Leaders.

**Treatments and Equipment HAMRC 360 and all rescue posts:**

The ASC 360 Medical centre is well equipped with medical equipment and medicines to handle all medical emergencies.

## Facilities available for:

1. Acute Mountain Sickness
  - > Dehydration treatment with IV Fluids
  - > Low Oxygen level with Oxygen Therapy
  - > High altitude Cerebral Oedema
  - > High Altitude Pulmonary Oedema
2. Cold related injuries and hypothermia
3. Loose motions and Vomiting
4. Respiratory Diseases
5. Trauma
  - > Management of Fractures, Sprains
  - > Surgical treatment of Wounds and lacerations with Suturing
  - > Pain in Abdomen and Hyper Acidity
6. Treatment of Infections with Intravenous Antibiotics
7. Treatment of Shock Syndrome
8. Asthma Treatment with Nebulizer and Inhaled medicines
9. Ambulance was provided at the Bakula Road head and the driver was stationed at HAMRC.



## STATS HAMRC 360: 2020 CHADAR TREK SEASON

**ASC360 provided the adventure insurance and the consultancy**

**CMO and his team provided pre-medical checkup**

**Army medical Corps provided the on-trek medical care**

- Total number of Registrations 2280 (1699 males and 581 Females) (75:25)  
DROP of 33% of trekker YOY 2019 to 2020

| Age Group   | Number of Trekkers (M/F) |
|-------------|--------------------------|
| 10-30 years | 1160 (886/274) – 51%     |
| 31-40 years | 791 (581/210)– 34%       |
| 41-50 years | 233 (162/71)– 10.8%      |
| 51-60 years | 78 (56/22)– 3.5%         |
| 61-75 years | 16 (12/4)– 0.7%          |

- Total Number of Indian trekkers issued policy– 2156
- Total number of Foreign trekkers: 124 (44 insured and 80 not insured from ASC360)
- 15 trekkers failed in the pre medical check up.
- Only 35% of trekkers completed the trek till Nerak. Majority returned from Tibb.
- Total number of evacuations 52 out which 8 were critical.
- Air Evacuations– 41
- Major cause of Evacuations: Stuck in Nerak post Chadar breakage. Falls causing fracture, sprains and dislocation followed by altitude related illness
- Due to increase in the prices of the air tickets and permits, the age bracket of upto 30 years understandably saw the maximum drop.

**TOTAL DEATH ON CHADAR TREK 2020 – 0 (ZERO)**

**Chadar became a Death Free zone FOR THE FIRST TIME IN Years.**



# Safety Equipment for Treks and Mountaineering Expeditions

- IMF Risk Management Unit

The number of people travelling to the high altitude regions has risen exponentially in the past 10 years. The areas with the highest mountains are also the areas with the poorest facilities, especially for medical care. Climbers and trekkers must therefore understand the effects of altitude on their bodies (hypoxia, cold, and dehydration), the processes of acclimatisation, and prevention and treatment of altitude illness.

Symptoms of AMS must be taken seriously and subjects must go no higher until the symptoms resolve. If the symptoms do not resolve the patient should be brought down on a stretcher. Often a descent of only 500 m or so will greatly improve symptoms. There are also some easily available and comparatively cost effective pharmacological devices and tools which can help.

## Portable Oxygen Cylinder Kit

It is always essential to carry oxygen equipment on expeditions to altitudes near 5,000 feet, which is the Hypoxic zone (low oxygen area). These refillable, light weight, easy to use portable Oxygen Cylinders come highly recommended.

The approximate weight of a 750 Litre cylinder is 6 Kgs, with a height 28 inches. They are lighter than steel, rust free (made from aircraft grade aluminium alloy), very easy to operate and store and low maintenance. The kit delivers 99% pure oxygen, with a regulator to adjust flow rate from 0.5 up to 25 ltr/min.

The kit, costing approximately INR 13,000/- is easily available online and includes a Cylinder with valve (pre-filled with medical oxygen), regulator, mask and a carry Bag.



## Oximeter

The pulse oximeter is a small, clip-like device that attaches to a body part, like toes or an earlobe. It is most commonly put on a finger. Pulse oximeters are easy to use, noninvasive tools for the assessment of individuals at high altitude.

This small pocket friendly device is able to tell the person's oxygen saturation levels along with the heart rate. Though not 100% accurate, the oximeter is useful in predicting acute mountain sickness (AMS).

It is easily available online, costing approximately INR 1000/-.



## Portable Foldable Stretchers



There are two options of light weight, foldable, portable easy to store stretchers, which can be used to shift immobile conscious or unconscious people to safety.

One, in which the frame is made of light weight aluminium alloy and metal, with a body of textron fabric, and with grippers for better handling. A stretcher weighs about 9 kgs and can carry a load of up to 159 kgs. Costing between a range of INR 6,000/- and 8,000/-, each stretcher comes with a carry bag.



Another option is the foldable soft stretcher with belts. The handles are non-slip rubberised grips, allowing for easy movement of patients in narrow areas. Made of durable waterproof PVC material with nylon straps and side buckled belts, these stretchers can carry weight up to 130 kgs. Online cost – INR 3000/-.

## Portable Hyperbaric Bag/Chamber

The consequences of rapid ascent in unacclimatised individuals fall into three broad categories: acute mountain sickness (AMS), high altitude pulmonary edema (HAPE) and high altitude cerebral edema (HACE). Descent remains the definitive treatment for high altitude illness. However, in high altitude settings when immediate evacuation is not feasible, a lightweight, portable hyperbaric chamber is recommended for the treatment of high altitude disorders.



Portable Hyperbaric Bags are portable hyperbaric chambers used to treat AMS. It is a simple cylindrical apparatus that consists of a bag large enough to accommodate a lying patient. The patient is placed inside and the bag is inflated with air, using a foot pump, to increase the concentration of oxygen. The inflatable bag simulates descent to lower altitude. Within minutes, the effective altitude can be decreased by 1000 to as much as 3000 meters depending on the elevation. After two hours in the bag, the person's body chemistry will have "reset" to the lower altitude. This acclimatisation lasts for up to 12 hours outside of the bag which should be enough time to get them down to a lower altitude and allow for further acclimatisation.

Several portable hyperbaric chambers are now available, such as the HAPO bag, PAC (Portable Altitude Chamber) and the GAMOW Bag. They are all similar to the extent that they are air-impermeable bags that completely enclose the patient, and are inflated to a significant pressure above ambient atmospheric.

The PAC HAPO chamber, with pump, hose, manual, repair kit and storage bag, weighs in at about 8 kgs., and can cost upto INR 2,50,000/-.

# Personal Locator Beacons

**- Wing Commander Sudhir Kutty**  
*Chairman - IMF Youth Empowerment Committee*

Personal Locator Beacons (PLBs) are tracking transmitters which aid in the detection and location of boats, aircraft, and people in distress. A PLB is a personal safety device designed to alert search and rescue services and allow them to quickly locate a person in the event of an emergency, on land or sea.

When activated it transmits a coded message on the 406 MHz distress frequency which is monitored by the COSPAS-SARSAT satellite system. The alert is then relayed via an earth station to the nearest Rescue Coordination Centre (RCC). As the satellites are in a polar orbit they offer true global coverage – with a PLB one can summon help from any point on the planet, no matter how remote.



A PLB is registered to a person and so can be carried with you wherever you are – at sea, hiking, mountaineering or in any remote location or situation where you may require rescue. PLBs are subscription-free devices, so have no cost of ownership after the initial purchase.

Most beacons are brightly coloured and waterproof. PLBs vary in size from cigarette-packet to paperback book and weigh 200 g to 1 kg (½ to 2½ lbs). The units have a useful life of 6–10 years, operate across a range of conditions –40 to 40 °C, and transmit for 24 to 48 hours.

Cost of PLBs available in India range from Rs 30,000/- to Rs 45,000/- and are available for purchase on online platforms like Amazon.

## MONITORING OF BEACONS IN INDIA

Indian Mission Control Centre (INMCC) provides Search And Rescue (SAR) support through space segments using LEO, GEO satellites to users those who carry radio beacons, operating on 406 MHz which are approved by COSPAS-SARSAT.

Any distress received on land will be routed to concerned Rescue Coordination Centre (RCC) and will deploy the SAR force to the distress location for rescue operation.

INMCC also facilitates and maintains 406 MHz beacon registration database for Indian users for fastest Search And Rescue (SAR) operations during real distress scenario. During registration, emergency contact number is to be given which can be contacted 24X7 for passing distress messages. All beacons are to be registered online on ISRO website [https://inmcc.istrac.org/Registration\\_406\\_MHz.html](https://inmcc.istrac.org/Registration_406_MHz.html)

New Delhi and Kolkata Rescue Coordination Centres (RCC) are the Search And Rescue (SAR) agencies responsible for the Indian Himalaya region.



# Case Reports & Discussion

*- As developed by the  
IMF Risk Management Unit*

# Case Report 1

## Death of Trekker during Chadar trek (4,270m)

### About Chadar trek

The Chadar trek is a frozen river trail trek in the Zaskar valley of Ladakh Himalaya, undertaken in the winter months when the Zaskar river is frozen. Formerly, the Chadar route used to be taken by the natives of Zaskar Valley to source their basic supplies from main towns during peak winters. Today it is one of the most challenging, yet wildly popular treks in the Indian Himalaya. The trek begins from Chilling, in the Leh district, moving higher till Nerak, the return point of the trek.



The conditions during the trek are extremely inhospitable with the temperature hovering around  $-10$  degree Celsius during the day, and between  $-20$  and  $-25$  degrees Celsius during the night. The route spans 105 kms of frozen terrain, with chadar or ice sheets, frozen ice slides, waterfalls and caves on the way. Ice forms and breaks on the river after every few hours. And, in some places, the chadars or ice sheets do not even form. Trekkers need to be exceptionally fit, with 15–16 kilometres to be covered on a daily basis.

### Case Study 1 : Dhaval Shah (35), Techie Chadar Trek (4,270m)

| KEY DETAILS |   |
|-------------|---|
| DATE        | January 2019  |
| LOCATION    | Chadar trek, Ladakh   |
| ACTIVITY    | Trekking  |
| ISSUE       | Shah complained of pain in his leg and did not want to go further. He suffered cardiac arrest near Tibb cave and was given Medical aid there, but the end came swiftly.   |
| RESCUE      | Body was airlifted by IAF to Leh and then taken to Mumbai.  |
| ANALYSIS    | He was fond of adventure sports and had undertaken small treks. Had no prior health issues or heart ailments. But this was his first trek in Ladakh. This was also the first time he had experienced this altitude. |





## Case Report 2

### Death of Trekker during Churdhar trek (3,647m)

#### About Churdhar

Churdhar is located in Sirmaur district of Himachal Pradesh, and Churdhar peak at 3,647m is the highest peak in the outer Himalaya. It is surrounded by dense forest sanctuary, home to a vast variety of flora and fauna and ideal for trekking.

The trek is a steep hike inside a dense Deodar forest, terraced fields and gujjar pasture lands, from Nauradhar to Jam Nallah, then on to Churdhar and back to Nauradhar. The last part is very steep, almost vertical in places.

Difficulty level is moderate and can be completed in two days.



### Case Study 2 : Dr. Saugaat Bhatnagar, Doctor Churdhar (3,647m)

| KEY DETAILS |   |
|-------------|---|
| DATE        | November 2019   |
| LOCATION    | Churdhar, Sirmaur, H.P.   |
| ACTIVITY    | Trekking  |
| ISSUE       | Dr. Bhatnagar complained of breathlessness, due to altitude and lack of oxygen. He decided to stop and stay at one of the dhabas. The same night his condition deteriorated and he lost consciousness. His friends called 100 for help. |
| RESCUE      | Taken to a hospital in Nauradhar by a team of police personnel, revenue dept. employees, doctors and local villagers. Declared dead on arrival.   |
| ANALYSIS    | General lack of awareness of mountain regions and lack of physical fitness.   |





## Case Report 3

### Death of Trekker during Kheerganga trek (2,960m)

#### About Kheerganga – Barshaini trek

The trek from Barshaini (2,207m) to Kheerganga (3,978m) and back to Barshaini, is considered a fairly easy trek, even for beginners.

Located in the Parvati valley, Barshaini is last road-head in the valley, beyond Kasol. The area is popular for trekking, camping, nature walking, leisurely walks in the forest, and mountain climbing, with spectacular views for photography.

There are three routes from Barshaini to Kheerganga, with each being a short trek of around 10 kms. The trek can be taken as a 2-day trek and it is possible to complete it within the same day.

June is considered a good time to trek in this area.



### Case Study 3: Anisha Kapoor, 23 yrs Kheerganga Trek (2,960m)

| KEY DETAILS |  |
|-------------|--|
| DATE        | June 2019  |
| LOCATION    | Kheerganga to Barshaini, Kullu district, H.P.  |
| ACTIVITY    | Trekking   |
| ISSUE       | While trekking to Barshaini, the weather turned bad and there was a heavy thunderstorm with a sudden burst of hailstones. She was hit on the head by the falling rocks and loose boulders. |
| RESCUE      | Her fellow trekkers were also injured during the rock fall. They were brought to the Community Health Centre at Jari, where she was declared dead.   |
| ANALYSIS    | When the weather turns bad, even a simple trek can become very risky.. Protective headgear was not worn.   |



## Case Report 4

### Death of Trekker during Barua Pass trek (4,572m)

#### About Barua Pass/Buran Ghati trek

Buran Ghati (also known as Barua Pass) lies in the Buran valley in Himachal Pradesh nestled at the higher region where the Pabbar river originates.

The trek is considered as one of the most beautiful in the Himalaya with dense forests of oak and pine and lush green meadows. It follows a direct route from Pabbar valley (Shimla district) into Sangla valley (Kinnaur District) of Himachal Pradesh and involves crossing of the Buran Ghati/Barua Pass. The trek starts at Duide and goes through Janglik, Dayara, Litham, Chandranahan lake, Dhunda, Buran Ghati and Barua village. Janglik, near Rohru, is the road head that can be approached from Shimla via Theog and Jubbal.

It is a medium difficulty trek which can be undertaken between May-June and Sept-Oct.



#### Case Study 4: Debshish Mahato Buran Ghati / Barua Pass (4,572m)

| KEY DETAILS |   |
|-------------|---|
| DATE        | May 2019  |
| LOCATION    | From Rohru to Munirang, after crossing Barua Pass.  |
| ACTIVITY    | Trekking  |
| ISSUE       | They had just crossed Barua Pass when there was rain and snow, with extreme cold and low visibility. Debashish and another trekker complained of breathing problems with disorientation. Both were given supplemental oxygen. Debashish collapsed and died before the rescue team could reach them. |
| RESCUE      | Ground rescue team of policemen from Kinnaur and QRT of Himachal Home guards was dispatched. The other critically ill trekker was evacuated by IAF and taken to Rampur hospital.  |
| ANALYSIS    | Acclimatisation issues, AMS   |





## Case Report 5

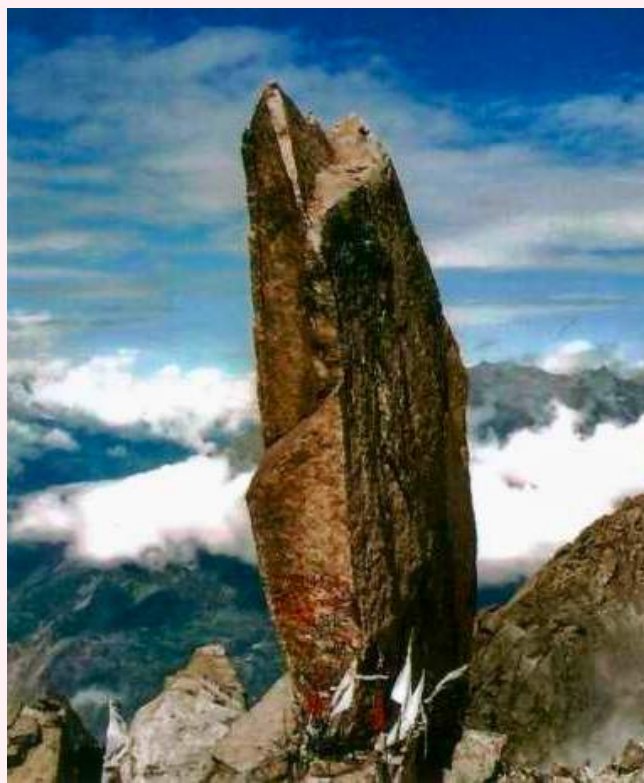
### Death of 2 trekkers during Kinner Kailash trek (6,500m)

#### About Kinner Kailash Parikrama

Kinnaur holds a great religious significance for devotees of Lord Shiva as Mt. Kinner Kailash in the region boasts of housing a 79 ft. tall Shivlinga that changes its colour which each passing moment.

Mostly attempted by pilgrims, the Kinner Kailash Parikrama trek goes along beautiful meadows, apple orchards, hanging glaciers and towering peaks, through treacherous trails, massive boulders, ascending narrow paths with loose gravel and stones and crossing large water streams. The trek begins from Thangi village near Chail, through scenic Charang Village, high mountain pass of Charang La, and ending at Manali via Chitkul, Tabo and Losar.

Best time to undertake this trek is between May and September.



### Case Study 5 : Varun Singh (28) & Piyush Verma (26) Kinner Kailash Parikrama Trek (6,500m)

| K E Y D E T A I L S |   |
|---------------------|---|
| DATE                | June 2019   |
| LOCATION            | From Pohari village to Kinner Kailash   |
| ACTIVITY            | Trekking  |
| ISSUE               | The 5 trekkers reached Parvati Kund (4,541m) en route Kinner Kailash, when there was a snowfall with extreme cold conditions. They were not carrying enough clothes & 2 of them fell ill. The others called authorities and requested rescue from the location. |
| RESCUE              | Team of police and QRT home guards reached the them, but 2 were already dead. 3 were evacuated to Rekonig Peo.  |
| ANALYSIS            | Death was due to AMS and Hypothermia as the weather changed drastically and they were not carrying adequate clothing. The trekkers had gone without permit.   |



**ACTION TAKEN POST ACCIDENT :** Local administration banned the trek for the season, putting up police barriers at Tanglang. Carrying of a GPS device by all trekking groups was made mandatory.



# Appeal for Action

We at the IMF are in the process of developing a repository of data on the accidents and causalities in mountain climbing and other related aero and water sports, including skiing.

We request you to share / report such incidents to ***Dr. Hari Mohan***. You may call him or WhatsApp at ***+91-9810310203***. Or email him at ***nharimohan@gmail.com***.

He would compile all the relevant information for further analysis. This would help in developing advisory guidelines for concerned persons and departments.

***Thank you!***

## INDIA'S SECOND RISK MANAGEMENT MEET

INDIAN MOUNTAINEERING FOUNDATION CAMPUS, NEW DELHI  
2<sup>nd</sup> MARCH 2020







# Apex

Indian Mountaineering Foundation

Risk Management Unit

Newsletter \* 2nd Special Edition on Accidents & Safety \* May 2020

*On the trail to Kanasar Lake in Western Uttarakhand. Image courtesy: Maninder Kohli*

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