MAHA ADVENTURE COUNCIL

Safety & Excellence

PART - 2A

SAFETY GUIDELINES FOR LAND-BASED ADVENTURE ACTIVITIES

Safety Guidelines for Land-based Adventure Activities

INDEX

1. Introduction

Organizations need to adopt culture of safety and implement Safety Management System described in Part I of this document. This can be brought about by an Organisation exercising control over its functioning.

Organizations facilitate such control over activities and achieve consistency in their safety performance by referring to Safety Guidelines & evolving its own Standard Operation Procedures (SOPs). SOPs describe an activity as well as instruct Leaders and Participants as to what exactly is expected of them while undertaking Adventure Activities.

Maha Adventure Council (MAC) plans to gradually develop Safety Guidelines for a majority of Adventure Activities. Safety Guidelines are recommended best practices for actual field operations and help an Organisation evolve its own SOPs. This section of the Document states Safety Guidelines for Land-based Adventure Activities.

MAC trusts that Organizations find in this Document Safety Guidelines which are relevant to their functioning and which will help them formulate customizes set of SOPs.

A few key considerations for customization or development of Standard Operating Procedures by Organizations

- Nature and complexity of activities

Higher the severity and complexity, the more elaborate Standard Operation Procedures SOPs

- Capability of their Leaders and other staff members

Less the capability the more elaborate SOPs

- Location and actual site of Activity

2. Definitions

Important definitions specific to Land-based Adventure activities are listed below:

1. **Adventure Camps for Kids and or Adults**: including day camp, family camp, resident camp, trekking camp, specialty-adventure camp, high-adventure camp, ropes/challenge course, rock climbing, rappelling and orienteering etc. program introducing Participants to skills and techniques in the outdoors.
2. **Assistant Leader**: is a member of the Leadership Team who assists the Chief Leader in conducting Adventure Activities.
3. **Bouldering**: an activity requiring the same techniques found in rock climbing; these techniques are usually applied to boulders or rock surfaces that are no higher than 4 metres (reference based on international bouldering competition standards).
4. **Camping out** involves staying away from permanent structures either in tents or out in the open.
5. **Chief Leader**: The person leading the Leadership Team that is conducting Adventure Activities.
6. **Coastal Trekking:** walking along coasts.
7. **Competent person** is someone who has the necessary and sufficient training, knowledge, experience, expertise and/or other qualities to complete their allotted task safely and effectively.
8. **Desert Trekking:** walking in deserts.
9. **Direct Supervision** is supervision where an Activity Leader manages Participants during all or part of the Adventure Activity with the ability to intervene in person immediately.
10. **Exploratory Treks / Expeditions**: shall mean walking on unexplored mountain and wilderness trails for periods of varying duration.
11. **High Altitude Trek:** walking on mountain trails at higher elevations in regions like the Himalaya. Usually high altitude is at or above 2,500 m. / 8,000 ft. Note: the words ‘hike’ and ‘trek’ will be used interchangeably in this Document.

12. **High Altitude Adventure Camps for adults & kids**: any kind of outdoors based program conducted in regions like the Himalaya. Usually high altitude is at or above 2,500 m. / 8,000 ft.
13. **Hiking/Backpacking (multi-day treks)**: walking on mountain and wilderness trails over an extended period, i.e. two (2) or more days; the words 'hike' and 'trek' will be used interchangeably in this Document.
14. **Hiking/Trekking (short duration)**: walking on different terrain for short period of time, i.e. one (1) hour to one (1) day; the words 'hike' and 'trek' will be used interchangeably in this Document.
15. **Indirect Supervision** is supervision where an Activity Leader manages Participants during all or part of the Adventure Activity without the ability to intervene in person immediately.
16. **Informed choice** is when Participants are given clear information about the Adventure Activities and potential risks before they book for their participation.
17. **Lead climbing:** involves a climber ascending a rock face, safeguarded by the on-going placement of protection gear he/she places at strategic spots while belayed from below by their partner.
18. **Mountaineering Expeditions (Peak Climbing Expedition):** A multi-day activity for climbing peaks in regions like the Himalaya.
19. **Participant** is a person taking part in an Adventure Activity but is not a member of the Leadership Team.
20. **Rescuer:** is a member of the Leadership Team who has the additional task of providing assistance to a Participant in trouble and/or bringing such a Participant to a safe situation.
21. **Rock climbing**: process of ascending a rock face requiring the use of naturally formed handholds and footholds and the use of specialized equipment as a backup safety system.
22. **Rappelling** (sometimes referred to as Abseiling): an activity in which a person descends a rope in a controlled manner with the use of a friction device or descender. Rappelling may be used to descend a vertical surface such as cliff face as part of a rock-climbing program or it may be practiced as a separate activity.
23. **Rappelling (Abseiling) Camps and or Events including Waterfall Rappelling Camps and or Events**: a) focused activity of rappelling on a

rock surface a through a waterfall, or b) may introduce Participants to the basic skills and techniques used in this activity.

24. **Rock Climbing Courses:** usually a multi-day course that teaches techniques and skills of rock climbing and allied activity like bouldering, climbing on artificial wall, traditional climbing, rappelling and risk management.
25. **Rock Climbing Expeditions**: involves rock climbing in the outdoors over a period of one or more days.
26. **Service Provider**: external agent which has been contracted to conduct an Adventure Activity or Adventure Program by an Organisation conducting Adventure Programs.
27. **Scrambling**: walks/hikes involving hilly terrain, easy for the most part but with exposed climbs in some places that don't necessarily need ropes. Another way to describe it is a gradual introduction to outdoor rock climbing, and usually less intimidating than actual climbing.
28. **Spotting** involves the partner of a Participant undertaking a low-height activity (e.g., bouldering or low ropes element) standing in such a way as to be able to break the Participant's fall should s/he slip off the element. Participants who are spotting must be taught the spotting procedure for the specific Activity and be supervised throughout. Spotting also occurs on high elements, where the partner of the Participant provides a visual check of progress and may also belay him/her.
29. **Valley/River Crossing Expeditions / Camps:** involve crossing a void using the method of Tyrolean Traverse, which involves a person crossing across on a rope tied across the void with the help of mountaineering gear.

3. Scope of Safety Guidelines for Land-Based Adventure Activities

Annexure 2A covers Safety Guidelines for

a) Most commonly encountered Adventure Activities like rappelling, hiking (short and long duration) children camps, rock climbing, camping, etc.
b) Practices related to environmental care and minimising adverse impact of one's Adventure Programs; the example of the well established outdoor ethics 'Leave No Trace Seven Principles' has been included.

Annexure 2B includes Templates and Formats which Organizations can refer to and adopt for their work with suitable modification if necessary.

The first guideline in Part IIA is the Generic Guideline which will facilitate an Organisation to plan and execute any Adventure Activity in safe, structured and organized manner.

4. General Guideline for Adventure Activity

General Guideline for Adventure Activity

(This is a generic guideline to be used for conducting an Adventure Activity from its inception to execution. Organisation should use this to customize its own document based on its operations)

Introduction

- This guideline is a broad overview of the most crucial aspects of any Adventure Activity right from its inception, concept finalization to actual execution and conclusion. Organizations are encouraged to use this guideline to plan and execute any Adventure Activity.

Before adventure program

Planning

- Organisation should decide the goals and objectives of Adventure Activity.
- Organisation to detail out the plan which should include points mentioned below at a bare minimum:
  - Complete details about Adventure Activity
  - Permissions, if any, from relevant government authorities
  - Transportation arrangements, as required
  - Leadership requirement (Leaders' competency & qualification requirement, Leader to Participant ratio as defined in program specific guidelines generated by the Organisation)
  - Decision on Service Provider, if required
  - Equipment required: technical equipment, first aid kit and emergency kit (including communication devices)
- Carry out Risk Analysis of Adventure Activity as defined in Part-I of this document
- Communication to potential Participants (giving Activity details, risks involved, etc. Refer Communication section in Part-I of this document)
- Completion of registration process of Participants and compliance to Strongly recommended requirement like risk undertaking, medical certification, etc. as decided by Organisation
- Service Provider- check on the following aspects of a Service Provider before contracting them
  - Credentials (accreditations if any, previous experience, references from clients, etc.)
  - Qualification of staff

- Contract with Service Provider should include
  - Role clarity in terms responsibilities, all arrangements
  - Responsibility in managing consequences like risk to life/limb and damage to equipment
  - Payment terms and conditions

Note on Leader to Participant ratio

Leader to Participant ratio can affect safety in Adventure Activities. The factors that affect Leader to Participant ratios are, but not limited to:

- Nature of Adventure Activity
- Location of Adventure Program
- The natural environment of the location
- Participant profile (age, fitness levels, etc.)

The below Table can be used by Organizations as a reference to arrive at its own Leader to Participant ratio for each Adventure Program it conducts.

	Activity	Leader:Participant Ratio	Remarks
1	Walks (e.g., around an established campsite)	1:15	Preferable ratio is 1:10, especially for educational objectives
2	Day hike	1:10	Organisation should consider one extra person who will make handling emergencies easier
3	Camping out (in tents)	1:8	For Activities like bouldering sessions, a ratio of 1:5 should be considered
4	Multi-day hike	1:8	This can be even 1:6 if terrain difficulty is expected

(Reference: https://www.edb.gov.hk/attachment/en/sch-admin/admin/about-activities/sch-activities-guidelines/Outdoor_EN.pdf)

Interaction between Organization's Management and Activity Leaders prior to Adventure Program

Management of Organisation should brief the Leadership Team, along with explanations/discussions as necessary. This briefing includes:

- Program objectives and Adventure Activity specific guidelines.
- Outcome of the Risk Analysis carried out by Organisation.
- Handing over Chief Leader's Folder, Equipment, Leader's kit etc.
- Participant information including medical information and Criteria of exclusion of a Participant.
- Emergency Response Plan and expectations from Activity Leaders in emergencies.

Emergency preparedness

- Communication to external agencies (e.g., hospitals, relevant government authorities, etc.) about specific Adventure Program
- Resources (material) to handle emergencies kept in readiness in Organisation

During Adventure Program

- Introductions: Participants and Leaders
- Participants' briefing
- Conduction of the Adventure Program as per Safety Guidelines
- Wind up Adventure Program

After Adventure Program

- Debriefing of Leaders
- Storage of equipment and repair work, if needed
- Review of Reports submitted by the Chief Leader (Program Reports, expense account and other documents as per Organization's practices)
- Risk Management Team or Organization's Management to review debrief, feedback and critical incident reports (if any) for corrective action for similar programs in future.

- end of safety guideline -

5. Behavioural Aspects for Staff and Participants

Guideline for Behavioural aspects for Staff and Participants

Staff Behaviour

Members of the Leadership Team (Leaders and members/employees of Organizations) are expected to conduct themselves responsibly throughout their functioning on an Adventure Program. They will understand the code of ethics and values held by the Organisation and follow relevant practices accordingly. Since Adventure Activities inherently involve responsible leading and supervision to a much greater extent than on a conventional program because of the risks and likely consequences, it is imperative that staff members have the highest standards of expected Behaviour.

Alcohol and illegal drugs

Alcohol should not be permitted during the Adventure Activity operations. Possession and use of illegal drugs should be prohibited for all members of the Leadership Team and Participants. Violation of these policies should result in immediate termination of the member from the Leadership Team and immediate expulsion of Participant from the activity without refund.

Tobacco

Using tobacco in any form should not be permitted during the any Adventure Activity operations. Any form of flame and heat is potentially damaging to equipment used extensively in Adventure Activities. Smoking and chewing tobacco by members of the Leadership Team should be prohibited on Adventure Programs that involve extended time with Participants (e.g., day-hikes and river runs). Participants may be appropriately guided for these things so as to ensure safety of people and the environment (smoking to be done at certain times only, away from dry vegetation, with the consent of other Participants in the group, litter to be packed away to be disposed off in the property of the resort).

Personal Relations

Members of the Leadership Team are not to engage in personal or intimate relationship with Participants throughout an Adventure Program. Any subsequent relationship of this kind with past Participants, if it develops, needs to be outside the respective Organisation. Members of the Leadership

Team are also not expected to display excessive affection or demonstrate any existing intimate relationship between members while conducting Adventure Activities.

Physical Contact with Participants

Physical contact with others is inevitable in conducting Adventure Activities, and Participants need to be made aware of it, e.g., while putting a harness on to a Participant. Any such physical contact should be appropriate and should be seen to be relevant to the specific Activity. Wherever possible, have Participants assist themselves in putting on personal gear (like harness, chest loop and personal flotation device), but the Leader will have to monitor and ensure that all personal gear has been put on appropriately. Leaders are responsible for safety of Participants.

Participant Behaviour

While Leaders of any Adventure Activity would be familiar with various dimensions of that Activity, it is to be understood that Participants are 'Novices' and may be out of their comfort zone while participating in such an activity. Participants need to be instructed and even educated when necessary before and while they are participating so as to enable them to follow operational and safety instructions. Questions seeking clarity need to be encouraged. Clearly define Participants' role during the pre-activity brief. Any deviation from expected Behaviour should be politely but firmly corrected by members of the Leadership Team. Leaders should be alert for signs and symptoms of extreme fear in a Participant and use first aid guidelines in helping such a Participant.

- ***end of safety guideline -***

6. Guideline for Participants, Parents and Organizations (High Altitude Treks)

Guideline for Participants, Parents of Participants and Organizations arranging High Altitude Trekking Program

(Adapted from guidelines issued by Indian Mountaineering Foundation & Himalayan Club in 1999)

Potential Participants / parents of Participants consider the following points and seek relevant information from Organizations before deciding to join an Adventure Program.

These aspects are as follows:

1. **Schedule of the Adventure Program including daily content**
   - Check whether the program is realistic with respect to duration and day-to-day schedule. The number of hours per day that will be occupied by activity needs to be balanced with sufficient time for a Participant to relax and recover in order to cope with the schedule. This is especially crucial in Adventure Programs involving walking at high altitude where appropriate pacing leads to acclimatization.
   - Enquire which Adventure Activities will be included or are an inherent part of the schedule. E.g., river crossing can be an activity, or there could be actual crossing of rivers on a hike, and rock climbing can be just an activity or there could be a patch of rock to be negotiated on a hike, etc.

2. **Information related to altitude gain**
   - Altitude of locations where the trek is supposed to start and end
   - Altitude gain per day
   - Process of acclimatization: check

   Note: beyond 2500 m. (8000 ft.) it is advisable to gain altitude gradually. Altitude gain of a maximum of 2000 ft. per day is recommended. But if a person is going directly to a high altitude location (like Gangotri and Leh) then at least two days of acclimatization is advised before starting any Adventure Activity. Check if the schedule planned for acclimatization by Organisation is appropriate and be assured that the Organisation will actually follow their acclimatization schedule.

3. **Major difficulties expected on the program as regards terrain, weather conditions, facilities offered by Organisation**
   - Organizations are bound to tell enquirers about the inherent risks in high altitude hiking programs & consequences if certain processes are not adhered to.
   - Note: Participants too have a responsibility towards their own safety and others' safety. Get clarification on expectations from Participants in the context of safety. Such information should help you make an Informed Choice about whether to participate (or send your child) in a program or not.

4. **Level of fitness expected from participating children**

There is a certain level of physical fitness required for trekking at high altitude. Trekking and camping at low altitudes can be done with lesser fitness levels and can be very enjoyable for children. If a child is not physically fit then introduction to outdoors could be through simple treks that include plain walking and camping – the enjoyment of a child would be probably much more. Again, be sure to make an Informed Choice. If necessary, take professional advice to help with this decision.

5. **Medical facilities provided by Organisation. (Whether a doctor or a first aider will accompany the program and emergency handling plans to deal with medical problems).**
   - At least one of the Leadership team members should be holding a current (that is valid and not outdated) certification in first aid (ideally Wilderness First Aid) and should be experienced in problems related to high altitude.
   - It is not enough for a trekking group to merely have a first aid kit; the ability to handle an emergency situation and using first aid skills is also essential.
   - The Organisation should have an emergency Response Plan specifically for the Adventure Program in question, and all Leaders should be familiar with it.

6. **Communication modalities to be used during activities conducted on a trekking program as well as in case of emergencies.**
   - Organisation should have a concrete plan for communicating with the outside world in case of an emergency (Government agencies, rescue groups, hospitals, relatives of Participants, etc.).
   - Relatives and parents of Participants should have details of the schedule, contact numbers of Leaders of the trekking group, contact numbers of the Organization's representative who has been appointed for coordinating things during emergencies.

7. **What are the facilities provided for accommodation throughout the program?**
- Nature of facilities provided by Organisation:
- Safety of the camp locations: are there norms for riverside & mountain camps, locations near villages, etc.?
   - Management of hygiene at campsites – personal hygiene of all group members, kitchen hygiene, disposal of kitchen and human waste

8. **Provision for drinking water during for the program**.
   - Organisation should have appropriate modes of purifying water on the trek as well as in-town stays
   - Note: adequate liquid intake is an extremely important factor in preventing illness and fatigue, and contributes to acclimatization.

9. **Equipment for conducting the program safely**
   - Equipment required for a trek will vary according to the many factors like terrain and expected hazards, period of year, profile of trekkers, and group size.
   - If sleeping bags are not warm enough for the temperatures encountered then trekkers who ‘sleep cold’ will tend to get weaker due to low quality sleep
   - Leaders on any trek should carry a ‘hiking rope’ and some basic gear to help Participants across tricky sections or unexpected landslide patches across paths.
   - Type of tents will affect the comfort and safety of Participants, especially in inclement weather

10. Clarity on things to be brought by the Participants

- Organisation must give exact list of things to be brought by the Participants
- Participants and Parents should get to understand significance of each item in order to bring appropriate items and avoid excess and unnecessary baggage.

11. Group size, Participant profile, Leader to Participant ratio

- Groups with large diversities (across age groups, range of objectives) make it difficult for Leaders to manage and ensure enjoyment for all
- Inappropriate Leader to Participant ratio is a safety issue: Organizations should be able to justify their ratios for a specific Adventure Program with the help of factors that have been considered (refer section on Leader to Participant ratios)

Other information about Organizers to be obtained

Note: it is extremely important for Participants / Parents of Participants to attend the meeting organized by an Organisation where information about the Adventure Program is given, where expectations from Participants are made clear and questions can be asked of the Organisation.

1. Whether the Organisation is registered (either as nonprofit like trust or a society or a company)

2. Composition of management of the Organisation

A well-established Organisation, whether commercial or non-profit, will always take care to ensure full safety of the Participants. It is not advisable to go with temporary operators. Ensure that the organizers are responsible persons with the necessary qualifications, expertise and experience to conduct Adventure Programs .

3. **An appropriate declaration that the Leaders of the Organisation are adequately equipped, qualified, trained & experienced to conduct the Adventure Program and that they will take adequate safety measures during the program.**

Participants must be aware and realize that any Adventure Activity involves an inherent risk. Even in the best organized program, an accident can take place beyond the reasonable control of Organisation and its Leaders.

It is imperative that Participants understand expectations from them, go prepared on an Adventure Program, and follow all safety instructions.

4. Profiles of the Leadership Team in charge of the group, information on support team (guides, porters and cooks)

Refer to sections on qualifications of Leaders in this Document.

5. Consider asking for references of previous Participants who have been on similar program of the Organisation

Following points maybe considered for seeking feedback:

a. Food, water, accommodation facilities provided
b. Capability and behaviour of Leaders in charge of the group
c. Safety measures followed by the Organisation
d. Quality of communication at various stages, especially on aspects of safety, and whether safety instructions were clear to all including children.
e. Whether the experience was enjoyable (or, e.g., did it turn out to be an exercise in endurance)

6. Participants / Parents are encouraged to arrange for insurance if the Organisation has not taken care of it.

-end of safety guideline -

7. Guideline for Leave Minimum Impact

&

Leave No Trace Seven Principles

Leave Minimum Impact

'Leave Minimum Impact' practices help Adventure Programs to minimise adverse impacts of their functioning on their environment. In the context of India, some of the constituents of environment includes but are not limited to: natural environment, socio-cultural environment and archaeological environment. This document states a) the example of the well established environment friendly outdoor ethics titled 'Leave No Trace Seven Principles' and b) some recommendations specific to local conditions in India.

LEAVE NO TRACE SEVEN PRINCIPLES (LNT) - Outdoor Ethics

Please note that appropriate training will immensely help practice these principles. These principles are to be adapted to the socio-ecological concerns of the region one visits and practiced assiduously under guidance to start making a person 'LNT-friendly'

Plan ahead and prepare

- Know the regulations and special concerns for the area you'll visit.
- Travel in small groups. Split larger parties into groups of 4 - 6.
- Use a map and compass to eliminate the need for tree scars, rock cairns or ribbons.
- Repackage food into reusable containers.
- Prepare for all types of weather.
- Carefully evaluate the risk associated with your outing.

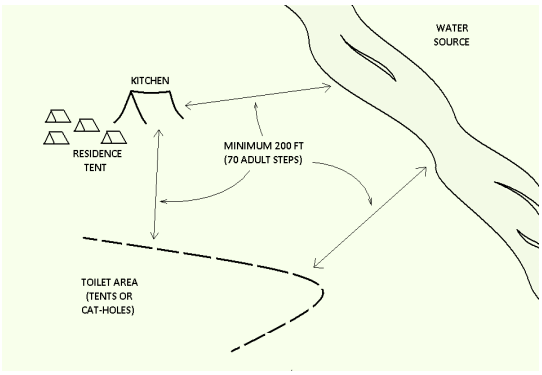
Travel and camp on durable surfaces

On the trail

- Stay on designated trails. Walk in single file in the middle of the path.
- Do not cut switchbacks.
- When traveling cross-country, choose the most durable surface available: rock, gravel, dry grasses, or snow.

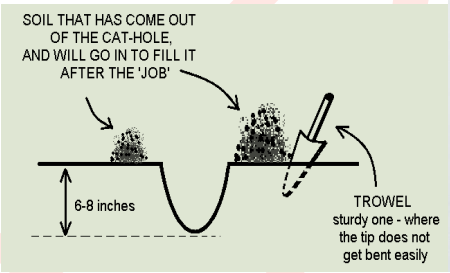
At camp

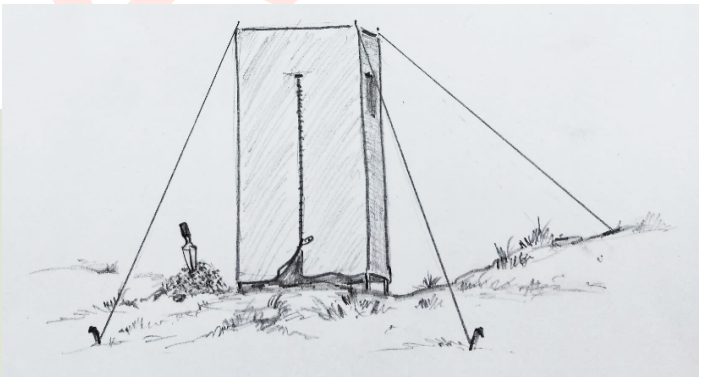
- Good campsites are found, not made. Altering a site is unnecessary.
- Choose established legal campsites that won't be harmed by your stay.
- Keep pollutants out of water sources by camping at least 200 feet (70 adult steps) from lakes and streams.



Dispose off waste properly

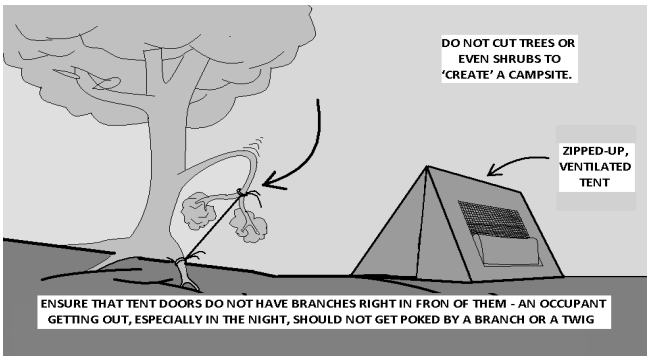
- Pack it in, pack it out. Inspect your campsites and rest areas for trash or spilled foods. Pack out all trash - yours and others'.
- Deposits solid human waste in cat holes dug 6 to 8 inches deep at least 200 feet from water, camp, and trails. Cover and disguise the cat hole when finished. Pack out toilet paper.
- To wash yourself or your dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.





Leave what you find

- Preserve the heritage. Do not damage historical structures or remove artefacts.
- Leave rocks, plants, and other natural objects where found.
- Do not build structures or furniture or dig trenches.



Minimize campfire impacts

- Campfire can cause lasting impacts on the backcountry. Always carry a lightweight stove for cooking. Enjoy a candle lantern for light.
- Where fires are permitted, use established fire rings or mound fires.
- Keep fires small. Use dead, downed wood that can be broken by hand.
- Burn all woods and coals to ash. Put out campfires completely, and then scatter cool ashes.

Respect wildlife

- Observe wildlife from a distance. Do not follow or approach them.
- Never feed wild animals. Feeding wildlife damages their health, alters natural behaviours, and exposes them to predators and other dangers
- Protect wildlife and your food by storing rations and trash securely.
- Keep pets under control at all times.
- Leave young animals alone.
- Avoid nesting, feeding or mating animals.

Be considerate of other visitors

- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail.
- Step to the downhill side of trail when encountering pack animals.
- Take breaks on durable surfaces away from the trail.
- Let nature's sounds prevail. Keep noise levels to a minimum.

<u>Notes for local conditions specific to India and Maharashtra:</u>

1. Do not disturb or take relics from archaeological ruins or ancient shrines and caves
2. Be considerate of local populations

- Avoid adversely impacting local sources of water (e.g., water tanks) and food (e.g., fields)
- Be aware of and minimize adverse cultural impact on local population
- Work towards win-win associations where Adventure Programs generate respectful earning opportunities for locals
- Avoid occasional help given to villagers on an ad hoc basis; instead explore ways of striking meaningful relationships with local associations like schools and village panchayats for extending relevant help

3. For camps set up for groups, take care to not impact streams and rivers, especially with kitchen refuse and human waste – meticulously follow practices based on Leave No Trace Seven Principles
4. On Himalayan trails, make way for pack animals by standing away from the trail, moving to the uphill side of the trail
5. As far as possible avoid having campfires – the deadwood in the outdoors is used by local populations, in addition to being a resource for flora and fauna. As far as possible, use stoves to save on using wood for cooking camp-meals.

- ***end of safety guideline -***

8. Safety Guideline for ATVs (All Terrain Vehicles)

Safety Guideline for ATVs

Introduction

There are many adventure parks, hotels and resorts that have All Terrain Vehicles (ATVs), also known as quad bikes. Incorrect use of ATVs can cause serious injuries.

The following guidelines have been adapted from guidelines created by ATOAI for ATVs which are based on guidelines available on the websites of the European ATV Safety Institute and All-Terrain Vehicle Safety Institute (USA).

Information required for Leaders

Activity objectives
Names and qualification of Leadership Team
Information of last check on ATV tracks
Back-up plans which can be used in emergencies

Qualifications of Leaders

- Formal training

Qualification/accreditation from an international training institute may be accepted. Alternatively a Leader should be given training by the Organisation which focuses on the following aspects of ATV operations:

- Knowledge about ATV and basic accessory equipment (like tool kit, basic repairs, basic maintenance)
- PPE required for Leaders and Participants, and other equipment
- Pre-ride and post-ride inspection procedures and documentation
- Rules and range of signals
- ATV operation: how to start-stop run the ATV
- ATV manoeuvres: riding circles & figure-eights, sharp turns, quick turns, quick stops and swerves, quick stop during turns, u-turns, traversing hilly terrain, circuit and trail rides
- Participant preparation that includes briefing, training and warm-up exercises
- Familiarity with ATV operating manual – this manual is to be used in assessing the competence of Leaders

- Understanding of braking system of the ATV: most ATVs have separate front and rear brake controls, while some may have linked brakes operated by a single control.

▪ Certifications (check if current or lapsed)

Chief Leader to have current certification in First Aid & CPR from reputed organisation

Preferable: Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation
All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

Experience

- Leading groups in adventure activities
- Personal experience of operating ATVs in hilly terrain and circuits/ tracks
- Handling emergencies, both medical and non-medical

Skills

- Competence for the terrain conditions that a Leader is supposed to handle ATVs
- Ability to take some hard / harsh decisions in case of any emergency
- Ability to supervise members of Leadership Team
- Conservative approach in risk management while handling emergencies
- Group management skills
- Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
- Proficiency in best practices for environmental safety

<u>Documents in Chief Leader's Folder</u> (recommended):

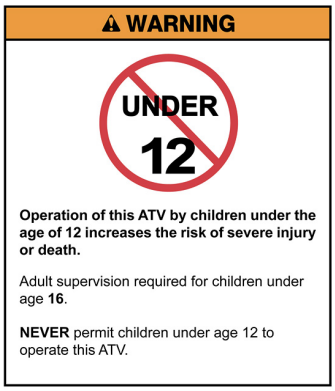
1. Legal compliance documents (registration documents, permits for campsites, etc.)
2. Personal information of Participants and Leaders
3. Undertaking from Participants (indemnity bond)
4. Risk assessment and mitigation done for location/area where ATVs are to be operated
5. Pre-inspection check reports of all ATVs and equipment to be used during the ATV-runs
6. Copies of

   Feedback forms
   Emergency Response Plan
   Emergency Response Procedure
   Critical Incident Report form
   Medicine-use report form
   Equipment logs & equipment damage report form
   Information related to outsourced Service Provider including contract copy

Equipment:

The choice of equipment should be made according to the function of each item as described below.

ATV



Use ATVs only from reputable manufacturers and ensure that their maintenance is undertaken as per manufacturers' manuals.

ATVs come in different sizes (determined by the engine capacity and build) and thus each size has a recommended minimum age specified for the rider. E.g. a particular ATV may be specified as "not for age less than 12". These specifications mentioned by manufacturer should be always followed.

Helmet

Use either a full-face or three-quarter helmet, ensuring that there is no restriction in vision or hearing. When worn, a helmet should be snug, comfortable and secured in place by the requisite straps (straps should not be left hanging at any point of time).

Face shield or goggles

Use goggles on any ATV ride. If the ride happens to be in areas where foliage of passing trees is going to be encountered then use face shield.

Gloves have two functions: provide protection and comfort. Gloves should help prevent hands from getting sore, tired and cold, in addition to preventing injury in the event of a fall. Consider gloves with padding at relevant places like knuckles and back-of-hands.

Knee protectors: function is to protect knees in the event of a fall

Footwear: Boots should be minimum ankle length with low heels that prevent the boots from slipping off the footrests (slip-on shoes and open footwear like slippers and sandals should not be allowed).

Clothing

Long sleeved top and long trousers will help protect rider from cold and scratches/abrasions in the event of a fall. Depending on ambient temperature, warm and wind layers may be considered.

Emergency kit

Spares and tool kit recommended by manufacturer to be carried on each ride

At least one cell phone, with important contact numbers entered in

Consider the following factors for choice of communication devices:

- Communication between Leadership Team members
- Remoteness of location
- Reliability of cell phone signal
- Legal considerations

First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted.

Guidelines for Organizations operating ATVs

Organisation should have all the accessories required to support and maintain its fleet of ATVs.

Organisation should maintain all vehicles serviced and in working order along with required documentation.

Organisation should have at least two qualified ATV Leaders (qualification in hard and soft skills as specified above).

Organisation should have clear knowledge about the area in which ATVs are to be operated. These areas have to be clearly demarcated for the activity. ATVs are meant for off-road use, and not for use on main roads with traffic.

Organisation should have SOPs based on these guidelines which are specific to their ATVs, functioning area and kind of terrain and profile of people undertaking this Activity through it.

Organisation should have set of all crucial documents (e.g., emergency response protocol).

Organisation should have documented details about risk assessment and recommendations for their functioning.

Organisation should comply with all required legalities and formalities relevant to its functioning, including registration of entity with requisite authorities and registration and passing of vehicles.

Organisation should formulate environment friendly practices for its functioning and ensure that its field staff understands how to implement those practices.

Pre-activity actions by Leaders

Inspection of ATV, spares, tool kit and first aid kit

Leader should inspect all items listed here before any ride he/she is going to undertake with an ATV. The All-Terrain Vehicle Safety Institute (USA) recommends the following basic T-CLOC Checklist:

Tyres & Wheels

Controls & Cables

Lights & Electrics

Oil & Fuel

Chain/Drive Shaft & Chassis

Review medical history of Participants: ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)

Check for environmental hazard on activity site (reptiles, insects, fallen trees or branches, loose rocks and landslide patches)

Dry run if feasible/recommended for a particular site

Who should not be allowed to participate in the activity?

Intoxicated person

Person who refuses to follow safe practices

Person with medical issue that will pose a risk to the Participant

Person who refuses to wear safety gear

Pregnant woman

Person with backache (use first aid protocols to take decision) – follow first aid protocols

Service Providers

Chief Leader to review contract signed with outsourced Service Provider

Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to do pre-activity inspection checks, run the ATV rides and do appropriate wind-up procedures

Chief Leader to review roles and responsibilities with staff of outsourced Service Provider

Chief Leader to ensure that all the safety guidelines and SOPs valid for safe conduct ATV rides are followed before, during and after each ride

Organization's Leaders to monitor crucial points and actions of staff for safety

Briefing to Participants:

Leader: brief all Leaders and Participants in detail about rules, activity-site features and aspects of risk management including actions to be taken in case of emergency. Specific focus on:

- Speed limits and any related rules
- Wearing PPE and consequences if someone does not wear
- ATV controls, operations and pre-ride checks
- Rider responsibility
- Group riding procedure (lane position, vehicle order, headlights, signals and parking procedures)
- Identify hazards
- Handling dangerous surfaces and any other special terrain conditions
- Policy on tobacco, alcohol & other intoxicants
- Environment safety practices
- Leaders' instructions to be followed
- Chief Leader to ascertain any fresh health issue before starting the activity
- Inherent risk in the Adventure Activity & consequences if process is not adhered to
- Responsibility of Participants towards their own safety and others' safety
- Norms & rules (e.g., shoes, personal gear, no wandering around, etc.)
- Show cordoned-off areas

Leaders' authority to stop activity when necessary: especially when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants)

Practices as derived from Leave Minimum Impact Principles and Practices

Training of Participants

Organisation should follow instructions in manufacturers' manuals and design its training of Participants accordingly. Such training should cover the following at the minimum:

To mount and sit in the ATV correctly, locate and operate controls, and dismount correctly.

To use brakes of ATV properly to bring ATV to a stop in a smooth and safe manner.

To demonstrate basic turning skills by shifting weight properly to maintain balance and avoid the possibility of losing control of ATV.

Give clear instructions about staying within demarcated area for the ride.

Establish protocol for communication in case of an emergency.

Instructions for activity / operations

Use 'Touch-Say-Confirm' method for checking PPE of each person (Leader & Participants) before permitting each ride: touch each item of personal gear on the Participant while saying its name aloud to confirm that all equipment is firmly in place.

Keep the engine of the ATV off till the Participant sits properly and is comfortable before starting the ride.

Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix.

Monitor Participants who have finished an activity or are waiting for their turn.

Monitor for environmental impact – repeat expectations from Participants if necessary.

Important - The participant must be clearly visible to the Leader(s) during the entire course of the ride.

Wind up

Inspect equipment, pack/store equipment according to norms

Tag each ATV in case any repair or cleaning is required

Pack separately equipment that needs repairs or is to be discarded: attach a tag to each item with a note on damage

Do not pack wet gear like gloves and helmets

Fill up all the documents required

Lock up equipment as per site's rules

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

Other safety considerations

- Store fuel away from Participants and other people at site. Do not store close to any residential area of site-facility. Do not allow anyone to smoke or light fire near fuel storage area. Store only required amount of fuel.
- Have a fire extinguisher at fuel storage site and at ATV track location.
- Use gauge designed to measure ATV tyre air pressure. (Automotive tyre gauges for measuring air pressure can be inaccurate).
- Adults in group of Participants should only help in non-technical aspects, and Leaders are responsible for the safety of the whole group

- end of safety guideline -

9. Safety Guidelines for Cycling Tours

Safety Guideline for Cycling Tours

(This format is to be used by Organisation for formulating its own SOP for a 'Cycling Tours' *session)*

Introduction

Cycling tours in India have been managed by privately owned companies and do not fall under the purview of any government or any community-instituted central body. The Cycling Federation of India organizes races and tours for licensed elite athletes for prize money. Any tours where amateur athletes are entering into a commercial contract with a touring experience provider do not require any permissions from any sport related bodies.

Cycling grades

It is important to categorise the biking / road cycling itinerary with proper grades so that the Participants can chose their trip as per their level of fitness and preparedness:

Grade 1: Easy - For those new to cycling or who don't have a high level of fitness. Easy combination of relatively flat or gently undulating routes. For riders seeking a very relaxed holiday. Beginners: 30-60 km. per day.

Grade 2: Gentle - On undulating or rolling terrain, occasional moderate / challenging climbs. No high altitude ascents & the odd short steep climbs. For semi-regular riders / relative novices wishing to gain experience & fitness. 60-80 km. per day.

Grade 3: Moderate - For riders with experience, requisite fitness & level of skill required for this grade (see below).

Some features that may be experienced more frequently in a higher-grade tour: Most days may include a couple of significant climbs. Some long days & some steep to very steep sections. Not for beginners. 70-95 km. per day.

Grade 4: Challenging - For cyclists with high stamina & a high level of fitness. Long & challenging days with multiple tough or high altitude ascents, with steep sections over extended distances. Long & often technically demanding descents. Road riding for experienced riders. 80-160 km. per day.

Grade 5: Demanding - Designed for cyclists with very high stamina and a high level of fitness. Consecutively long, challenging days with multiple serious or high altitude ascents. Frequent steep or very steep stages occasionally over extended distances. Includes long and often technically

demanding descents. Serious road riding for experienced riders only. 95-160 km. per day.

Information required for Leaders

Activity objectives

- Names and qualification of Leadership Team, along with Leaders to Participants ratio
- The entire cycling tour route, with maps, where the night halts are going to be etc.
- Back-up plans which can be used in emergencies (e.g., alternative routes etc.) have an emergency evacuation plan in place for each site.
- Documents in Chief Leader's Folder (recommended only – each Organisation to decide final list):
- Compliance documents (bookings of the places for nigh halts, intro forms filled by the Participants etc.)
- Personal information including medical information of Participants and Leadership Team
- Undertaking from Participants
- Risk assessment and mitigation done for the entire cycling route
- Feedback forms
- Emergency Response / Evacuation Plan
- Critical Incident Report form
- Medicines used report form
- Support / service vehicle related documents etc.
- Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person
Person who refuses to follow safe practices
Person with medical issue that will pose a risk to himself/herself
Person who refuses to wear safety gear
Pregnant woman who is at risk of injury
Person with backache (use first aid protocols to take decision) (follow first aid protocols)

Qualifications of Leaders

While there are no technical criteria of qualifications required, these are experiences that will help a Leader ensure a successful trip:

a) Experience of being in the saddle and riding the distance covered per day. This will ensure that they are alert and not fighting their own fatigue. In an organised program that lasts for multiple days, Participants will experience cumulative fatigue; the Leader cannot be in the same position. They need to have spent time cycling, so they do not experience saddle soreness and are able to help their Participants and ensure a good experience for them.

b) Knowledge of the terrain being traversed, potential hazards of that area, typical weather conditions, in addition to knowledge of Hindi, English and or local language are required.

c) The knowledge to assess which Participant needs what size of helmet and how to tighten or loosen the various straps to ensure a snug fit on their heads.

d) First-aid and CPR certification.

e) Basic knowledge of bike maintenance while on tour and fixing issues such as punctures, gears not working well and other such minor repairs.

f) Owning a government authorized identity card and keeping it with them for the duration of the organised program.

Equipment:

Organizations usually give their Participants the option of bringing their own bicycles or providing bicycles to them.

a) In the former case, the minimum materials needed would be spares (tyres, tubes, tyre levers, patch kits, brake and gear cables and their housing, chains, chain links, lubricants, floor pump with presta and shredder valves, multi tool or allen keys, small screw drivers, duct tape and zip ties.

b) In the latter case, in addition to the above, add bicycle specific spare components such as brake shoes, drive train components, spokes, spoke wrench, etc.

c) Bikes should be delivered to Participants fully built and ready to ride after individual saddle height adjustments.

Helmets

a) Cycling helmets by reputed brands, stocked for all sizes from extra small (XS) to extra large (XL).

b) It is mandatory to use helmets on all rides and at all times.

Lights

a) Head lights: Head lights that are powerful enough to see the road at night/ in foggy or rainy conditions. Typically, headlights with mounts, that can be removed easily when the bikes are being left by themselves.
b) Tail-lamps: Tail-lamps those are powerful enough to be visible and provide the option of rapid blinking, so they are more visible to oncoming motor vehicles.
c) Spare batteries for each of the lights.
d) Panniers and racks for luggage.
e) Bungee cords to tie additional material to the bike rack.

Pre-activity actions by Leaders

- Checking of cycles - this has to be the second check just before the start of the tour. The first check should be done at office / store
- The entire route of the tour, hotel / stay bookings, logistical plan etc.
- Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)
- Check for environmental hazards for the tour duration, e.g.: weather report etc.
- Check the Leaders to Participants ratio in the context of Activity site; some parameters that could be relevant are:
- The terrain of the cycling route, if the organised program gets more entries, if the organised program is on the higher altitudes, the distance of the entire route etc.
- Overall experience of the Participants, how many such tours each one of them have done in past, how many are the new-comers, the age group etc.

Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity

Inherent risk in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group

Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety

Mandatory practices

- For Leadership Team members: role modelling, environment-safe practices

- For Participants: all personal gear such as helmet etc.
- Safety precautions for minimization of risks
- Leaders to monitor the group at all times

Training

No specific training is required to be a cycling tour operator in India. However, it is helpful if the organizers meet the basic qualifications listed above. It will go a long way towards ensuring the safety and well-being of your Participants and your own confidence in your operation.

Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group

- Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimisation of environmental impact
  - No littering
  - No breaking branches of shrubs and trees
  - No damage to nearby cultural structures like shrines
  - At least one trowel in group-kit in case anyone wants to 'take a dump in the woods'

Leader to make clear expectations from everyone in emergency situations

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the experience of all staff members of the outsourced service provider, and their ability to guide such tours
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the tour are clearly communicated to outsourced Service Provider and ensure implementation of the same during the tour
- Organization's Leaders to monitor crucial points and actions of staff for safety

Briefing to Participants:

a) Give all Participants a safety briefing at the start of the tour, such as stay one behind the other, right of way to larger vehicles, hand signals and following instructions of the tour Leader.
b) Explain function of bicycle gears
c) Get them used to riding on seat posts, heights that are higher than what they are likely to be used to, from childhood, if these are inexperienced cyclists.
d) Explain the importance of a helmet to be worn at all times on the saddle, the right way to wear one snugly and the importance of wearing a helmet of the correct size.
e) Check for medication Participants are on and ensure that they are carrying sufficient dosage for the duration of the tour.
f) In case of self-guided trips the Leaders MUST give Participants a briefing of do's and don'ts including how to engage with the locals and where to stop / not stop.
g) Self-guided riders must check in with the local operator on a daily basis to update them on their well being.
Leaders are required to give a brief demonstration of the bike (brakes, gears, any possible adjustments). It is recommended this happens before Participants are given their individual bikes to ensure that they all focus on the explanation. The briefing to the Participants must include:

i. Always carrying a photo ID.
ii. Taking ownership for assessing if they feel unwell or not up to the trip at any point and alert the tour Leader.
iii. Riding safely, riding as per traffic rules.
iv. Keeping their helmet on at all times, while on the saddle.
v. Using lights when conditions require it.
vi. Cleaning bicycles and keeping them ready for the next day of travel.

Following instructions of the Leader at all times, especially emergencies briefings during the trip:

"Next section" route descriptions

At rest stops and re-grouping points during the ride Leaders are expected to give short "next section" briefing to let Participants know what is coming up:

a) The distance and approximate duration of the next section.
b) Any known hazards (road surface, heavy traffic, steep descents, difficult route finding etc.) and how to avoid them.

c) Any directions and junctions the group should look out for.
d) Points of interest to look out for
e) The next planned stopping or re- grouping point.

Evening briefings:

On the evening prior to each ride the Leader must explain the next day's riding to the whole group. Points covered will include:

a) Using a map to show the overview of the route for the day.
b) Any included transfers needed as part of the travel on that day.
c) Expected distance of the days ride.
d) Expected terrain (road surface, ascent and descent).
e) Planned stops: notable rest stops, lunch, and any visits.
f) Where the ride will finish and the accommodation they will be using that night.

Instructions for activity / operations

Do not rush through this activity at any point of time; do all required safety checks at each stage

Rescue plan in place

Ensure that each Participant is following the SOPs created for the specific tour

Last check for each person just before he/she starts the tour

Ensure sequence and coverage of all actions for prevention of risks as per Risk Matrix

Monitor Participants on the entire ride on decided route

Monitor changes in environment: incoming weather, harmful animals, etc.

Monitor for environmental impact – repeat expectations from Participants if necessary

Wind up

a) Ensure the bicycles are given care after every trip. This would include:

- Cleaning the bicycle.
- Lubricating the chain.
- Drive train service.
- Check chain health.
- Check brake and gear cable tension.

b) Get a complete strip down service done with a trusted bicycle shop, for each bicycle every 1000 km. You should get from them a list of jobs carried

out per cycle, parts replaced and have a sense of how long each of the parts are likely to last.

c) If the bicycles have been through a tough rocky terrain or a muddy region, inspection for damage and/ or sending them for inspection to a bicycle shop is recommended.

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

NOTE: *the contents of this document have been adapted from safety guidelines formulated by Adventure Tour Operators of India (ATOI).*

- ***end of safety guideline -***

10. Safety Guideline for a Day Hike, Nature Walk

Safety Guidelines for a day Hike, Nature Walk

Introduction

A day-trek or hike refers to walking in hilly terrain for a period of two to 12 hours (may vary). Day-trek does not involve overnight stay. The words 'hike' and 'trek' mean the same Activity in this Document.

Information required for Leaders

- Information about destination, route and map (if available), technical difficulties, sources of water, socio-cultural aspects, etc.
- Travel plan and the alternative ways of transport to/ from the base village
- Names and qualification of Leaders

Documents in Chief Leader's Folder (recommended)**:**

- Legal compliance documents (registration documents, permits, etc.)
- Personal information of Participants and Leaders
- Undertaking from Participants
- Risk assessment and mitigation done for location/area and campsite
- Copies of
- Feedback forms
- Emergency Response Plan
- Emergency Response Procedure
- Critical Incident Report form
- Medicine-use report form
- Equipment logs & equipment damage report form
- Information related to outsourced Service Provider, including copy of contract

Qualifications of Leaders

Training	Core competency	Experience
Chief Leader to have: First Aid Certification (valid certificate)	- Physical ability and fitness to climb & descend the planned place twice in case of emergency - Basic rock-climbing skills and rope management skills - Leadership Abilities - Conservative approach while handling emergencies - Group management skills - Ability to be assertive while taking decisions, especially in preventing risky situations and while handling emergencies - Proficiency in best practices for environmental safety	- Leading groups on a day hikes or long treks on several occasions - Handling emergencies, both medical and non-medical
Preferable: -Basic Mountaineering Course -Outdoor Leadership Course - Wilderness First Responder / Wilderness First Aid & CPR		

Leaders to Participants ratio

Organisation to decide Leaders to Participant ratio for a day trek.
Some of the parameters which will guide the Organisation to determine this ratio are as follows:

- Nature of trek, terrain, technical difficulty, season of the trek, availability of local support etc.
- Training, Qualification, Competency and experienced of Leaders, Support Leaders
- Grading of trek

A sample grading scale is given below:

Grade-C	A Trek which is easy in nature without any known technical difficulty or a trek where novices or amateurs can easily join
Grade-B	A Trek which has steep climbs and/or some technical difficulty.
Grade-A	A Trek which involves rock climbing and technical knowledge.

Note: *Grade of a trek may change depending on the prevailing season.*

Recommended Leaders to Participant Ratios are tabulated below based on the Grades of Treks

Participants	Grade of Trek	Leader	Co-Leader	Support Leader	Remarks
1-10	C	Required	Required	NA	One additional Support Leader for the addition of every group of 1-10 Participants
1-8	B	Required	Required	NA	One additional Support Leader for the addition of every group of 1-6 Participants
1-8	A	Required	Required	Required	One additional Support Leader for the addition of every group of 1-6 Participants Note: -Leader/ Co-Leader/ Support Leaders shall be technically competent to lead Grade-A treks

Maximum Group size: The Organizations should determine maximum group size. Some parameters that will help decide group size are listed below:

- Leaders to Participant ratio as mentioned in the above table	- Grade of Trek
- Safety of people	- Schedule of trek
- Environmental impact	

Equipment:

- **Technical equipment**: specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.
- Leader's kit: Apart from Technical Equipment, the Organizations will determine standard Leader's kit for their treks which include essentials like Leader's folder, knife, torch, whistle, sac repair kit etc.
- **Emergency kit**: Indicative List- One Rope (min. 8 mm diameter) 100 m. length and other mountaineering gear as required.

Note:- Organizations should form their own Emergency kit of Technical Equipment based on the grade of trek.

- First aid kit

Organisation to determine their standard First aid kit.

Note:- Any additional item based on risk assessment and mitigation study done for the trek.

Pre-activity actions by Leader

- Detailed study of the place to be visited. Refer maps, books, blogs and recent incidence reports if available.
- Check if trek brief is read & understood by Participants
- Review of medical history of Participants
- Check equipment for damage
- Do a pilot trek, only if necessary, based on difficulty level, region, information availability etc.

Who should not be allowed to participate in the activity?

List criteria of exclusion that are relevant to activity are indicated below. Organisation should add other relevant criteria

- Person under the influence of alcohol or any other intoxicant	- Person who is not registered as Participant
- Person who refuses to follow safe practices & instructions of Leaders	- Person who refuses to wear personal safety gear
- Person with medical issue that will pose a risk to the Participant	- Expectant mothers

Service Providers:

Organizations may opt to outsource entire trek or part of trek to Service provider. In such scenario, they need to ensure that all the safety guidelines prepared for safe conduct of the trek are clearly communicated to Service provider and ensure implementation of the same during trek.

Organisation Leaders should ensure that Safety Guidelines decided by Organisation are followed during the trek even if outsourcing is done.

Typical example of such case in Western Ghat: Sandhan valley trek which many Organizations outsource.

Briefing to Participants:

- Description of activity in detail
- Any fresh health issue that Leaders should be aware of: Leader to ascertain this before starting the activity
- Inherent risk in the activity & consequences if process is not adhered to: Leader to clearly state this to the whole group
- Responsibility of Participants towards their own safety and safety of others: Leader to clearly state the expectations from all in the context of safety
- Strongly recommended practices

For Leaders: role modelling, self-anchoring at any point of time when at the top of the cliff, environment-safe practices

For Participants: all personal gear in place, shoes not to be removed, no wandering away from the spots designated by the Leaders, all instructions to be followed

Safety precautions for minimization of risks

Leaders to monitor the group at all times (Note- adults in group of Participants should only help in non-technical aspects, and Leaders are responsible for the safety of the whole group)

- Policy of ‘no alcohol, tobacco and drugs’: Leaders to ensure that this is followed strictly by everyone in the whole group
- Leaders’ authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimization of environmental impact. Refer Leave Minimum Impact Principle Guidelines in this document.
- Leader to make clear expectations from everyone in emergency situations

Instructions for activity / operations

- Do not rush through this activity at any point of time;
- Ensure group dynamics and take care of the slowest Participant by keeping group together.
- Ensure strictly that no one in a group overtakes Leader in front or lags behind the designated last Leader.
- Ensure that group walks in sequence assigned by Leader on narrow traverse or scree patches and ensure no overtaking or rushing or crowding at such tricky spots on route
- Ensure that no Participant or group of Participants disturbs schedule and ensure group fully complies with pre-determined schedule.

Note: not following pre-determined schedule due to Leader's ignorance, group's demands for enjoyment beyond stipulated time, non-punctuality of Leaders can become safety issue on even normal / easy-grade treks which are considered safe.

Wind up

- Take feedback from Participants at the end of trek or during return travel as per permitted time schedule. Alternatively invite feedback from Participants on email if required.

Note: It is observed that some Participants are more willing to send feedback on mail instead of discussing during trek.

- Ensure that the all the equipment and kits are checked and packed properly.

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- It is recommended that Organisation takes review after completion of each trek with the objective of improvement.

- end of safety guideline -

11. Safety Guideline for Multi-day Trek

Safety Guideline for Multi-day Trek

Introduction

Multi-day treks: Hiking /Backpacking that involves walking in hilly terrain over an extended period (two or more days and overnight stay(s). The words 'hike' and 'trek' mean the same Activity in this Document.

Information required for Leaders

- Information about destination, route and map (if available), technical difficulties, sources of water, socio-cultural aspects, information on proposed camping sites, etc.
- Travel plan and the alternative ways of transport to/ from the base village
- Names and qualification of Leaders

Documents in Chief Leader's Folder (recommended):

1. Legal compliance documents (registration documents, permits, etc.)
2. Personal information of participants and Leaders
3. Undertaking from Participants
4. Risk assessment & mitigation done for location/area and campsite
5. Copies of
   a. Feedback forms
   b. Emergency Response Plan
   c. Emergency Response Procedure
   d. Critical Incident Report form
   e. Medicine-use report form
   f. Equipment logs & equipment damage report form
   g. Information related to outsourced Service Provider, including copy of contract

Qualifications of Leaders

Training	Core competency	Experience
Chief Leader to have: First Aid Certification (valid certificate) Preferable: -Basic Mountaineering Course -Outdoor Leadership Course - Wilderness First Responder / Wilderness First Aid & CPR	- Physical ability and fitness to climb & descend the planned place twice in case of emergency - Basic rock-climbing skills and rope management skills - Leadership Abilities - Conservative approach while handling emergencies - Group management skills - Ability to be assertive while taking decisions, especially in preventing risky situations and while handling emergencies - Proficiency in best practices for environmental safety	- Leading groups on a day hikes or long treks on several occasions - Handling emergencies, both medical and non-medical

Leaders to Participants ratio

Organisation to decide Leaders to Participant ratio for a day trek.

Some of the parameters which will guide the Organisation to determine this ratio are as follows:

- Nature of trek, terrain, technical difficulty, season of the trek, availability of local support etc.
- Training, Qualification, Competency and experienced of Leaders, Support Leaders
- Grading of trek

A sample grading scale is given below:

Grade-C	A Trek which is easy in nature without any known technical difficulty or a trek where novices or amateurs can easily join
Grade-B	A Trek which has steep climbs and/or some technical difficulty.
Grade-A	A Trek which involves rock climbing and technical knowledge.

Note: Grade of a trek may change depending on the prevailing season.

Recommended Leaders to Participant Ratios are tabulated below based on the Grades of Treks

Participants	Grade of Trek	Leader	Co-Leader	Support Leader	Remarks
1-10	C	Required	Required	NA	One additional Support Leader for the addition of every group of 1-10 Participants
1-8	B	Required	Required	NA	One additional Support Leader for the addition of every group of 1-6 Participants
1-8	A	Required	Required	Required	One additional Support Leader for the addition of every group of 1-6 Participants Note: -Leader/ Co-Leader/ Support Leaders shall be technically competent to lead Grade-A treks

Maximum Group size: The Organizations should determine maximum group size. Some parameters that will help decide group size are listed below:

- Leaders to Participant ratio as mentioned in the above table	- Grade of Trek

- Safety of people	- Schedule of trek
- Environmental impact	

Equipment:

- Technical equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

- Leader's kit

Apart from Technical Equipment, the Organizations will determine standard Leader's kit for their treks which include essentials like Leader's folder, knife, torch, whistle, sac repair kit etc.

- Emergency kit

Indicative List- One Rope (min. 8 mm diameter) 100 m. length, and other mountaineering gear as required.

Note:- The Organizations will form their own Emergency kit of Technical Equipment based on the grade of trek.

- First aid kit

Organisation to determine their standard First aid kit

Note:- Any additional item based on risk assessment and mitigation study done for the trek.

- Camping Equipment

Based on the proposed camp sites (village school/ village temple/ natural cave or shelter/ shelter on Fort/ open air or in woods) and availability of resources like water, food grains or ready food supplies, camping equipment and cooking utensils can be decided by the Organizations.

Pre-activity actions by Leader

- Detailed study of the place to be visited. Refer maps, books, blogs and recent incidence reports if available.
- Check if trek brief is read & understood by Participants
- Review of medical history of Participants
- Check equipment for damage
- Do a pilot trek, only if necessary, based on difficulty level, region, information availability etc.

Who should not be allowed to participate in the activity?

List criteria of exclusion that are relevant to activity are indicated below.

Organisation should add other relevant criteria

- Person under the influence of alcohol or any other intoxicant	- Person who is not registered as Participant
- Person who refuses to follow safe practices & instructions of Leaders	- Person who refuses to wear safety gear
- Person with medical issue that will pose a risk to the Participant	- Expectant mothers

Service Providers:

Organizations may opt to outsource entire trek or part of trek to Service provider. In such scenario, they need to ensure that all the safety guidelines prepared for safe conduct of the trek are clearly communicated to Service provider and ensure implementation of the same during trek.

Organisation Leaders should ensure that Safety Guidelines decided by Organisation are followed during the trek even if outsourcing is done.

Briefing to Participants:

- Description of activity in detail
- Any fresh health issue that Leaders should be aware of: Leader to ascertain this before starting the activity
- Inherent risk in the activity & consequences if process is not adhered to: Leader to clearly state this to the whole group
- Responsibility of Participants towards their own safety and safety of others: Leader to clearly state the expectations from all in the context of safety
- Strongly recommended practices

For Leaders: role modelling, self-anchoring at any point of time when at the top of the cliff, environment-safe practices

For Participants: all personal gear in place, shoes not to be removed, no wandering away from the spots designated by the Leaders, all instructions to be followed

Safety precautions for minimization of risks

Leaders to monitor the group at all times (Note- adults in group of Participants should only help in non-technical aspects, and Leaders are responsible for the safety of the whole group).

- Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group
- Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimization of environmental impact. Refer Leave Minimum Impact Principle Guidelines in this document.
- Do's and Don'ts for activity as well as for emergencies

Leader to brief the group
Leader to make clear expectations from everyone in emergency situations

Instructions for activity / operations

- Do not rush through this activity at any point of time;
- Ensure group dynamics and take care of the slowest Participant by keeping group together.
- Ensure strictly that no one in a group overtakes Leader in front or lags behind the designated last Leader.
- Ensure that group walks in sequence assigned by Leader on narrow traverse or scree patches and ensure no overtaking or rushing or crowding at such tricky spots on route
- Ensure that no Participant or group of Participants disturbs schedule and ensure group fully complies with pre-determined schedule.

Note: not following pre-determined schedule due to Leader's ignorance, group's demands for enjoyment beyond stipulated time, non-punctuality of Leaders can become safety issue on even normal treks which are considered safe.

Instructions for over-night camping

Over-night camping during Long Treks in Maharashtra generally happen in woods (with/ or without tents) or natural caves/ shelters in mountains or shelters/ in open air on Forts or schools/ temples in local villages

Hence it becomes important for the Leaders to take precautions for safety of group, socio-environmental issues

- Ensure required local permissions are obtained while camping on Forts, schools/ temples in villages or in reserved forests.
- Identify water source and maintain cleanliness.
- Avoid or minimize use of firewood for cooking. Carry alternative source of energy for cooking like MSR stove or small sized gas cylinders etc. However, Organizations need to abide by local regulations while carrying these fuels during travel. Also ensure that fire is completely extinguished before sleeping or leaving Camp Site.
- Ensure no use of firewood at night (It is a common practice in many groups to burn firewood during group entertainment at night popularly known as 'camp-fire program')
- Maintain dignity and cleanliness if the camping is done in schools/ temples of villages. Respect local customs like NO non-vegetarian cooking in temples, etc.
- Ensure strict compliance with Leave Minimum Impact Principles. Refer Section 7 on 21 for more details.
- Refer Camping out guidelines- Refer Annexure I
- Food management: Food management of group during Long trek is important and Organizations to form their own good practices for selection of food items for breakfast, en-route lunch and dinner. Carry adequate quantities of food items, fuel and utensils required for the entire period of trek.

Wind up

- Take feedback from Participants at the end of trek or during return travel as per permitted time schedule. Alternatively invite feedback from Participants on email if required.

Note: It is observed that some Participants are more willing to send feedback on mail instead of discussing during trek.

- Ensure that the all the equipment and kits are checked and packed properly.

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- It is recommended that Organisation takes review after completion of each trek with the objective of improvement.

- end of safety guideline-

12. Safety Guidelines for One Day Hike – for children

Safety Guideline for One day Hike - for Children

Introduction

Children's trek refers to taking children of age group between 8 years to 15 years (school-going children) in hilly or jungle terrain for a period of 2 to 12 hours (may vary).It may be classified into Day-trek and multi-day trek depending upon whether it involves overnight stay or not. The words ‘hike’ and ‘trek’ refer to the same in this Document.

Information required for Leaders

- Information about destination, route and map (if available), technical difficulties, sources of water, socio-cultural aspects, etc.
- Travel plan and the alternative ways of transport to/ from the base village
- Names and qualification of Leaders
- Current local weather and environmental circumstances like water level of rivers etc.
- Specific medical conditions of any Participants in the group (whether that Participant needs any special medicines at stipulated timings).
- Information about local ceremonies (jatra/ urus) clashing with the activity day.

Documents in Chief Leader’s Folder (recommended):

1. Legal compliance documents (registration documents, permits, etc.)
2. Personal information of participants and contact details of their parents.
3. Point of contact information if the activity is conducted for School
4. Personal information of Leaders
5. Undertaking from Participant's parents
6. Risk assessment and mitigation done for location/area and campsite
7. Contacts and operating timings of local first aid/ health center
8. Copies of
   a. Feedback forms
   b. Emergency Response Plan
   c. Emergency Response Procedure
   d. Critical Incident Report form
   e. Medicine-use report form
   f. Equipment logs & equipment damage report form
   g. Information related to outsourced Service Provider, including copy of contract

Qualifications of Leaders

Training	Core competency	Experience
Chief Leader to have: First Aid Certification (valid certificate) *Preferable:* -Basic Mountaineering Course -Outdoor Leadership Course - Wilderness First Responder / Wilderness First Aid & CPR	- Physical ability and fitness to climb & descend the planned place twice in case of emergency - Basic rock-climbing skills and rope management skills - Leadership Abilities - Conservative approach while handling emergencies - Group management skills - Ability to be assertive while taking decisions, especially in preventing risky situations and while handling emergencies - Proficiency in best practices for environmental safety - Ability to handle and guide novices especially first timers. - Ability to be able to be proxy-parents of the Participants.	- Leading groups on a day hikes or long treks on several occasions - Handling emergencies, both medical and non-medical - Should have experience and willingness to handle School children.

Leaders to Participants ratio

Organisation to decide Leaders to Participant ratio for a day trek.

Some of the parameters which will guide the Organisation to determine this ratio are as follows:

- Nature of trek, terrain, technical difficulty, season of the trek, availability of local support etc.
- Training, Qualification, Competency and experienced of Leaders, Support Leaders
- Grading of trek

A sample grading scale is given below:

Grade-C	A Trek which is easy in nature without any known technical difficulty or a trek where novices or amateurs can easily join
Grade-B	A Trek which has steep climbs and/or some technical difficulty.

Grade-A	A Trek which involves rock climbing and technical knowledge.

Note: Grade of same trek may be needed to be altered depending on the prevailing season.

Recommended Leaders to Participant Ratio:

As a thumb rule, for any trek, one Trek Leader is mandatory. For a group of upto 10 (*) Participants one Co-Leader would be required. For every subsequent addition of 10 (*) Participants, one additional instructor/Leader is required.

(*) The additional instructor/ Leader required per number of Participants depends upon the grade of trek. The following chart summarizes the ratio of additional Leader to number of Participants.

No. of Participants	Grade of Trek	Leader	Co-Leader	Support Leader	Remarks
1-10	C	Required	Required	NA	One additional Support Leader for the addition of every group of 1-10 Participants
1-8	B	Required	Required	NA	One additional Support Leader for the addition of every group of 1-6 Participants
1-8	A	Required	Required	Required	One additional Support Leader for the addition of every group of 1-6 Participants Note: -Leader/ Co-Leader/ Support Leaders shall be technically competent to lead Grade-A treks

Maximum Group size: The Organizations should determine maximum group size. Some parameters that will help decide group size are listed below:

- Leaders to Participant ratio as mentioned in the above table	- Grade of Trek - Schedule of trek
- Safety of people	- Available time for actual activity

- Environmental impact - Location carry-capacity (only day visit or stay both)	- Available time for travel (considering snacks time, toilet breaks etc.)

Equipment:

- Technical equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

- Leader's kit

Apart from Technical Equipment, the Organizations will determine standard Leader's kit for their treks which include essentials like Leader's folder, knife, torch, whistle, sac repair kit etc.

- Emergency kit

Indicative List- One Rope (min 8 mm) 100 metres length and other mountaineering gear as required.

Note: - Organizations should form their own Emergency kit of Technical Equipment based on the grade of trek.

- First aid kit

Organisation to determine their standard First aid kit.

Note: - Any additional item based on risk assessment and mitigation study done for the trek.

- Water cans

Organizers should carry additional water in water cans with the group for the children.

- Communication devices

Organizers should carry walkie-talkie sets wherever it is legally permissible, and if feasible.

Pre-activity actions by Leader

- Detailed study of the place to be visited. Refer maps, books, blogs and recent incidence reports if available.
- Review of medical history of Participants
- Check equipment for damage
- Do a pilot trek, only if necessary, based on difficulty level, region, information availability etc. and assess if it is appropriate to the age group of the Participants.

- Ensure that the trek brief is read and understood by the Participants and their parents

Who should not be allowed to participate in the activity?

List criteria of exclusion that are relevant to activity are indicated below. Organisation should add other relevant criteria

- Participants who have not submitted consent and risk certificate duly signed by parents.	- Person who refuses to follow safe practices & instructions of Leaders
- Person with medical issue that will pose a risk to the Participant and Leaders.	- Participants who refuse to refrain from using mobile phones during activity/trek
- Person who refuses to wear safety gear	- Person who is not registered as Participant - Person under the influence of alcohol or any other intoxicant
- Participants not wearing proper footwear e.g. floaters, chappals, slippers etc.	- Participants who are not carrying sacks

Service Providers:

Organizations may opt to outsource entire trek or part of trek to Service provider. In such scenario, they need to ensure that all the safety guidelines prepared for safe conduct of the trek are clearly communicated to Service provider and ensure implementation of the same during trek.

Organisation Leaders should ensure that Safety Guidelines decided by Organisation are followed during the trek even if outsourcing is done.

Typical example of such case in Western Ghat: Sandhan valley trek which many Organizations outsource.

Briefing to Participants and their parents:

- Description of activity in detail
- Any fresh health issue that Leaders should be aware of: Leader to ascertain this before starting the activity
- Inherent risk in the activity & consequences if process is not adhered to: Leader to clearly state this to the whole group
- Policy on tobacco, alcohol & other intoxicants

- Responsibility of Participants towards their own safety and safety of others: Leader to clearly state the expectations from all in the context of safety
- Participants' roles during emergencies
- Responsibility towards Environment protection and towards safety of other groups those will be visiting the location subsequently.

Strongly recommended practices

For Leaders:

- Role modelling, self-anchoring at any point of time when at the top of the cliff, environment-safe practices.
- A count of Participants should be taken at end of each logical interval (like boarding the bus, making groups, end of the trek pitch etc.)
- Safety precautions for minimization of risks

Leaders to monitor the group at all times (Note- adults in group of Participants should only help in non-technical aspects, and Leaders are responsible for the safety of the whole group)

- Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimization of environmental impact. Refer Leave Minimum Impact Principle Guidelines in this document.
- Do's and Don'ts for activity as well as for emergencies

Leader to brief the group

Leader to make clear expectations from everyone in emergency situations

For Participants:

All personal gear should be in place, shoes not to be removed, no wandering away from the spots designated by the Leaders, all instructions to be followed

Instructions for activity / operations

- Do not rush through this activity at any point of time.
- Create smaller sub-groups for better management if required.
- Ensure group dynamics and take care of the slowest Participant by keeping group together.
- Always keep the group together. The first man and last man of the group should always be in visual/audible distance.

- Ensure strictly that no one in a group overtakes Leader in front or lags the designated last man.
- Ensure that group walks in sequence assigned by Leader on narrow traverse or scree patches and ensure no overtaking or rushing or crowding at such tricky spots on route
- Going inside water bodies should be strictly prohibited. Water based activities should be separately planned and should not be interspersed in treks.
- Ensure that no Participant or group of Participants disturbs schedule and ensure group fully complies with pre-determined schedule.
- Carry whistles and explain meaning of the signal to the Participants.

Note: Not following pre-determined schedule due to Leader's ignorance, group's demands for enjoyment beyond stipulated time, non-punctuality of Leaders can become safety issue on even normal treks which are considered safe.

Wind up

- Leaders should ensure that the Participants are handed over to their respective parents/ guardians on the drop point.
- Take feedback from parents of the Participants at the end of trek or during return travel as per permitted time schedule. Alternatively invite feedback from Participants on email if required.

Note: It is observed that some Participants are more willing to send feedback on mail instead of discussing during trek.

- Ensure that the all the equipment and kits are checked and packed properly.

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- It is recommended that Organisation takes review after completion of each trek with the objective of improvement.

- end of safety guideline -

13. Safety Guideline for Multi-day Trek for children

Safety Guideline for Multi-day Trek for Children

Introduction

Multi-day treks for children: Multi-day trek for children refers to taking children of age group between 8 years to 15 years (school-going children) in hilly or jungle terrain over an extended period (two or more days and overnight stay(s). The words 'hike' and 'trek' mean the same Activity in this Document.

Information required for Leaders

- Information about destination, route and map (if available), technical difficulties, sources of water, socio-cultural aspects, information on proposed camping sites, etc.
- Travel plan and the alternative ways of transport to/ from the base village
- Names and qualification of Leaders
- Current local weather and environmental circumstances like water level of rivers etc.
- Specific medical conditions of any Participants in the group (whether that Participant needs any special medicines at stipulated timings), including specific medical conditions like sleepwalking, bed-wetting etc.
- Information about local ceremonies (jatra/ urus) clashing with the activity day.

Documents in Chief Leader's Folder (recommended):

1. Legal compliance documents (registration documents, permits, etc.)
2. Personal information of participants and contact details of their parents.
3. Point of contact information if the activity is conducted for School
4. Personal information of Leaders.
5. Undertaking from Participant's parents.
6. Risk assessment & mitigation done for location/area and campsite
7. Contacts and operating timings of local first aid/ health center
8. Copies of
   a. Feedback forms
   b. Emergency Response Plan
   c. Emergency Response Procedure
   d. Critical Incident Report form
   e. Medicine-use report form
   f. Equipment logs & equipment damage report form
   g. Information related to outsourced Service Provider, including copy of contract

Qualifications of Leaders

Training	Core competency	Experience
Strongly recommended: First Aid Certification (valid certificate) *Preferable:* -Basic Mountaineering Course -Outdoor Leadership Course - Wilderness First Responder / Wilderness First Aid & CPR	- Physical ability and fitness to climb & descend the planned place twice in case of emergency - Basic rock-climbing skills and rope management skills - Leadership Abilities - Conservative approach while handling emergencies - Group management skills - Ability to be assertive while taking decisions, especially in preventing risky situations and while handling emergencies - Proficiency in best practices for environmental safety - Ability to handle and guide novices especially first timers. - Ability to be able to be proxy-parents of the Participants.	- Leading groups on a day hikes or long treks on several occasions - Handling emergencies, both medical and non-medical - Should have experience and willingness to handle School children.

Leaders to Participants ratio

Organisation to decide Leaders to Participant ratio for a day trek.
Some of the parameters which will guide the Organisation to determine this ratio are as follows:

- Nature of trek, terrain, technical difficulty, season of the trek, availability of local support etc.
- Training, Qualification, Competency and experienced of Leaders, Support Leaders
- Grading of trek

A sample grading scale is given below:

Grade-C	A Trek which is easy in nature without any known technical difficulty or a trek where novices or amateurs can easily join. The stay intended to be in a resort/ farmhouse/ permanently built structure.
Grade-B	A Trek which has steep climbs and/or some technical difficulty. The Stay intended is in natural shelters like caves, homestay in villages, or in tents nearby villages.
Grade-A	A Trek which involves rock climbing and technical knowledge. The intended stay is in Tents in remote location. For children, open air stay should be strictly not allowed.

Note: *Grade of a trek may change depending on the prevailing season.*
Recommended Leaders to Participant Ratios are tabulated below based on the Grades of Treks.
As a thumb rule, for any trek, one Trek Leader is mandatory. For a group of up to 10* Participants one Co-Leader would be required. For every subsequent addition of 10* Participants, one additional instructor/Leader is required.
* The additional instructor/ Leader required per number of Participants depends upon the grade of trek. The following chart summarizes the ratio of additional Leader to number of Participants.

Participants	Grade of Trek	Leader	Co-Leader	Support Leader	Remarks
1-10	C	Required	Required	NA	One additional Support Leader for the addition of every group of 1-10 Participants
1-8	B	Required	Required	NA	One additional Support Leader for the addition of every group of 1-6 Participants
1-8	A	Required	Required	Required	One additional Support Leader for the addition of every group of 1-6 Participants Note: -Leader/ Co-Leader/ Support Leaders shall be technically competent to lead Grade-A treks

Maximum Group size: The Organizations should determine maximum group size. Some parameters that will help decide group size are but not limited to:

- Leaders to Participant ratio as mentioned in the above table - Safety of people - Environmental impact - Available time for actual activity	- Grade of Trek - Schedule of trek
- Available time for travel (considering snacks time, toilet breaks etc.)	- Location capacity of both stay and food facility. - Location capacity: availability of toilets

Equipment:

- Technical equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

- Leader's kit

Apart from Technical Equipment, the Organizations will determine standard Leader's kit for their treks which include essentials like Leader's folder, knife, torch, whistle, sac repair kit etc.

- Emergency kit

Indicative List- One Rope (min. 8 mm diameter) 100 m. length, and other mountaineering gear as required.

Note: - The Organizations will form their own Emergency kit of Technical Equipment based on the grade of trek.

- First aid kit

Organisation to determine their standard First aid kit.

Note: - Any additional item based on risk assessment and mitigation study done for the trek.

- Water cans

Organizers should carry additional water in water cans with the group for the children.

- Communication devices

Organizers should carry walkie-talkie sets wherever it is legally permissible and feasible.

- Camping Equipment

Based on the proposed camp sites (village school/ village temple/ natural cave or shelter/ shelter on Fort/ open air or in woods) and availability of resources like water, food grains or ready food supplies, camping equipment and cooking utensils can be decided by the Organizations. For stays in Tents, the Tents should be of good quality to ensure that all the zips are functioning well, and there are no gaps between ground sheet and tent wall fabric.

Additional torches and emergency lamps enough for the group size should be carried by the organizers.

Pre-activity actions by Leader

- Detailed study of the place to be visited. Refer maps, books, blogs and recent incidence reports if available.
- Review of medical history of Participants
- Check equipment for damage
- Do a pilot trek, based on difficulty level, region, information availability etc. to assess if stay arrangements are appropriate to the age group of the Participants.
- Ensure that the trek brief is read and understood by the Participants and their parents.

Who should not be allowed to participate in the activity?

List criteria of exclusion that are relevant to activity are indicated below. Organisation should add other relevant criteria

- Participants who have not submitted consent and risk certificate duly signed by parents. - Person under the influence of alcohol or any other intoxicant - Person with medical issue that will pose a risk to the Participant, or in case of female Participants if they are expectant mothers. - Person who refuses to follow safe practices & instructions of Leaders	- Person who is not registered as Participant - Participants not wearing proper footwear e.g. floaters, chappals, slippers etc. - Participants who refuse to refrain from using mobile phones during activity/trek. - Participants who are not wearing caps / head-gear. - Participants who are not carrying sacks

Service Providers:

Organizations may opt to outsource entire trek or part of trek to Service provider. In such scenario, they need to ensure that all the safety guidelines prepared for safe conduct of the trek are clearly communicated to Service provider and ensure implementation of the same during trek.

Organisation Leaders should ensure that Safety Guidelines decided by Organisation are followed during the trek even if outsourcing is done.

Briefing to Participants and their parents:

- Description of activity in detail
- Any fresh health issue that Leaders should be aware of: Leader to ascertain this before starting the activity
- Inherent risk in the activity & consequences if process is not adhered to: Leader to clearly state this to the whole group

- Responsibility of Participants towards their own safety and safety of others: Leader to clearly state the expectations from all in the context of safety
- Policy on tobacco, alcohol & other intoxicants
- Participants' roles during emergencies
- Responsibility towards Environment protection and towards safety of other groups those will be visiting the location subsequently.

Strongly recommended practices

For Leaders:

- Role modelling, self-anchoring at any point of time when at the top of the cliff, environment-safe practices
- Safety precautions for minimization of risks

Leaders to monitor the group at all times (Note- adults in group of Participants should only help in non-technical aspects, and Leaders are responsible for the safety of the whole group)

- Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group
- Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimization of environmental impact. Refer Leave Minimum Impact Principle Guidelines in this document.
- Do's and Don'ts for activity as well as for emergencies

Leader to brief the group

Leader to make clear expectations from everyone in emergency situations

For Participants:

- All personal gear in place, shoes not to be removed, no wandering away from the spots designated by the Leaders, all instructions to be followed

Instructions for activity / operations

- Do not rush through this activity at any point of time.
- Create smaller sub-groups for better management if required.
- Ensure group dynamics and take care of the slowest Participant by keeping group together.
- Always keep the group together. The first man and last man of the total group should always be in visual/audible distance.

- Ensure strictly that no one in a group overtakes Leader in front or lags the designated last man.
- Ensure that group walks in sequence assigned by Leader on narrow traverse or scree patches and ensure no overtaking or rushing or crowding at such tricky spots on route.
- Going inside water bodies should be strictly prohibited. Water based activities should be separately planned and should not be interspersed in treks.
- Ensure that no Participant or group of Participants disturbs schedule and ensure group fully complies with pre-determined schedule.
- Carry whistles and explain meaning of the signal to the Participants.

Note: Not following pre-determined schedule due to Leader's ignorance, group's demands for enjoyment beyond stipulated time, non-punctuality of Leaders can become safety issue on even normal treks which are considered safe.

Instructions for over-night camping

Over-night camping during Long Treks in Maharashtra generally happen in woods (with/ or without tents) or natural caves/ shelters in mountains or shelters/ in open air on Forts or schools/ temples in local villages.

Hence it becomes important for the Leaders to take precautions for safety of group, socio-environmental issues.

- Ensure required local permissions are obtained while camping on Forts, schools/ temples in villages or in reserved forests.
- Identify water source and maintain cleanliness.
- Check for presence of snakes and harmful insects at the camp site.
- Clearly give Drinking water source hygiene instructions.
- Clearly give Drinking water fetching safety instructions.
- Clearly explain Toilet hygiene related instructions and hygienic practices.
- Avoid or minimize use of firewood for cooking. Carry alternative source of energy for cooking like for camping stove or small sized gas cylinders etc. However, Organizations need to abide by local regulations while carrying these fuels during travel. Also ensure that fire is completely extinguished before sleeping or leaving Camp Site.
- Ensure no use of firewood at night. Camp fire should be strictly prohibited due to danger of forest fire as well as for destruction of environment. (It is a common practice in many groups to burn firewood

during group entertainment at night popularly known as ‘camp-fire program’)

- Maintain low sound level at the camps so that locals and nature is not disturbed. Fireworks on camps should be strictly prohibited.
- Do not leave campsite premises alone and/or uninformed after dusk.
- Maintain dignity and cleanliness if the camping is done in schools/ temples of villages. Respect local customs like NO non-vegetarian cooking in temples, etc.
- Ensure strict compliance with Leave Minimum Impact Principles.
- Food management: Food management of group during Long trek is important and Organizations to form their own good practices for selection of food items for breakfast, en-route lunch and dinner. Carry adequate (with a little surplus quantity to mitigate emergency situation) quantities of food items, fuel and utensils required for the entire period of trek.

Wind up

- Take feedback from Participants at the end of trek or during return travel as per permitted time schedule. Alternatively invite feedback from Participants on email if required.

Note: It is observed that some Participants are more willing to send feedback on mail instead of discussing during trek.

- Ensure that the all the equipment and kits are checked and packed properly.

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- It is recommended that Organisation takes review after completion of each trek with the objective of improvement.

- end of safety guideline -

14. Safety Guideline for Camping (below 8,000 ft.)

Safety Guideline for Camping Out in Tents – below 8,000 ft.

Introduction

Camping is being enjoyed as an Adventure Activity by many including novices. Though the activity is enjoyable and appears simple it has hazards that can lead to illness or injury or serious accidents if not conducted safely. Since frequency of the activity is very high and novices are involved, Organizations are required to conduct the same in safe manner.

While Camping Out in tents happens most frequently on camp-based Adventure Programs, river rafting trips and hikes, many adventure enthusiasts camp out to enjoy the outdoors without undertaking any other Adventure Activity.

The present document will use the term 'Camping' for Camping Out in Tents.

Information required for Leaders

- Objectives of Adventure Program
- Names and qualification of Leadership Team
- Approach to campsite, and whether Participants need escorts to reach and exit from campsite
- Back-up plans which can be used in emergencies (like alternative routes and/or activities)
- Criteria for monitoring and/or decision on expulsion/evacuation of Participant that are relevant to Camping
  - Intoxicated person
  - Person who refuses to follow safe practices
  - Person with medical issue that will pose a risk to himself/herself
  - Person who refuses to follow Organization's rules for safety gear (primarily footwear, but can include items of 'layers' like warm layer and rainwear)
  - Person with illness that gets aggravated (follow first aid protocols to take decision)

Documents in Chief Leader's Folder (recommended):

1. Legal compliance documents (registration documents, permits for camp-sites, etc.)
2. Personal information of participants and Leaders
3. Undertaking from Participants
4. Risk assessment and mitigation done for location/area and campsite
5. Copies of
   a. Feedback forms
   b. Emergency Response Plan
   c. Emergency Response Procedure
   d. Critical Incident Report form
   e. Medicine-use report form
   f. Equipment logs & equipment damage report form
   g. Information related to outsourced Service Provider including copy of contract

-

Qualifications of Leaders

Training	Core competency	Experience
Strongly recommended: First Aid Certification (valid certificate)	- Physical ability and fitness - Ability to set up Camps - Leadership Abilities - Conservative approach while handling emergencies - Group management skills - Ability to be assertive while taking decisions, especially in preventing risky situations and while handling emergencies - Proficiency in best practices for environmental safety	- Leading groups in outdoors on programs that have involved Camping - Handling emergencies, both medical and non-medical -
Preferable: - Some formal course related to adventure/ outdoors from reputed institute or Equivalent experience in related activities - Basic Mountaineering Course -Outdoor Leadership Course - Wilderness First Responder / Wilderness First Aid & CPR		

Note: Setting up Camps involves tents for stay, kitchen tent, toilet tents, setting up water source, outlining safe zones, setting up safe procedures or Participants to follow.

Equipment:

- Technical equipment

Refer to risk assessment & mitigation done for Camping

Ensure quality of tents, including tents (should be able to withstand expected weather conditions and other environmental hazards), sleeping gear like sleeping bags, ground mats, etc.

Check for damage prior to beginning activity

- Emergency kit

At least one cell phone, with important contact numbers entered in
Consider the following factors for choice of communication devices:
Communication between Camp and any site being used for specific Adventure Activity

- Remoteness of location
- Reliability of cell phone signal
- Legal considerations

- First aid kit

Items to be selected based on a) risk assessment and mitigation done for Campsite, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region in which Camping is being conducted.

Pre-activity actions by Leaders

- Medical history of Participants: ensure that preventive and curative aspects are in place (e.g., prescribed medicines in duplicate in known locations)
- Check for environmental hazard on Campsite; e.g.,

Fallen branches, loose rocks on slopes/cliffs nearby, dead trees or dead branches above Campsite, crevices and dark places where there may be insect/reptile life, etc.

- Set-up Camp; follow Leave No Trace Seven Principles while setting up the various tents
- Cordon off unsafe areas (e.g., edges over drops, running water, piles of debris, boulder piles, bases of cliffs, etc.)
- Roles and responsibilities: Leaders, Participants, & adults from Participants' group willing to take non-technical responsibilities
- Decide rules and norms:
  - Areas where a Participant can go unescorted
  - Trails leading away from Campsite on which Participant can wander off
  - Approach to toilet areas: if hazardous then provide hand rails / re-assign area
  - Adult Participant volunteers will NOT to be given responsibilities that involves risk management

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider

- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately set up and run Campsites
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for Camping have been clearly communicated to outsourced Service Provider and ensure implementation of the same during Camping and Adventure Activities, if any
- Organization's Leaders to monitor crucial areas of functioning that involve safety (e.g., cordoned off areas, tent maintenance through weather changes, safety rounds to check for potentially harmful reptile/ insect life, etc.)

Briefing to Participants:

- Various facilities of Camping in detail
- Chief Leader to ascertain any fresh health issue before starting the activity
- Inherent risk in the Adventure Activity & consequences if process is not adhered to
- Responsibility of Participants towards their own safety and others' safety
- Norms & rules about personal gear (e.g., shoes, warm layers, etc.)
- Cordoned off areas
- Policy of 'no alcohol and recreational drugs'
- Smoking rules (if not banned): strictly prohibited in tents or in open areas. Designated 'smoking corner' prepared in the form of a patch of pebbles or sand, with a small water container to douse out cigarette butts
- Show staff tents to Participants and ask them to approach Leaders whenever required
- Leaders' authority to stop activity when necessary: e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.
- Practices for Camping as derived from Leave No Trace Seven Principles
- Leader to clarify expectations from everyone in emergency situations

Instructions for activity / operations

- Implement recommendations of Risk matrix

- Establish routines to set up safe habits among group members (e.g., personal hygiene, kitchen hygiene, assembly times, regular head-counts, meal-times, etc.)
- Leaders to role model safe practices (people and environment)
- Explain importance of keeping the tents closed/ zipped up to avoid creepy crawlies getting in
- Emphasize that tents should be ventilated: demonstrate use of screen-doors instead of nylon-doors of tent
- Demonstrate use of sleeping bag (tie string around the sleeping bag below a child's feet to make it smaller)
- Regular head-count– the periodicity or junctures to be decided based on time and daily routines
- Monitor group health – be preventive and conservative

Specifically, be alert with respect to the following:

Spreading of illnesses across group members
Wound infection
Extended care of patients who have not been evacuated
Take action on 'cold stress– ' prevent onset of hypothermia
Early signs of high altitude stress – ensure acclimatization

- Monitor Participants during 'free times' on Camps
- Regular head-count of Participants
- Monitor changes in environment: weather, harmful animals, etc.

Wind up

- Clean the camp site and ensure there is nothing left behind
- Ensure nothing is carried out from nature and cultural places
- Follow Leave No Trace practices for disposing off garbage (including carrying out items)
- Inspect equipment, pack equipment according to norms

Equipment that needs repairs or is to be discarded: attach a tag to each item with a note on damage

Do not pack wet gear like tents and sleeping bags

- Fill up all the documents required
- Review and feedback (Participants & Leadership Team)
- Communicate to the Organization's office any feedback that has not been recorded in paperwork

- end of safety guideline -

15. Safety Guideline for Basic Rock Climbing

Safety Guideline for Basic Rock Climbing

(This format is to be used by Organisation while formulating their own SOP for training novices - Basic Rock Climbing session)

Introduction

Rock climbing is an activity in which Participants climb up, down or across natural rock formations like small / big boulders, rock faces of cliffs of different heights. The goal is to reach the summit of a formation or the endpoint of a usually pre-defined route without falling. Professional rock climbing competitions have objectives of either completing the route in the quickest possible time or attaining the farthest point on an increasingly difficult route. Rock climbing is a physically and mentally demanding activity, one that often tests a climber's strength, endurance, agility and balance along with mental control. It can be a dangerous activity and knowledge of proper climbing techniques and use of climbing equipment is crucial for safe climbing.

It is advisable that the person who is interested in rock climbing should attend proper training camps or sessions organised by experienced instructors.

Information required for Leaders

Activity objectives

Names and qualification of Leadership Team, along with Leaders to Participants ratio

Selection of appropriate rock surfaces to conduct basic rock climbing session, especially when it is for beginners / novices. If there are boulders or small rock patches, make sure the approach to the top is safe, you have proper anchors (natural or artificial or mixed anchors) on the top.

Back-up plans which can be used in emergencies.

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
    a. Feedback forms
    b. Emergency Response Plan
    c. Critical Incident Report form
    d. Medicines used report form
    e. Equipment logs and equipment damage report form
    f. Information related to outsourced Service Provider including copy of contract document

Criteria for deciding who cannot participate

- Intoxicated person
- Person who refuses to follow safe practices
- Person with medical issue that will pose a risk to the Participant
- Person who refuses to wear safety gear
- Pregnant woman
- Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available/improvised, and if rappel height is small (around 30 ft.) NOTE: Use first aid protocols to take decision

Qualifications of Leaders

- Formal training

All Leaders to have undertaken basic rock climbing course from reputed Organizations or having equivalent competence and experience in rock climbing and related activities

Preferable:

Chef Leader to have undertaken one or more of the following: advance rock climbing course, basic and advance mountaineering courses from reputed organisation

Assistant Leaders to have undertaken basic mountaineering course from Mountaineering Institutes

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

- Certifications (check if current or lapsed)
  - Chief Leader to have current certification in First Aid & CPR from reputed organisation
  - Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- Experience

- Leading groups in an outdoor setting
- Conducted rock climbing courses
- Conducted rappelling sessions for novices

- Outdoor pursuits on personal trips, especially rock climbing projects
- Handling emergencies, both medical and non-medical

▪ Skills

- Ability to set up anchoring stations on natural and artificial surfaces (anchor systems, belaying, rescue operations, safety on approach etc)
- Ability to supervise members of Leadership Team
- Ability to create a safe environment on a climbing site; context: selecting a proper & safe site for novices, approaches to top and bottom of climbing site, instructing Participants on what to do and what not to do, and monitoring for safety throughout a session
- Conservative approach in risk management while handling emergencies
- Group management skills
- Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
- Proficiency in best practices for environmental safety

Equipment:

Technical equipment

Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

- Emergency kit

1 cell phone, with important contact numbers entered in

1 pair of toy walkie-talkie sets for top-bottom of cliff communication (recommended, to be included only if feasible)

First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)

Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks)

Set-up activity; ensure that: each rope has a knot at its end, all over-the-edge and rope-on-rope points are protected by appropriate rope protection gear,

each member of Leadership Team has independent points for self-anchoring wherever relevant

Dry run is must in this case. Leaders or instructors should climb each route first (be it on boulder or on a small rock patch), to check if it's safe / fit to be used for novices.

On site, the Chief Leader has to conduct a briefing meeting with the Leadership team to explain the plan of the day, some basic rules for all the Leaders, discuss about safety plan, to allocate 'Roles & Responsibility' to each person in Leadership / instructors team.

Check the Leaders to Participants ratio in the context of Activity site; some of these parameters are:

- Nature of climbing set-up: how many routes will you be operating at a time? This will give you a better idea of how many Leaders would be involved in belaying, guiding etc& number of Participants.
- The approach to the top of each boulder or rock face / rock patch: if this is hazardous then this may need a Leader to act as an escort for Participants as they make their way to the top or come down.
- If needed have a fix rope connection between the bottom & top of the boulder or a rock face / rock patch.
- Available equipment & number of Participants, this ratio also needs to be taken in to consideration. This will help to plan better in terms of how many routes at one time one can open for climbing.

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately set up the rappel, belay Participants and monitor the site for safety
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity rappelling are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity
- Organization's Leaders to monitor crucial points and actions of staff for safety (e.g., check anchor systems to see if they are safe, check the

entire set of equipment, check that all staff / Activity Leaders are self-anchored when at the top of the climbing patch, that each Participant receives a double-check on their personal gear before starting the climb etc)

Briefing to Participants:

Description of Adventure Activity in detail: a Leader to do this along with demonstration on a small boulder or easy slope at the top/base of the cliff where the group can be safe and comfortable; equipment used to be explained; make sure to tell the group about what not to do (e.g., 'do not touch the gate of the screwgate carabiner' and 'do not hold on to the belay rope' and 'how a belay operates, how safe it is' etc.)

Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity

Inherent risk in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group

Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety

Mandatory practices

For Leadership Team members: role modelling, self-anchored at any point of time when at the top of the cliff, environment-safe practices

For Participants: all personal gear, no wandering away from the spots designated by the Leadership Team, all instructions to be followed

Safety precautions for minimization of risks

Leaders to double check all points of anchor in the anchoring system

Leaders to double check all personal equipment when it has been put on anyone

Leaders to monitor the group at all times (note, adults in group of Participants should only help in non-technical aspects, and Leadership Team is responsible for the safety of the whole group)

Participant training: Leaders to cover basic points like 'how to maintain balance with three-point-climbing' and 'advantage of keeping body close to rock– ' this is to be done along with live demonstration on site.

Policy of '**no alcohol, tobacco and drugs**': Leaders to ensure that this is followed strictly by everyone in the whole group

Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)

Minimisation of environmental impact

No breaking branches of shrubs and trees

No damage to nearby cultural structures like shrines

At least one trowel in group-kit in case anyone wants to 'take a dump in the woods'

Leader to make clear expectations from everyone in emergency situations well as for emergencies

Instructions for activity / operations

Check for damage prior to beginning activity - this has to be the 2nd check. First check for damage has to be done at store / office before packing the equipment.

If natural resources like trees and boulders are to be used for anchoring set-up, ensure that the right kind of trees / boulders are selected: Use of 'Rope protectors or any padding between the anchoring rope / tape slings / rope slings & the tree / boulder is must to avoid any damage to the rope / tape slings / rope slings etcDo not rush through this activity at any point of time; treat each Participant as a fresh one, and do all required safety checks at each stage

Rescue Leader in place with emergency kit and first aid kit right from the beginning

Ensure that each Participant's hair, loose clothing and jewellery will stay clear of any climbing device

Last check on the equipment for each person just before he/she starts climbing using the 'Touch-Say-Confirm' method: touch each item of personal gear on the Participant while saying its name aloud to confirm that all equipment is firmly in place.

Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix

When required, Leaders should be alert to guide a Participant who is struggling at any point of time to guide him/her through appropriate instruction and tips.

Monitor Participants who have finished climbing or are waiting for their turn

Monitor changes in environment: look for loose rocks, incoming weather, harmful animals, etc.

Monitor for environmental impact – repeat expectations from Participants if necessary

Wind up

Inspect equipment, pack equipment according to norms

Pack separately equipment that needs repairs or is to be discarded: attach a tag to each item with a note on damage

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- ***end of safety guideline -***

16. Safety Guideline for Pinnacle Climbing

Safety Guideline for Pinnacle Climbing

(This format is to be used by Organisation while formulating their own SOP for Pinnacle Climbing)

Introduction

Pinnacle Climbing: Sahyadri mountains have numerous pinnacles, and climbing these has been popular with rock climbers for more than forty years. However, in the past few years, this Adventure Activity is being done as an Organised Adventure Activity where novices (with no rock climbing expertise or experience) can also participate. It is to be noted that if this activity is conducted with improper equipment, inappropriate rigging and by incompetent Leaders then it can lead to injury and serious accidents. Hence Organizations are required to conduct the same in safe manner..

Note - There are many hiking routes to forts, which are technically not 'pinnacles'. These forts may or may not have a conventional trekking route, but they do have a difficult route which requires climbing equipment and ropes to be used. (Example - Tanaji Kada of Sinhagad, Khuntyachi vaat of Hadsar.) There are also forts where the conventional route itself requires climbing equipment and ropes, such as Madangad or Bhairavgad (Malshej). If an Organised Adventure Activity is being conducted on such routes, then this guideline would be applicable to it as well.

Information required for Leaders

Activity objectives

Names and qualification of Leadership Team, along with Leaders to Participants ratio

Information on approach to base of pinnacle, or base of a difficult rock patch on a hiking route on a fort, and recommendation for making such an approach safe: a) whether Participants are to be escorted right up to the base or b) safety ropes are to be used as lines for Participants to be clipped-in while approaching the base.

Details of a climb - entire climbing height, required rope length for fixing the climb, how many ledges are available on the climbing route, how many people each ledge can accommodate at a time, existence and status of anchoring stations already in place on each ledge / need for new anchors to be created, how many people can be accommodated on the top of the climb, any significant information related to planning of rappelling sequence and equipment retrieval, information about Participants & the available equipment.

Back-up plans which can be used in emergencies - like alternative routes and emergency evacuation plan.

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of:
   a. Feedback forms
   b. Emergency Response / Evacuation Plan
   c. Critical Incident Report form
   d. Medicines used report form
   e. Equipment logs and equipment damage report form
   f. Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person

Person who refuses to follow safe practices

Person with medical issue that will pose a risk to the Participant

Person who refuses to wear safety gear

Pregnant woman

Person with backache (use first aid protocols to take decision) (follow first aid protocol to help decide)

Qualifications of Leaders

- Formal training

  All Leaders to have undertaken basic rock climbing course from reputed Organizations or having equivalent experience in rock climbing and related activities. Essential: knowledge & experience is important to create complex anchors. Complex anchors mean mix of natural & artificial anchors.

Mandatory:

Chief Leader to have undertaken advance rock climbing course & basic and advance mountaineering courses from reputed organisation. Essential: apart from the complex anchoring techniques, knowledge & practice of rescue on rock routes is a must.

Assistant Leaders to have undertaken basic mountaineering course from Mountaineering Institutes. Rock climbing experience is a must.

Preferable:

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

- Certifications (check if current or lapsed)

  Chief Leader to have current certification in First Aid & CPR from reputed organisation

  Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- Experience
  - Leading groups in hilly terrain and on rock climbs
  - Conducted rock climbing courses (which includes rappelling)
  - Conducting multi-pitch rappelling /rappelling sessions for novices
  - Outdoor pursuits including rock climbing ventures on personal trips
  - Handling emergencies, both medical and non-medical
- Skills
  - Ability to set up anchor stations on natural and artificial surfaces (anchor systems, belaying, rescue operations, safety on approach and exit to all points)
  - Ability to take some hard decisions in case of any emergency
  - Ability to supervise members of Leadership Team
  - Ability to create a safe environment on site; context: approaches to base of climbing site, instructing Participants on what to do and what not to do, and monitoring for safety throughout the climbing session
  - Conservative approach in risk management while handling emergencies
  - Group management skills
  - Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
  - Proficiency in best practices for environmental safety

Safety Note: It has been experienced that there are ventures where it has gotten dark while the group is descending from the top of a pinnacle. Hence it is essential that the Leadership Team should have the experience to handle such a scenario. The Emergency Response Plan of the Organisation should include details like roles of individuals in the Leadership Team along with their respective responsibilities – this would enable the members of the Leadership Team to function as smoothly as possible while handling such situations.

Equipment:

Technical equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194. Semi-static ropes, minimum of 10 mm. diameter (1891 Type A)

Dynamic rope - at least one 'rope-length' for lead climbing (do not use this rope to ascend using ascenders or for belay or for rappel)

Equipment needed to create anchor stations

Padded or non-padded harnesses - (using padded harnesses would be advisable, as it offers more comfort)

Helmets

Mittens or gloves for everyone

Friction devices, carabiners, self-anchors / cow-tails etc.

Gear to create anchors: pitons, pegs, expansion bolts, drill-bit etc

Note: above equipment list is a sample list. Organizations must have a complete equipment list and quantities can be decided on the basis of factors that include but are not limited to number of Participants, length of route, grade of difficulty of route, type and condition of rock on route, etc.

Emergency kit

2 cell phones of different operators, with important contact numbers entered in

2 or 3 pairs of walkie-talkie sets (recommended, to be included only if feasible)

Headlamps – this is a mandatory since Leaders will be operating with this item in darkness only in an emergency

First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)

Chief Leader should organise two meetings: one meeting only with his Leadership Team to focus on the 'Logistics' of the climb. The second meeting is to be done with all Participants, to explain the entire venture

including details of the climb, how the logistics has been planned, expectations from each Participant, etc. Recommended: use slides or photos during these meetings so that Leaders & Participants get a better idea of the challenge they would be facing on the climb.
Check for environmental hazard on activity site, especially the approach to the base (reptiles/insects/fallen branches/loose rocks)
Pre-activity Inspection of Equipment - this has to be the second check. The first check should be done at office / store before packing the equipment.
Fixing the rope - ensure that: both ends of each rope are anchored to an anchoring station, all over-the-edge and rope-on-rope points are protected by appropriate rope protection gear, each member of Leadership Team has independent point for self-anchoring, self-anchors are kept ready on each ledge (as soon as a Participants reaches a ledge he/she should get attached to a ready self-anchor).
If natural resources like trees and boulders are to be used for anchoring stations, ensure that the right kind of trees/boulders are selected.
Recommended: use rope protectors or any kind of thick padding between the rope and surface of natural anchor to minimise friction between the two. (Weight / constant movement of an unprotected rope over trees or boulders causes damage to the rope over a period of time).
Make sure that the entire climb from base to top is connected, that is, fixed rope should cover the entire climb. No section of the climb is kept ‘open’, i.e., there should be no section, no matter how small or easy, which has no fixed rope.
Dry run – a Leader should do the entire climbing-rappelling process on a route on which the ropes have been fixed on the previous day before allowing Participants on to the climb.
Cordon off the areas at the bottom of the rappel while coming down if necessary for the safety of Participants, especially those who have finished the climb and have reached the base – this is to prevent injury due to falling rocks and other matter.
Check the Leaders-to-Participants ratio in the context of Activity site; some parameters include but are not limited to:

- Features of climbing route, e.g., length of route, grade of difficulty of route, type and condition of rock on route, etc., number of ledges and/or

change-over points, number of cruxes, number of rappelling-patches one would need to descend from top the base etc.

- Participant-to-instructor ratio must be kept in mind considering all sections/phases of organised venture (road head - to - climbing point - to - actual climb - to back to road head).
- If the route to base of the climb involves 'scrambling' where rope fixing is needed, then escorting Participants up to and back from the base is recommended: plan for two different Leaders' teams. One would escort Participants from the road head to the base of the climb and back, and the other team would take care of Participants only on the actual climb.

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced Service Provider, and their ability to appropriately set up the rappel, belay Participants and monitor the site for safety
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity Pinnacle climbing expedition are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity
- Organization's Leaders to monitor crucial points and actions of staff for safety (e.g., check all the equipment which will be used by the Participants, check that all staff / Activity Leaders personal gear, each Participant receives a double-check on their personal gear before starting climb etc)

Briefing to Participants:

Description of Adventure Activity in detail: a Leader to do this along with demonstration on how a belay works, an ascender works, a descender works etc; equipment used to be explained; make sure to inform the group about what not to do (e.g., 'do not touch the gate of the screwgate carabiner')

Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity

Inherent risk in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group

Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety

Mandatory practices

For Leadership Team members: being role models, being self-anchored at any point of time during the climb, following environment-safe practices

For Participants: all personal gear, shoes not to be removed, no wandering away from the spots designated by the Leadership Team, all instructions to be followed

Safety precautions for minimisation of risks

Leaders to double check all points of anchor in the anchoring system

Leaders to double check all personal equipment when it has been put on anyone

Leaders to monitor the group at all times (note, adults in group of Participants should only help in non-technical aspects, and Leadership Team is responsible for the safety of the whole group)

Participant training, if required

To be done only if a Participant is found to be struggling.

Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group. For such activities, the Leadership team, including climbing team, should not consume alcohol for at least 12 hours prior to the actual climb.

Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)

Minimisation of environmental impact

No littering

No breaking branches of shrubs and trees

No damage to nearby cultural structures like shrines

At least one trowel in group-kit in case anyone wants to 'take a dump in the woods'

Do's and Don'ts for activity as well as for emergencies

Leader to brief the group
Leader to make clear expectations from everyone in emergency situations well as for emergencies

Instructions for activity / operations

Do not rush through this activity at any point of time; treat each Participant as a fresh one, and do all required safety checks at each stage

Keep emergency kit and first aid kit right from the beginning

Note long hair, loose clothing and accessories/jewellery that can get entangled. Make sure that these are managed before the Participant starts the climb. (Loose hair are tied, loose clothing is tucked in etc.)

Last check on the equipment for each person just before he/she starts climbing using the 'Touch-Say-Confirm' method: touch each item of personal gear on the Participant while saying its name aloud to confirm that all equipment is firmly in place.

Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix

Monitor Participants who have finished climbing and sitting at the base waiting for others to come down.

Monitor changes in environment: look for loose rocks, incoming weather, harmful animals / insects etc.

Monitor for environmental impact – repeat expectations from Participants if necessary

Safety Note: Chief Leader will have to make sure that everyone sitting at the base of the pinnacle or on the ledges while climbing is safe and the place is not over crowded at any point.

Wind up

- Inspect equipment, pack equipment according to norms. Open all knots that are used for joining tapes or ropes on the location itself and then store the equipment.
- Equipment that needs repairs or is to be discarded should be tagged(with a note on the nature of damage) and kept separate
- Fill up all the documents required
- Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork.

Recommendations for Leadership Team

1. Before declaring any such Organised Adventure Activity, the Leadership Team should study the climb in detail. This includes - region of the climb, travelling distance, time from the main city, difficulty level of the climb (as a policy decision, one should select an easy climbing route / pinnacle), height of the climb, how many ledges are available and how many Participants each ledge can accommodate, how many difficult pitches are there in the climb, how do we plan to secure those, how many rappels one would need to reach the base from the summit, do we have to follow the same climbing route to come down, how many climbers, Leaders we have in our team… etc
2. Based on the assessment (point no. 1), following questions should be addressed: how much equipment would be needed? How much of that is available and how much would need to be hired? What should be the maximum group size so that the climb is accomplished in safe time (before darkness sets in)? Accordingly, how many Leaders / climbers we would be needed? What responsibilities would be allocated to of Leader? Make a climbing plan with details of each pitch - this would help to plan the logistics or movement of the Participants. List of entire equipment to be carried on the climb. Would two from organiser's side be required? (One would escorts the Participants to the climbing point and then the Leadership or climbing team takes over.)
3. The entire climbing route (base to top) has to be secured with fixed rope, one day before the actual organised adventure activity. no section of the climb should be kept open.
4. Wherever needed, old anchors on the route should be replaced and the same should be documented. At all ledges or change over points self-anchors to be created and kept ready for Participants to clip in.
5. If there are exposed traverses in the actual climb, fixing of two ropes is mandatory, and each Participant should have two self-anchors (cow-tail) attached to his/her harness during the entire climb.
6. If there are any climbing traverses involved, then belay from both sides to the Participant is mandatory. (The distinction between climbing and walking traverse has to be clear for each Leader.)
7. Participant should be on belay at all the time during climbing, regardless of how small/easy a pitch may be. Also, Participant should be attached to a fixed rope by an ascender / descender / ascending knots, etc.
8. If number of Participants are more than the available place on the top of the pinnacle to accommodate climbers, plan the logistics in such a way that the top doesn't become over crowded – note that overcrowding increases risk for everyone.
9. There has to be at least 2 people sitting at the base of the climb and they will not climb but just sit at the base, for handling any emergency.
10. If this kind of an activity is outsourced to some other climbing team, then enough meetings / interaction with them is required to explain 'what kind of safety is expected by them'. Also one person from the Leadership Team should be with the climbing team when they do the fixing of ropes on the rock route.
11. During the entire climb (base to top and back to base), each Participant must either be on belay, or attached to anchor. Simply put - the Participant should never be off the safety system at any instant.
12. Last one but not the least: re-check on 'everything' before the actual climb.

- end of safety guideline -

17. Safety Guideline for Rappelling

(Dry surface)

Safety Guideline for Rappelling (Dry Surface)

Introduction

Rappelling (also known as abseiling) is being enjoyed as an Adventure Activity by many including novices. Rappelling is a technical activity. If it is not conducted safely it can lead to serious accidents. Since frequency of the activity is very high and novices are involved, Organizations are required to conduct the same in safe manner.

Rappelling is in used diverse fields like rock climbing, caving and industrial settings.

Note: there is a separate guideline for waterfall rappelling

Information required for Leaders

- Activity objectives
- Names and qualification of Leadership Team
- Approach to top and bottom of rappel – check if Participants need escorts / safety lines for clipping-in to use these approaches
- Back-up plans which can be used in emergencies (like alternative routes and/or activities)

Documents in Chief Leader's Folder (recommended):

1. Legal compliance documents (registration documents, permits for campsites, etc.)
2. Personal information of participants and Leaders
3. Undertaking from Participants
4. Risk assessment and mitigation done for location/area and campsite
5. Copies of
   a. Feedback forms
   b. Emergency Response Plan
   c. Emergency Response Procedure
   d. Critical Incident Report form
   e. Medicine-use report form
   f. Equipment logs & equipment damage report form
   g. Information related to outsourced Service Provider including copy of contract

Criteria for deciding on who cannot participate

- Intoxicated person
- Person who refuses to follow safe practices
- Person with medical issue that will pose a risk to the Participant
- Person who refuses to wear safety gear

- Pregnant woman who is at risk of injury
- Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available/improvised, and if rappel height is small (around 30 ft.) IMPORTANT NOTE: Use first aid protocols to take decision.

Qualifications of Leaders

Training	Core competency	Experience
Chief Leader: Basic Rock Climbing Course from a reputed organisation/institute or equivalent competence; First Aid & CPR Certification (valid certificate); Other Leaders: competence in rock climbing systems *Preferable for all Leaders:* -Advance Rock Climbing course from a reputed organisation/ institute -Basic Mountaineering Course -Advance Mountaineering Course -Outdoor Leadership Course - Wilderness First Responder / Wilderness First Aid & CPR	- Expertise & experience in creating robust anchor systems and rappelling systems is crucial - Chief Leader-Expertise & experience of managing rescue on a rappel - Leadership Abilities - Ability to set up rappel stations on natural and artificial surfaces - Ability to supervise Leaders and Participants - Ability to create and maintain a safe environment on a rappelling site - Conservative approach in risk management while handling emergencies - Assertiveness when taking decisions, especially in preventing risky situations and while handling emergencies - Proficiency in best practices for environmental safety - Conservative approach while handling emergencies - Group management skills - Proficiency in best practices for environmental safety	- Experience in conducting rappelling, awareness of hazards - Leading groups in hilly terrain - Conducted rock climbing courses (which includes rappelling) - Conducting rappelling sessions for novices - Handling emergencies, both medical and non-medical

Equipment:

- Technical equipment

Organisation should have a list for the specific activity site.

Check for damage prior to beginning activity.

Natural resources like trees & boulders used for set-up: ensure right kind of trees; locals may be consulted for this.

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

Ropes used for rappelling sessions should not be used for climbing where a rope may be subjected to falls of lead climbers.

Rope usage logs will be maintained.

- Emergency kit
  1. Cell phones as needed, with important contact numbers entered in
  2. Toy Walkie-talkie sets (recommended, to be included only if feasible)
  3. Headlamps – this is mandatory since Leaders will be operating with this item in darkness only in an emergency

Consider the following factors for choice of communication devices:

- Communication between top and bottom of the rappelling cliff	- Remoteness of location
- Reliability of cell phone signal	- Legal considerations

- First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

- Medical history of Participants: ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)
- Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks)
- Set-up activity:
- If possible, select a route which has a gradually sloping at the start (inspires confidence in rappellers)

Anchors built according to prescribed procedure

Each rappelling rope with a knot at its end

All over-the-edge and rope-on-rope points protected by appropriate rope protection gear

Each instructor with independent points for self-anchoring

Leaders: check each other's set-up, especially all anchor points and self-anchor set-ups

- Dry run by Leadership Team

- Cordon off the areas at the top and bottom of the rappel if necessary for the safety of Participants, especially those who have finished or are waiting for their turn at rappelling
- Assign roles according to following factors:
  - The top may be need a person to guide a rappeller in addition to the belayer
  - If approach to the top is hazardous: one Leader to escort Participants to the top
  - Adults in group willing to take on simple responsibilities, e.g., maintaining group discipline, looking after food & water needs and helping consolidate equipment at the base of the rappel: these adults will NOT be given responsibilities related to risk management

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately set up the rappel, belay Participants and monitor the site for safety
- Chief Leader to review roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity rappelling are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity
- Organization's Leaders to monitor crucial points and actions of staff for safety (e.g., check anchor systems to see if they are safe, check that all staff / Activity Leaders are self-anchored when at the top of the rappel, that each Participant receives a double-check on their personal gear before starting the rappel)

Briefing to Participants:

- Information about Activity
- Leader: demonstrate on a small boulder or easy slope at the top/base of the cliff where group is safe; equipment used to be explained; emphasize ‘what not to do’ (e.g., ‘do not touch the gate of the screwgate carabiner’)
- Chief Leader to ascertain any fresh health issue before starting the activity

- Inherent risk in the Adventure Activity & consequences if process is not adhered to
- Responsibility of Participants towards their own safety and others' safety
- Norms & rules about personal gear (e.g., shoes, personal gear, no wandering around, etc.)
- Policy on tobacco, alcohol & other intoxicants
- Cordoned off areas
- Participant training, if required
- Leaders' authority to stop activity when necessary: especially when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants)
- Participants' roles during emergencies
- Environment safety practices

Instructions for activity / operations

- Implement recommendations of Risk matrix
- Ensure that all emergency gear in designated places
- Monitor safety of people & rappelling gear
- Regular head-count of Participants
- Monitor changes in environment: weather, harmful animals, etc.
- Treat each rappeller as a fresh one, and do all required safety checks at each stage
- Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix
- Monitor Participants who have finished rappelling or are waiting for their turn
- Monitor for environmental impact – repeat expectations from Participants if necessary

Safety precautions for minimizing risks

- Leaders to double check all points of anchor in the anchoring system
- Rescue Leader in place with emergency kit and first aid kit right from the beginning
- Ensure that each Participant's hair, loose clothing and jewellery will stay clear of the rappelling device
- Last check on personal gear just before Participant starts rappelling – use 'Touch-Say-Confirm' method: touch each item of personal gear on the participant, say its name aloud, confirm that that item is firmly in place.
- Leaders to monitor the group at all times
- Adults in group of Participants should only help in non-technical aspects, and Leaders are responsible for the safety of the whole group

▪

Wind up

▪ Inspect equipment, pack equipment according to norms

Pack separately equipment that needs repairs or is to be discarded: attach a tag to each item with a note on damage

Do not pack wet gear like ropes and harnesses

▪ Fill up all the documents required

▪ Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- end of safety guideline -

18. Safety Guideline for Waterfall Rappelling

Safety Guidelines for Waterfall Rappelling

Introduction

Waterfall Rappelling (technical name: canyoning/canyoneering) involves 'rappelling done through a running waterfall'. This Adventure Activity is being enjoyed by many including novices. Rappelling is a technical activity. If it is not conducted safely it can lead to serious accidents. Since frequency of the activity is very high and novices are involved, Organizations are required to conduct the same in safe manner.

Information required for Leaders

- Activity objectives
- Names and qualification of Leadership Team
- Approach to top and bottom of rappel – check if Participants need escorts / safety lines for clipping-in to use these approaches
- Back-up plans which can be used in emergencies (like alternative routes and/or activities)

Documents in Chief Leader's Folder (recommended):

1. Legal compliance documents (registration documents, permits for campsites, etc.)
2. Personal information of participants and Leaders
3. Undertaking from Participants
4. Risk assessment and mitigation done for location/area and campsite
5. Copies of
   a. Feedback forms
   b. Emergency Response Plan
   c. Emergency Response Procedure
   d. Critical Incident Report form
   e. Medicine-use report form
   f. Equipment logs & equipment damage report form
   g. Information related to outsourced Service Provider

-

Criteria of exclusion of persons:

- Intoxicated person
- Person who refuses to follow safe practices
- Person with medical issue that will pose a risk to the Participant
- Person who refuses to wear safety gear
- Pregnant woman
- Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available/improvised, and if rappel height is small (around 30 ft.) IMPORTANT: Use first aid protocols to take decision.

Qualifications of Leaders

Training	Core competency	Experience
Chief Leader: Basic Rock Climbing Course from a reputed organisation/ institute or equivalent competence; First Aid & CPR Certification (valid certificate); Other Leaders: competence in rock climbing systems *Preferable for all Leaders:* -Advance Rock Climbing course from a reputed organisation/institute -Basic Mountaineering Course -Advance Mountaineering Course -Outdoor Leadership Course - Wilderness First Responder / Wilderness First Aid & CPR	- Expertise & experience in creating robust anchor systems and rappelling systems is crucial - Chief Leader-Expertise & experience of managing rescue on a rappel - Leadership Abilities - Ability to set up rappel stations on natural and artificial surfaces - Ability to supervise Leaders and Participants - Ability to create and maintain a safe environment on a rappelling site - Conservative approach in risk management while handling emergencies - Assertiveness when taking decisions, especially in preventing risky situations and while handling emergencies - Proficiency in best practices for environmental safety - Conservative approach while handling emergencies - Group management skills - Proficiency in best practices for environmental safety	- Experience in conducting rappelling, awareness of hazards - Leading groups in hilly terrain - Conducted rock climbing courses (which includes rappelling) - Conducting rappelling sessions for novices - Handling emergencies, both medical and non-medical

Equipment:

- Technical equipment

Organisation should have a list for the specific activity site.
Check for damage prior to beginning activity.
Natural resources like trees and boulders to be used for set-up: ensure right kind of trees; locals may be consulted for this.
Specifications about technical equipment that may be used for this Activity are available in Appendix 1 on Page 195. Organizations should exercise judgment while purchasing and using equipment.
Ropes used for rappelling sessions should not be used for climbing where a rope may be subjected to falls of lead climbers.
Preferable choice of key equipment items for waterfall rappelling:

- Ropes with ‘less water absorption’ capacity - these dry faster than the normal ropes

- 'Non-padded' harnesses (full body or seat harness) – same reason as above

Rope usage logs will be maintained.

- **Emergency kit**
  1. Cell phones as needed, with important contact numbers entered in
  2. Toy Walkie-talkie sets (recommended, to be included only if feasible)
  3. Headlamps – this is mandatory since Leaders will be operating with this item in darkness only in an emergency

Consider the following factors for choice of communication devices:

- Communication between top and bottom of the rappelling cliff	- Remoteness of location
- Reliability of cell phone signal	- Legal considerations

- First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

- Medical history of Participants: ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)
- Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks)
- Set up rappelling route(s)
  - If possible, select a route which has a gradually sloping at the start (inspires confidence in rappellers)
  - Anchors built according to prescribed procedure
  - Each rappelling rope with a knot at its end
  - All over-the-edge and rope-on-rope points protected by appropriate rope protection gear
  - Each instructor with independent points for self-anchoring
  - Leaders: check each other's set-up, especially all anchor points and self-anchor set-ups
- Dry run - mandatory

- Cordon off the areas at the top and bottom of the rappel if necessary for the safety of Participants, especially those who have finished or are waiting for their turn at rappelling
- Assign roles according to following factors:
  - The top may be need a person to guide a rappeller in addition to the belayer
  - If approach to the top is hazardous: one Leader to escort Participants to the top
  - Adults in group willing to take on simple responsibilities, e.g., maintaining group discipline, looking after food & water needs and helping consolidate equipment at the base of the rappel: these adults will NOT be given responsibilities related to risk management

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately set up the rappel, belay Participants and monitor the site for safety
- Chief Leader to review roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity rappelling are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity
- Organization's Leaders to monitor crucial points and actions of staff for safety (e.g., check anchor systems to see if they are safe, check that all staff / Activity Leaders are self-anchored when at the top of the rappel, that each Participant receives a double-check on their personal gear before starting the rappel)

Briefing to Participants:

- Information about Activity
- Leader: demonstrate on a small boulder or easy slope at the top/base of the cliff where group is safe; equipment used to be explained; emphasize 'what not to do' (e.g., 'do not touch the gate of the screwgate carabiner')
- Chief Leader to ascertain any fresh health issue before starting the activity

- Inherent risk in the Adventure Activity & consequences if process is not adhered to
- Policy on tobacco, alcohol & other intoxicants
- Responsibility of Participants towards their own safety and others' safety
- Norms & rules about personal gear (e.g., shoes, personal gear, no wandering around, etc.)
- Cordoned off areas
- Participant training, if required
- Leaders' authority to stop activity when necessary: especially when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants)
- Practices as derived from Leave No Trace Seven Principles

Instructions for activity / operations

- Implement recommendations of Risk matrix
- Emergency gear in designated places
- Treat each rappeller as a fresh one, and do all required safety checks at each stage
- Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix
- Monitor safety of people, including Participants who have finished rappelling or are waiting for their turn
- Monitor safety of rappelling gear – do periodic checks on ropes, tapes (webbings) and other items likely to get damaged due to weather conditions and freshly falling objects like rocks and twigs
- Monitor for environmental impact – repeat expectations from Participants if necessary
- Risk management considerations:
  - Sudden increase in water due to rains even out of sight – Leaders should keep an eye on the level of water with the help of water marks (e.g., half-submerged stones)
  - Participant getting overwhelmed if swung under water and needing help and assurance – a Rescue Leader should be ready to rappel down to help such a Participant
  - Difficulty in communication between the top and bottom of the cliff in the presence of waterfall; communication devices should be kept dry along with spare set of batteries

- The chances of a Participant or Leader getting hypothermic – Leaders should be alert to anyone experiencing cold stress and take immediate action to prevent hypothermia; emergency kit should have warm layers, hot and sugary liquid and emergency food

Safety precautions for minimizing risks

- Leaders to double check all points of anchor in the anchoring system
- Rescue Leader in place with emergency kit and first aid kit right from the beginning
- Ensure that each Participant's hair, loose clothing and jewellery will stay clear of the rappelling device
- Last check on personal gear just before Participant starts rappelling – use 'Touch-Say-Confirm' method: touch each item of personal gear on the participant, say its name aloud, confirm that that item is firmly in place.
- Leaders to monitor the group at all times
- Adults in group of Participants should only help in non-technical aspects, and Leaders are responsible for the safety of the whole group

Wind up

- Inspect equipment, pack equipment according to norms

Pack separately equipment that needs repairs or is to be discarded: attach a tag to each item with a note on damage

Do not pack wet gear like ropes and harnesses

- Fill up all the documents required
- Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- ***end of safety guideline*** -

19. Safety Guideline for Expedition to a Trekking Peak

Safety Guideline for Expedition to a Trekking Peak

(This format is to be used by Organisation for formulating its own SOP for an Expedition to a Trekking Peak)

Introduction

Some peaks in Himalaya are defined as 'trekking peaks' - Patalsu near Solang Nala and Manali Peak (both in Manali region), and Stok Kangri (Leh - Ladakh region) are well-known examples. These peaks are "relatively easy" to climb, not requiring climbing vertical ice walls, long crevasse fields, supplemental oxygen, etc. In the past few years, expeditions to these peaks are undertaken as an organised adventure activity where novices can also participate. Keeping this in mind, SGL for this activity have become essential. Without proper safety practices, serious accidents can happen.

It must be kept in mind that although these peaks do not present technical difficulties, any climb above 8000 ft has to be given serious consideration, and all safety precautions are necessary. Basic practices like acclimatization process must also be adhered to. No short cuts should be taken in the process of following SOPs created for the particular peak by the organisation(s).

At MAC we also recommend visiting Indian Mountaineering Foundation's web site or official web page to understand the basic requirements related to permits, norms etc for such expeditions to trekking peaks.

Note - For a peak like Stok Kangri - please refer to the separate specific guideline. In this case, most Participants travel by air and land directly at Leh, which is situated at an altitude of 11,000 ft. above msl. Acclimatization become all the more critical in this case, and becomes crucial for every person to remain fit throughout the expedition.

MAC recommends that the group size for such trekking peak expeditions is restricted to a maximum 12 Participants.

Information required for Leaders

Activity objectives

Names and qualification of Leadership Team, along with Leaders to Participants ratio. For such kind of expeditions one must maintain a good ratio of Leaders to Participant. Also planning related to the guides, porters, cooks etc has to be done meticulously.

It is advisable is that the Leader and the few from Leadership team, should reach the last road head point at least 2 to 3 days prior to the date of arrival of Participants.

Study the entire route of the expedition starting from the road head from where approach march would begin. Wherever required, Participants have to be escorted by Leader(s)such as certain sections where a safety lines for clipping-in is used. Ensure that at any point in time the safety is not compromised. To do this, the Leadership team should study and discuss the entire route with the trekking agency or the local contact.

Monitoring the impact on the environment needs to be taken care, changes in weather conditions to be monitored which will help to take the correct decision related to the movement of the team during the expedition

Back-up plans which can be used in emergencies

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
    a. Feedback forms
    b. Emergency Response / Evacuation Plan
    c. Critical Incident Report form
    d. Medicines used report form
    e. Equipment logs and equipment damage report form
    f. Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person

Person who refuses to follow safe practices

Person with medical issue that will pose a risk to the Participant

Person who refuses to wear safety gear

Pregnant woman

Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available. IMPORTANT: Use first aid protocols to take decision

Person with asthma attack OR breathing problems even at lower altitude or at the last road head point. IMPORTANT: Use first aid protocols to take decision on evacuation

Qualifications of Leaders

- Formal training

All Leaders to have undertaken basic rock climbing course from reputed Organizations or having equivalent experience in adventure and related activities. All Leaders need to have knowledge & experience of leading the groups on high altitudes, selecting the proper camp site location during the expedition, selection of area for toilets, first aid, fixing ropes, anchoring etc.

Preferable:

Chief Leader to have undertaken basic and advance mountaineering courses from reputed organisation. Knowledge & practice of rescue is essential.

Assistant Leaders to have undertaken basic mountaineering course from reputed organisation.

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

- Certifications (check if current or lapsed)

Chief Leader to have current certification in First Aid & CPR from reputed organisation.

Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- Experience

Leading groups

Enough experience of trekking, climbing on high altitude

Outdoor pursuits on personal trips.

Handling emergencies, both medical and non-medical

- Skills

1. Ability to set up anchoring stations (anchor systems, belaying, rescue operations, safety on approach and exit to all points)
2. Ability to supervise members of Leadership Team

3. Ability to create a safe environment during the expedition; context: instructing Participants on what to do and what not to do, and monitoring for safety throughout the expedition
4. Conservative approach in risk management while handling emergencies
5. Group management skills
6. Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
7. Proficiency in best practices for environmental safety

Equipment:

Technical equipment

Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

Semi-static ropes of 10 mm diameter

Equipment needed to create anchors in snow, rock, ice etc.

Padded or non-padded harnesses in dry seasons (full body, or seat harness with chest harnesses)

Good quality camping gear such as tents, sleeping bags, toilet tents, kitchen tents etc

Proper / recommended footwear

Dark glasses (UV protected) are essential

Crampons and other accessories required - if any

Mittens or Gloves for everyone.

Note: Hygiene has to be a priority during camping. Equipment quantity depends on the number of Participants, nature of climb, how many camps are to be set up from base to summit etc.

Emergency kit

1. At least one cell phone, with important contact numbers entered in. Possibility of using satellite phones on such expeditions can be explored, but all necessary permissions from authority have to be secured prior to the expedition.
2. Toy Walkie-talkie sets - (recommended, to be included only if feasible)

First aid kit - In addition to standard first aid kits, these expeditions also require Oximeter, supplementary oxygen cylinder(s), folding stretcher etc

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)

Check for damage to the equipment prior to beginning of actual use - this has to be the 2nd check. The first checking should be done at the last road head point before leaving for the expedition. This includes climbing / mountaineering gear, camping gear etc.

Checking the 'personal kit' of each member is essential at the road head camp or hotel location. Once the team begins the approach march, there may be no possibility of procuring even small items.

If resources like trees, boulders, pitons, anchors in ice/snow anchors etc are to be used for anchoring, then all anchoring equipment should be certified and proper rope protection equipment / padding methods are in place.

Check for environmental hazard: (reptiles/insects/fallen branches/loose rocks)

A detailed meeting with the trekking agency or local contact is required where the entire plan is formulated. Including Participants' accommodation, provision of toilet tents, camping gear, food, equipment, packing, evacuation, porters, cooks, guides and any other site-specific details. This would ensure good coordination between the organiser and trekking agency once the expedition begins, and will avoid any guess-work during decision-making.

Dry run of the expedition - logistics of the expedition is in place. Which would have all the details related to group movement, rough camping locations, summit date, return plan, evacuation plan etc.

Check the Leaders, porters, guides to Participants ratio in the context of expedition, some of these parameters are:

Nature of the route of the trekking peak, how many number of Participants are there in the group, no. of days in the mountains etc.

The approach to each camping location - means the route between the two camping locations.

Service Providers

Chief Leader to review contract signed with outsourced Service Provider

Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to lead the groups on such expeditions

Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider

Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the expedition are clearly communicated to outsourced Service Provider and ensure implementation of the same. Acclimatization process needs to be followed, by way of acclimatization walks or short trek before actual start of the expedition.

Organization's Leaders to monitor crucial points and actions of staff for safety (e.g. check the entire camping, climbing gear, meal menu etc)

Briefing to Participants:

Description of Adventure Activity - Expedition: details of the entire expedition, stressing the importance like acclimatization, drinking enough water, hygiene is must during these briefings. Explain the entire logistics plan.

IMPORTANT: this has to be the 2nd and final briefing to Participants. For such Expeditions, the first detailed briefing has to be done at least a month before the actual expedition.

Check any fresh health issues of the entire team

Inherent risk in the expedition & consequences if process is not adhered to: a Leader to clearly state this to the whole group

Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety

Mandatory practices

For Leadership Team members: role modelling, environment-safe practices

For Participants: all instructions to be followed

Safety precautions for management of risks

Leaders to double check every important thing
Leaders to double check all personal equipment
Rescue plan to be kept ready
Leaders to monitor the group at all times

Participant training, if required: for such expeditions using of ice axe, sleeping bag, tent manners etc to be explained to Participants during the briefing

Policy of '**no alcohol, tobacco and drugs**': Leaders to ensure that this is followed strictly by everyone in the whole group

Leaders' **authority to stop activity when necessary**: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)

Minimisation of environmental impact

No littering
No breaking branches of shrubs and trees
No damage to nearby cultural structures like shrines
Leader to make clear expectations from everyone in emergency situations

Instructions for activity / operation

Do not rush at any point during this entire expedition, treat each Participant as a fresh one, and do all required safety checks at each stage
Rescue plan has to be on paper with the rescue gear
Ensure that each Participant following the acclimatization process and other important things
Last check on the equipment: climbing / mountaineering, camping etc
Ensure coverage of all actions for prevention of risks as per Risk Matrix
Monitor Participants who may have some problems on higher altitudes
Monitor changes in environment
Monitor for environmental impact – repeat expectations from Participants if necessary

Wind up

Inspect equipment, pack equipment according to norms. Open all knots that are used for joining tapes or ropes on the location itself and then store the equipment.

Equipment that needs repairs or is to be discarded should be tagged(with a note on the nature of damage) and kept separate

Ensure that sleeping bags, shoes, tents etc are completely dry before packing and that each item is in good condition.

Do not pack wet gear like ropes and harnesses

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- end of safety guideline -

20.Safety Guideline for Stok Kangri (Ladakh) Expedition

Safety Guideline for Stok Kangri (Ladakh) Expedition

(This format is to be used by Organisation for formulating its own SOP for an Expedition to Stok Kangri)

Introduction

Some peaks in Himalaya are defined as 'trekking peaks' - Patalsu near Solang Nala and Manali Peak (both in Manali region), and Stok Kangri (Leh, Ladakh region) are well-known examples. These peaks are "relatively easy" to climb, not having patches/stretches like vertical ice walls, long crevasse fields, requiring supplemental oxygen, etc. In the past few years, expeditions to these peaks are undertaken as an Organised Adventure Activity where novices can also participate. In the absence of requisite safety factors that include but are not limited to competent on-field guidance, appropriate equipment, safe practices, serious accidents can happen. Hence it becomes essential for Organizations to follow safety guideline for this Adventure Activity.

While trekking peaks do not have technical difficulties like rock patches and ice cliffs, since their summits tend to be above 8000 ft. high altitude is an environmental hazard that needs serious consideration. Overall, it becomes crucial for any expedition to meticulously follow Standard Operating Procedures prepared by an Organisation for a particular peak (based on this safety guideline).

Recommended: Organisation should study Indian Mountaineering Foundation's website to get to know basic requirements related to permits, norms etc. for expeditions to trekking peaks.

This current safety guideline is meant specifically for Mt. Stok Kangri (6,153 metres, 20,187 ft)

Note:

1. Most Participants and Leaders travel by air to Leh situated 11,000 ft. above msl. Hence, acclimating well before embarking on the expedition is critical.

Recommended: Expedition Team should spend at least 3 days in and around Leh following acclimatization process in order to be fit enough to go to climb Mt. Stok Kangri.

Preferable: Chief Leader and few from Leadership Team reach Leh 2 to 3 days prior to the date of arrival of Participants. This would help them acclimatise in time to take care of local purchases, interaction with support agency and other tasks.

2. Recommended: restrict group size maximum 12 Participants. Large groups can become a safety issue on trekking peaks.

Information required for Leaders

Activity objectives

Names and qualification of Leadership Team, along with Leaders to Participants ratio. Smaller the ratio better it is in terms of safety.

Detailed Expedition Plan (guides, porters, cooks, equipment, logistics on the mountain, etc.)

Back-up plans which can be used in emergencies - like alternative routes and emergency evacuation plan. This has to be done in consultation with the contracted Service Provider (usually a local trekking agency) in Leh.

Information about

- The entire route of the expedition starting from the road head from where approach-march would begin.
- Patches/stretches where Participants will need to be escorted by a Leader
- Patches/stretches where a safety line for clipping-in is to be used.
- Recommended: Leadership Team should study peak-related information and discuss the entire route with the contracted Service Provider (usually a local trekking agency) prior to leaving for the climb.

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for Mt. Stok Kangri
5. Copies of
   a. Feedback forms
   b. Emergency Response / Evacuation Plan
   c. Critical Incident Report form
   d. Medicines used report form
   e. Equipment logs and equipment damage report form
   f. Information related to outsourced Service Provider including copy of contract document

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Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person

Person who refuses to follow safe practices

Person with medical issue that will pose a risk to the Participant

Person who refuses to wear safety gear

Pregnant woman

Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available. IMPORTANT: Use first aid protocols for taking decision

Person with asthma attack OR breathing problems even at Leh; IMPORTANT: Use first aid protocols for taking decision on evacuation

Qualifications of Leaders

- Formal training

Chief Leader to have undertaken basic mountaineering course from recognised mountaineering institutes or having equivalent experience in mountaineering and related activities. All Leaders need to have knowledge & experience of leading groups at high altitudes, selecting proper camp site locations during the expedition, selection of area for toilets, first aid, fixing ropes, anchoring etc.

Preferable:

Chief Leader to have undertaken basic and advance mountaineering courses from recognised mountaineering institutes. Knowledge & practice of rescue is essential.

Assistant Leaders to have undertaken basic mountaineering course from recognised mountaineering institutes.

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

- Certifications (check if current or lapsed)

Chief Leader to have current certification in First Aid & CPR from reputed organisation.

Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- Experience

  Leading groups

  Enough experience of trekking, climbing on high altitude

  Outdoor pursuits on personal trips.

  Handling emergencies, both medical and non-medical

- Skills

1. Ability to set up anchoring stations (anchor systems, belaying, rescue operations, safety on approach and exit to all points)
2. Ability to supervise members of Leadership Team
3. Ability to create a safe environment during the expedition; context: instructing Participants on what to do and what not to do, and monitoring for safety throughout the expedition
4. Conservative approach in risk management while handling emergencies
5. Group management skills
6. Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
7. Proficiency in best practices for environmental safety

Equipment:

- Technical equipment

Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

Semi-static ropes of 10 mm diameter to be used as fixed ropes only (no lead climbing is to be done on semi-static ropes)

Equipment needed to create anchors in snow, rock, ice etc.

Padded or non-padded harnesses in dry seasons (full body, or seat harness with chest harnesses)

Camping gear such as tents, sleeping bags, toilet tents, kitchen tents etc. meant for terrain conditions and weather conditions on Mt. Stok Kangri.

Footwear recommended for snow conditions

Dark glasses (UV protected) are essential

Crampons and other accessories required - if any

Warm mittens and gloves for everyone.

Equipment quantity depends on the number of Participants, nature of climb, how many camps are to be set up from base to summit etc.

Emergency kit

1. At least one cell phone, with important contact numbers entered in. Possibility of using satellite phones on such expeditions can be explored, but all necessary permissions from authority have to be secured prior to the expedition.
2. Toy Walkie-talkie sets – recommended, to be included only if feasible

First aid kit - In addition to standard first aid kits, these expeditions also require Oximeter, supplementary oxygen cylinder(s), folding stretcher etc.

IMPORTANT: Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)

Check for damage to the equipment prior to beginning of actual use - this has to be the 2nd check. The first checking should be done at the last road head point before leaving for the expedition. This includes climbing / mountaineering gear, camping gear etc.

Checking the 'personal kit' of each member is essential at the road head camp or hotel location. Once the team begins the approach march, there may be no possibility of procuring even small items.

A detailed meeting with the trekking agency or local contact is required where the entire plan is formulated. Including Participants' accommodation, provision of toilet tents, camping gear, food, equipment, packing, evacuation, porters, cooks, guides and any other site-specific details. This would ensure good coordination between the organiser and trekking agency once the expedition begins, and will avoid any guess-work during decision-making.

Although Stok Kangri is a trekking peak, the stretch from final camp to summit and back to the same camp is a long one; and can take about 16

hours. Continuous monitoring the fitness level of every Participant is critical. Leadership qualities, experience of high altitude treks/expeditions, and ability to assess the situation and taking decisions is very important. If a Participant has to be told to abandon the summit attempt and return to base camp, then s/he has to be accompanied by a Leader. Also since Ladakh is an extremely dry area with low moisture content, nose bleeds can be a common occurrence. If Participant(s) refuse to abandon the summit attempt the Leader has to be assertive and not give in to demands made by such Participant(s).

If resources like trees, boulders, pitons, anchors in ice/snow anchors etc are to be used for anchoring, then all anchoring equipment should be certified and proper rope protection equipment / padding methods are in place.

Dry run of the expedition - logistics of the expedition is in place. Which would have all the details related to group movement, rough camping locations, summit date, return plan, evacuation plan etc.

Check numbers of Leaders, porters, guides in the context of expedition; these numbers will be influenced by factors that include but are not limited to:

- Nature of the route of the trekking peak, number of Participants number of days in the mountains etc.
- The approach to each camping location – i.e., route between two camping locations.

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to lead the groups on such expeditions
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the expedition are clearly communicated to outsourced Service Provider and ensure implementation of the same. Acclimatization process needs to be ensured by way of acclimatization walks or short trek before actual start of the expedition.

- Organization's Leaders to monitor crucial points and actions of staff for safety (e.g. check the entire camping, climbing gear, meal menu, etc.)

Briefing to Participants:

- Description of Adventure Activity - Expedition: details of the entire expedition, stressing the importance like acclimatization, drinking enough water, hygiene is must during these briefings. Explain the entire logistics plan.
- IMPORTANT: this has to be the 2nd and final briefing to Participants. For such Expeditions, the first detailed briefing has to be done at least a month before the actual expedition.
- Check any fresh health issues of the entire team
- Inherent risk in the expedition & consequences if process is not adhered to: a Leader to clearly state this to the whole group
- Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety
- Mandatory practices

For Leadership Team members: role modelling, environment-safe practices
For Participants: all instructions to be followed

- Safety precautions for management of risks

Leaders to double check every important thing
Leaders to double check all personal equipment
Rescue plan to be kept ready
Leaders to monitor the group at all times

- Participant training, if required: depending on terrain conditions at the time of the expedition and Participant skills, it may be necessary to impart very basic level of training in the use of ice axe, sleeping bag, tent-use and hygiene practices in snow conditions. Such a training session needs to be scheduled in the overall plan.
- Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group
- Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimisation of environmental impact
- No damage to nearby cultural structures like shrines

- Leader to make clear expectations from everyone in emergency situations well as for emergencies

Instructions for activity / operations

Do not rush at any point during this entire expedition, treat each Participant as a fresh one, and do all required safety checks at each stage

Rescue plan has to be on paper with the rescue gear

Ensure that each Participant following the acclimatization process and other safety practices

Last check on the equipment: climbing / mountaineering, camping etc

Ensure coverage of all actions for prevention of risks as per Risk Matrix

Monitor Participants who may have some problems on higher altitudes

Monitor changes in environment

Monitor for environmental impact – repeat expectations from Participants if necessary

Hygiene has to be a priority during camping

Wind up

Inspect equipment, pack equipment according to norms. Open all knots that are used for joining tapes or ropes on the location itself and then store the equipment.

Equipment that needs repairs or is to be discarded should be tagged(with a note on the nature of damage) and kept separate

Ensure that sleeping bags, shoes, tents etc are completely dry before packing and that each item is in good condition.

Do not pack wet gear like ropes and harnesses

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- end of safety guideline -

21. Safety Guideline for Ropes Course - Permanent

Safety Guideline for Permanent Ropes Course

(This format is to be used by Organizations for formulating their own SOP for 'Permanent High Ropes Course' set-up)

Introduction

There are a numerous hotels, resorts and adventure companies that have established sites for adventure activities. These are typically organised in big open spaces, and have permanent set-up of adventure activities like Burma Bridge, zip line, hanging tyre traverse, high ropes, low level course etc. Such setups are called as 'Permanent Ropes Courses'. The activities included in such courses are called 'elements'.

In low ropes courses the lowest ropes are no higher than one metre above the ground. There is no belay system for safety. Managing safety involves teamwork by bringing in the process of 'spotting'.

A belay system is mandatory for all high elements in a Permanent high ropes course.

Also termed as 'challenge courses', these are used for a variety of purposes, including leisure and enjoyment, education and therapy. If appropriate safety measures are not put in place then it can lead to serious accidents.

MAC recommends that Organizations should follow Safety Standards by internationally recognised associations known to be the reliable and final authority. Three examples are:

European Standard: EN 15567:2015 (Sports and recreational facilities – Ropes courses:

Part 1: Construction and safety requirements;

Part 2: Operation requirements).

Association of Challenge Course Technology

ANSI/ACCT 03-2019 Standards which contain Definitions of Terminology, Design, Performance, and Inspection Standards, Operation Standards, and Training Standards

European Ropes Course Association

ERCA Standards comprise guidelines for installation, inspection and operation of ropes courses.

However, such Standards are new in India so MAC recommends that following procedure should be followed when creating a Permanent Ropes Course set-up:

Soil testing of the area where the facility is to be erected
Consultation by an architect
Drawings provided by a structural engineer
Competent supervision in person by adventure specialist and structural engineer throughout the construction
Getting the facility validated by a structural engineer

It is crucial that the architect and structural engineer responsible for the design and erection of the course be briefed about the special features and requirements, along with all hazards – structural as well as operational. This briefing needs to be based on the international Standards mentioned above, and should include but not be limited to

- The direction of forces (pull) acting on anchors
- Specifications of all steel cables (wire ropes) needed for safe operation of the Ropes Course
- Total weight of all equipment including wire ropes
- Recommendations for periodic inspection
- Effect of weather conditions on the structure
- Operational aspects including safety of people that may affect construction (e.g., access ladders and location of platforms)
- Aspects that would help the structural engineer to recommend periodicity of inspection and review of the structure – these may include aspects like, but not limited to, the following: number of people expected to use the ropes course, time of year when ropes course will be in use and not in use, nature of daily operational checks by Leaders, etc.

These details should help the architect and structural engineer to design the Ropes Course structure, organise appropriate materials, type of welding, and any other parameters that will affect the safety features.

Organisation should monitor the entire erection of Permanent Ropes Course to make sure that work is going as per planned design, with no compromise on material and workmanship. Once installation is completed, operations should not begin before a thorough installation-check has been undertaken by architect and structural engineer. Periodic inspection of the structure as advised by structural engineer is essential.

Information required for Leaders

Activity objectives

Names and qualification of Leadership Team, along with Leaders to Participants ratio

Approach to all elements of ropes course – ensure that these are safe approaches

Back-up plans which can be used in emergencies. Leaders should practice the procedure of rescue and evacuation on a regular basis.

Details of previous inspection of the Ropes Course and all related equipment such as harnesses, webbings, carabiners, pulleys etc.

Documents in Chief Leader's Folder (recommended, as valid for specific operations):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
   a. Feedback forms
   b. Emergency Response / Evacuation Plan
   c. Critical Incident Report form
   d. Medicines used report form
   e. Equipment logs and equipment damage report form
   f. Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person

Person who refuses to follow safe practices

Person with medical issue that will pose a risk to the Participant

Person who refuses to wear safety gear

Pregnant woman

Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available/improvised (follow first aid protocols to decide)

Qualifications of Leaders

- Formal training

All Leaders to have undertaken basic rock climbing course from reputed Organizations or having equivalent experience in adventure and related activities.

Preferable: Chief Leader to have undertaken basic and advance mountaineering courses from reputed organisation and having good knowledge, practice of rescue (Organisation should ensure such rescue-practice is undertaken).

Assistant Leaders to have undertaken basic mountaineering course from reputed organisation.

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

- Certifications (check if current or lapsed)

Chief Leader to have current certification in First Aid & CPR from reputed organisation

Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- Experience

Leading groups in Adventure Programs

Conducted Adventure Activity courses

Outdoor pursuits on personal trips.

Handling emergencies, both medical and non-medical

- Skills

Ability to check / inspect anchors on both platforms, locking U clamps, checking if there is any slippage of cables from the U clamps, general condition the cables and other related climbing / mountaineering equipment etc

Ability to supervise members of Leadership Team

Ability to create a safe environment on the activity site; context: approaches to all the elements of ropes course, instructing Participants on what to do and what not to do, and monitoring for safety throughout a session

Conservative approach in risk management while handling emergencies

Group management skills

Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies

Proficiency in best practices for environmental safety

Equipment:

- Technical equipment

Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

Use 10 mm., 11 mm. or 12 mm. cables with ISI mark for creating all elements

U-clamps, Turn Buckles, Thimbles, Nut bolts etc. I, C channels, Pipes etc - of reputed brand / company.

The wall thickness of such structural steel should be minimum 5 mm. The construction steel is to have ISI mark; concrete grade should be minimum M 25 or M 30 depending upon the soil testing report.

All exposed parts of structural steel is to be coated with anti-rust paint of approved quality.

Wherever climbing ropes are required, 11 or 12 mm. semi-static ropes should be used.

Use 'non-padded' harnesses (full body or seat harness or chest harnesses) if activity is conducted during monsoon / rainy season. This helps to dry the harnesses faster than the padded harnesses. Padded harnesses don't dry quickly and that is harmful for the tape inside the padding. However, in dry weather, padded harnesses are the most comfortable for all undertaking a Ropes Course experience.

If a Zip Line is one of the elements then use the safety guideline meant for 'Zip Line – Permanent Set-up'. Same is valid for elements that have operations similar to that of Zip Line.

Note:

1. Certified & tested Continuous Belay System should be used. This ensures that Participant is not "off belay" while shifting between elements on a Ropes Course.
2. IMPORTANT: The Participant's harness should always have 2 self-anchors (also called 'cow-tails') for attachment.
3. There are situations where a Participant or Leader runs the risk of suffering from 'suspension trauma'; e.g., in case of injury, a person may stay suspended in a near-vertical position in his/her harness for a long time before rescuers can evacuate him/her, or a rescuer may spend a long time in his/her harness during rescue operations. Organisation should have relevant products that are to be used in conjunction with certified harnesses to prevent suspension trauma. Please refer to the note in the following box.

Suspension Trauma, also known as Harness Hang Syndrome (HHS), is a phenomenon which occurs when the human body is hung upright without any movement for a period of time. If the person is strapped into a harness and kept hanging for a certain period of time without making any movement, they will eventually faint due to impaired circulation. Fainting while remaining vertical increases the risk of death. The most common cause is accidents in which the patient remains motionless suspended in a harness for long periods of time.

How to avoid Suspension Trauma: use either of the products shown here as illustrations OR similar products. Such a product is to be used as an attachment, 'along with the person's harness'. In addition to preventing Suspension Trauma this kind of product also makes the activity more comfortable since it gives a feeling of sitting in a chair. Rescuers are advised to use this for getting more comfort in case of a rescue .
NOTE: This is NOT a replacement or an alternate option to the harness. It has to be used with the harness. MAC document does not endorse any brand, the images used just as illustrations.

Emergency kit

1. At least one cell phone, with important contact numbers entered in
2. Toy Walkie-talkie sets - number of sets to be decided on how big the area is for such permanent ropes courses (recommended, to be included only if feasible)

First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

- Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)
- Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks)
- Check Equipment for damage prior to beginning activity - this has to be the 2nd check. The first checking should be done at office / store before packing the equipment.
  If trees are to be used for activity set-up, ensure that the right kind of trees are selected.

Safety Note for trees:

- The trees should be very big in size and are of a species that spread their roots wide and have trunk and branches that withstand huge stresses; necessary expertise in this matter needs to be consulted (e.g., botanists specialising in flora of the region in question, local agriculturists)
- Use protectors or any kind of thick padding between the cable and the tree to avoid the direct contact / friction between the two. Regardless of the size and strength of any tree, the weight and constant movement of the cable during the activity damages the tree over a period of time.
- Common practice is to use wooden planks between the cable and the tree as tree protectors. After few years, depending on the growth of the tree, the loosen the cable and provide enough space for a tree to grow further is must.
- Checking the condition of the bungee cords used as brakes for the zip line, every time before and after the activity is mandatory.
- Dry run and equipment inspection
- Cordon off the areas if necessary for the safety of Participants, especially those who have finished or are waiting for their turn
- Check the Leaders to Participants ratio in the context of Activity site; some parameters that influence this ratio include but are not limited to:
  - Nature of permanent Ropes Course set-up: how big is the area of activity, number of Participants, age group (kinds in such environment need more attention) etc.
  - The approach: if this is hazardous this may need a Leader to act as an escort for Participants.
  - Whether there are adults in the group who are willing to take on simple responsibilities like maintaining group discipline, looking after food and water needs of the group and helping consolidate equipment etc. (such adults are NOT to be given responsibilities related to risk management)

Service Providers

Chief Leader to review contract signed with outsourced Service Provider
Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately conduct the activity

Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider

Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity

Organization's Leaders to monitor crucial points and actions of staff for safety (e.g., check anchor systems to see if they are safe, check wire ropes, U clamps etc, climbing equipment, check that all staff / Activity Leaders are always self-anchored, that each Participant receives a double-check on their personal gear before starting the activity)

Briefing to Participants:

- Description of Adventure Activity in detail: a Leader to do this along with demonstration on the Ropes Course; equipment used to be explained; make sure to tell the group about what not to do (e.g., 'do not touch the gate of the screw-gate carabiner', why there are 2 self anchors are given provided, what's the use, how its more safe etc)
- Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity
- Inherent risk in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group
- Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety
- Mandatory practices

For Leadership Team members: Being role models, being self-anchored at any point of time during the activity, following environment-safe practices
For Participants: all personal gear, shoes not to be removed, no wandering away from the spots designated by the Leadership Team, all instructions to be followed

- Safety precautions for minimization of risks

Leaders to double check all points of anchor in the anchoring system
Leaders to double check all personal equipment when it has been put on anyone
Rescue Leader or Leaders to be dressed properly with entire rescue kit placed on their harness.

Leaders to monitor the group at all times (note, adults in group of Participants should only help in non-technical aspects, and Leadership Team is responsible for the safety of the whole group)

- Participant training

Leaders should be alert to personally help any Participant found to be struggling without being intensely afraid (if a Participant is 'intensely afraid', Leaders should follow fist aid protocols)

- Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group

  Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
  Minimisation of environmental impact
  No damage to nearby cultural structures like shrines
  Leader to brief the group
  Leader to make clear expectations from everyone in emergency situations well as for emergencies

Instructions for activity / operations

- Do not rush through this activity at any point of time; treat each Participant as a fresh one, and do all required safety checks at each stage
- Rescue Leader should be in place with emergency kit and first aid kit throughout the activity

Note: long hair, loose clothing and accessories/jewellery that can get entangled. Make sure that these are managed before the Participant gets on the Ropes Course. (Loose hair are tied, loose clothing is tucked in etc.)

- Last check on the equipment for each person just before he/she starts the activity using the 'Touch-Say-Confirm' method: touch each item of personal gear on the Participant while saying its name aloud to confirm that all equipment is firmly in place.
- Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix
- Monitor Participants who have finished or are waiting for their turn
- Monitor changes in environment

- Monitor environment friendly practices – repeat expectations from Participants if necessary

Wind up

Inspect equipment, pack equipment according to norms. Open all knots that are used for joining tapes or ropes on the location itself and then store the equipment.

Equipment that needs repairs or is to be discarded should be tagged(with a note on the nature of damage) and kept separate

Do not pack wet gear like ropes and harnesses

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- ***end of safety guideline -***

22. Safety Guideline for Ropes Course - Temporary

Safety Guideline for Temporary Ropes Course

(This format is to be used by Organizations for formulating their own SOP for 'Temporary High Ropes Course' set-up)

Introduction

There are a numerous hotels, resorts and adventure parks that have large open areas. These offer the possibility of setting up temporary adventure activities like Burma Bridge, short Zip Line, hanging tyre traverse, high ropes etc. Such set-ups are called as 'Temporary High Ropes Course'. Activities included in these courses are called 'elements'.

In low ropes courses the lowest ropes are no higher than one metre above the ground. There is no belay system for safety. Managing safety involves teamwork by bringing in the process of 'spotting'.

A belay system is mandatory for all elements in a Temporary High Ropes Course.

Also termed as 'challenge courses', these are used for a variety of purposes, including leisure and enjoyment, education and therapy. This activity has gained popularity in the past few years, and the number of installations is constantly on the rise. This activity can be undertaken even by novices without any technical training. But it must be noted that if this activity is conducted with improper equipment, inappropriate rigging and by incompetent Leaders then it can lead to injury and serious accidents. Hence Organizations are required to conduct the same in safe manner.

MAC recommends that Organizations should follow Safety Standards by internationally recognised associations known to be the reliable and final authority. Three examples are:

European Standard: EN 15567:2015 (Sports and recreational facilities – Ropes courses:

Part 1: Construction and safety requirements;

Part 2: Operation requirements).

Association of Challenge Course Technology

ANSI/ACCT 03-2019 Standards which contain Definitions of Terminology, Design, Performance, and Inspection Standards, Operation Standards, and Training Standards

European Ropes Course Association

ERCA Standards comprise guidelines for installation, inspection and operation of ropes courses.

However, such Standards are new in India so MAC recommends that with requisite knowledge, certified equipment, planning, appropriate anchors that follow anchoring guidelines, and awareness of handling emergencies etc, a safe Temporary High Ropes Course can be created.

Information required for Leaders

Activity objectives

Names and qualification of Leadership Team, along with Leaders to Participants ratio

Approach to all elements of ropes course – ensure that these are safe approaches

Back-up plans which can be used in emergencies. Leaders should practice the procedure of rescue and evacuation on a regular basis.

Since it is a temporary set-up, Leaders should do a full inspection of the set-up, anchors and related equipment. A dry run by the Leadership Team of activity before opening up these activities for Participants is mandatory.

Details of previous inspection of the Ropes Course and all related equipment such as harnesses, webbings, carabiners, pulleys etc.

Documents in Chief Leader's Folder (recommended, as valid for specific operations):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
   a. Feedback forms
   b. Emergency Response / Evacuation Plan
   c. Critical Incident Report form
   d. Medicines used report form
   e. Equipment logs and equipment damage report form
   f. Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person

Person who refuses to follow safe practices

Person with medical issue that will pose a risk to the Participant

Person who refuses to wear safety gear

Pregnant woman

Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available/improvised (follow first aid protocols to decide)

Qualifications of Leaders

- **Formal training**

  All Leaders to have undertaken basic rock climbing course from reputed Organizations or having equivalent experience in adventure and related activities. Every Leader should have experience of creating anchors and belay system for such temporary ropes course.

  Preferable: Chef Leader to have undertaken basic and advance mountaineering courses from reputed organisation and having good knowledge, practice of rescue (Organisation should ensure such rescue-practice is undertaken).

Assistant Leaders to have undertaken basic mountaineering course from reputed organisation.

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

- **Certifications (check if current or lapsed)**

  Chief Leader to have current certification in First Aid & CPR from reputed organisation

  Preferable:

  Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

  All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- **Experience**

  Leading groups in Adventure Programs

  Previous experience in creating Temporary Ropes Courses

  Conducted Adventure Activity courses

  Outdoor pursuits on personal trips.

  Handling emergencies, both medical and non-medical

- **Skills**

  Ability to check / inspect anchors for all ropes, general condition the cables and other related climbing / mountaineering equipment etc

  Ability to supervise members of Leadership Team

  Ability to create a safe environment on the activity site; context: approaches to all the elements of ropes course, instructing Participants on what to do and what not to do, and monitoring for safety throughout a session

  Conservative approach in risk management while handling emergencies

  Group management skills

Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies

Proficiency in best practices for environmental safety

Equipment:

- **Technical equipment**

  Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment

  Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

  Use certified and tested semi-static ropes of minimum 10 mm diameter

  Use 'non-padded' harnesses (full body or seat harness or chest harnesses) if activity is conducted during monsoon / rainy season. This helps to dry the harnesses faster than the padded harnesses. Padded harnesses don't dry quickly and that is harmful for the tape inside the padding. However, in dry weather, padded harnesses are the most comfortable for all undertaking a Ropes Course experience.

  Use only tandem pulleys meant for cables (i.e., wire ropes) made to standards recommended by CE / EN, UIAA, ANSI (these pulleys are also known as known as 'pulley trains'). DO NOT USE SINGLE PULLEYS FOR THIS ACTIVITY.

  If a Ropes Course has a Zip Line or similar elements then use the safety guideline meant for 'Zip Line – Permanent Set-up'.

  NOTE:

  1. **Certified & tested Continuous Belay System** should be used. This ensures that Participant is not "off belay" while shifting between elements on a Ropes Course.
  2. **IMPORTANT**: The Participant's harness should always have 2 self-anchors (also called 'cow-tails') for attachment.
  3. **Mandatory**: each element must have a rope above the top rope of the element which serves as the 'safety rope' to which a Participant is attached through a self-anchor. The length of this self-anchor should be such that there is virtually no slack in it – Leaders should ensure this

uniformity while rigging up the Temporary Ropes Course. Each person – Leaders as well as Participants – should have two self-anchors.

4. There are situations where a Participant or Leader runs the risk of suffering from 'suspension trauma'; e.g., in case of injury, a person may stay suspended in a near-vertical position in his/her harness for a long time before rescuers can evacuate him/her, or a rescuer may spend a long time in his/her harness during rescue operations. Organisation should have relevant products that are to be used in conjunction with certified harnesses to prevent suspension trauma. Please refer to the note in the following box.

Suspension Trauma, also known as Harness Hang Syndrome (HHS), is a phenomenon which occurs when the human body is hung upright without any movement for a period of time. If the person is strapped into a harness and kept hanging for a certain period of time without making any movement, they will eventually faint due to impaired circulation. Fainting while remaining vertical increases the risk of death. The most common cause is accidents in which the patient remains motionless suspended in a harness for long periods of time.

How to avoid Suspension Trauma: use either of the products shown here as illustrations OR similar products. Such a product is to be used as an attachment, 'along with the person's harness'. In addition to preventing Suspension Trauma this kind of product also makes the activity more comfortable since it gives a feeling of sitting in a chair. Rescuers are advised to use this for getting more comfort in case of a rescue .
NOTE: This is NOT a replacement or an alternate option to the harness. It has to be used with the harness. MAC does not endorse any brand, the images used just as illustrations.

Emergency kit

1. At least one cell phone, with important contact numbers entered in
2. Toy Walkie-talkie sets - number of sets to be decided on how big the area is for such permanent ropes courses sets (recommended, to be included only if feasible)

First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

- Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)
- Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks)
- Set-up activity; ensure that: all over-the-edge and rope-on-rope points are protected by appropriate rope protection gear, each member of Leadership Team has independent points for self-anchoring. Protect all ropes and tapes that are over an edge.
- Dry run and pre-activity inspection of all equipment
- Cordon off the areas if necessary for the safety of Participants, especially those who have finished or are waiting for their turn
- Check the Leaders to Participants ratio in the context of Activity site; some of these parameters are:

  Nature of temporary ropes course set-up: how many activities are set-up, how big is the area of activity, number of Participants, age group (kids in such environment need more attention) etc.

  The approach to each activity: if this is hazardous the this may need a Leader to act as an escort for Participants.

  Whether there are adult Participants who are willing to take on simple responsibilities like maintaining group discipline, looking after food and water needs of the group and helping consolidate equipment etc. (such adults are NOT to be given responsibilities related to risk management)

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately set up the temporary ropes course, belay systems wherever it is needed and monitor the site for safety
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider

- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity
- Organization's Leaders to monitor crucial points & actions of staff for safety (e.g. check entire temporary ropes course set-up, check anchor systems, belay, approaches to each activity etc.)

Briefing to Participants:

- Description of Adventure Activity in detail: a Leader to do this along with demonstration on the Ropes Course; equipment used to be explained; make sure to tell the group about what not to do (e.g., 'do not touch the gate of the screw-gate carabiner', why there are 2 self anchors are given provided, what's the use, how its more safe etc)
- Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity
- Inherent risk in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group
- Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety
- Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group
- Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimisation of environmental impact
  - No breaking branches of shrubs and trees, including for creating the Ropes Course
  - No damage to nearby cultural structures like shrines
  - At least one trowel in group-kit in case anyone wants to 'take a dump in the woods' (in case the group does not have a toilet facility to avail of during operations)
- Leader to make clear expectations from everyone in emergency situations

Mandatory practices

For Leadership Team members: Being role models, being self-anchored at any point of time during the activity, following environment-safe practices

For Participants: all personal gear, shoes not to be removed, no wandering away from the spots designated by the Leadership Team, all instructions to be followed

Safety precautions for minimization of risks

Leaders to double check all points of anchor in the anchoring system

Leaders to double check all personal equipment when it has been put on anyone

Rescue Leader or Leaders to be dressed properly with entire rescue kit placed on their harness.

Leaders to monitor the group at all times (note, adults in group of Participants should only help in non-technical aspects, and Leadership Team is responsible for the safety of the whole group)

- Participant training: Leaders should be alert to personally help any Participant found to be struggling without being intensely afraid (if a Participant is 'intensely afraid', Leaders should follow fist aid protocols)

Instructions for activity / operations

Do not rush through this activity at any point of time; treat each Participant as a fresh one, and do all required safety checks at each stage

Rescue Leader should be in place with emergency kit and first aid kit throughout the activity

Note: long hair, loose clothing and accessories/jewellery that can get entangled. Make sure that these are managed before the Participant gets on the Ropes Course. (Loose hair are tied, loose clothing is tucked in etc.)

Last check on the equipment for each person just before he/she starts the activity using the 'Touch-Say-Confirm' method: touch each item of personal gear on the Participant while saying its name aloud to confirm that all equipment is firmly in place.

Ensure sequence of activities & coverage of all actions for prevention of risks as per Risk Matrix

No Participant should be allowed to change over from one element to the next one since that involves unclipping and clipping self-anchors. A Leader

can either follow/lead a Participant or a Leader can be posted at each change-over point.

Unclipping and clipping self-anchors should be done one by one across a change-over point where a person is never left without being anchored to the system.

Monitor Participants who have finished or are waiting for their turn

Monitor changes in environment

Monitor environment friendly practices – repeat expectations from Participants if necessary

Wind up

Inspect equipment, pack equipment according to norms. Open all knots that are used for joining tapes or ropes on the location itself and then store the equipment.

Equipment that needs repairs or is to be discarded should be tagged(with a note on the nature of damage) and kept separate

Do not pack wet gear like ropes and harnesses

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to Organization's office feedback not been recorded in paperwork

- end of safety guideline -

23. Safety Guideline for Valley Crossing / River Crossing

Safety Guideline for Valley Crossing / River Crossing

(This format is to be used by Organisation for formulating its own SOP for a 'Valley Crossing' *session)*

Note: This guideline is meant only for the temporary systems that are set up using mountaineering ropes and other gear. This guideline is not valid for semi-permanent and permanent systems set up using wire ropes and gear meant for such systems.

Introduction

The method of crossing through free space between two high points using climbing ropes / wire ropes without a hanging cart or equivalent to a cart is known in mountaineering as Tyrolean Traverse. This technique is used in a range of outdoors-based activities like technical tree climbing, caving, crossing chasms (hence the term 'valley crossing') crossing water bodies and rivers (hence the term 'river crossing') and mountain rescue. The activity itself is enjoyable and many Organizations conduct it for novices for recreation purpose. It is to be noted that if this activity is conducted with improper equipment, inappropriate rigging and by incompetent Leaders then it can lead to injury and serious accidents. Hence Organizations are required to conduct the same in safe manner.

This document uses the term 'Valley Crossing'.

Information required for Leaders

- Activity objectives
- Names and qualification of Leadership Team, along with Leaders to Participants ratio
- Approach to the top on both sides – ensure that these are safe approaches, and ensure Participants are escorted up to the top and a safety lines for clipping-in is used wherever it is required. Ensure that safety is not compromised at any point in time.
- Back-up plans which can be used in emergencies (e.g., alternative routes and/or activities); have an emergency evacuation plan in place for each site.

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
   a. Feedback forms
   b. Emergency Response / Evacuation Plan
   c. Critical Incident Report form
   d. Medicines used report form
   e. Equipment logs and equipment damage report form
   f. Information related to outsourced Service Provider including copy of contract document

▪

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person

Person who refuses to follow safe practices

Person with medical issue that will pose a risk to the Participant

Person who refuses to wear safety gear

Pregnant woman who is at risk of injury

Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available/improvised, and if rappel height is small (around 30 ft.)

Qualifications of Leaders

- Formal training
  - All Leaders to have undertaken basic rock climbing course from reputed Organizations or having equivalent experience in adventure and related activities. Essential competence for every Leader should include knowledge & experience of creating appropriate anchors. (e.g., ability to build 'complex anchors': mix of natural & artificial anchors OR only artificial anchors).
  - Preferable:

Chief Leader to have undertaken basic and advance mountaineering courses from reputed organisation also he / she should have competency in practice of rescue appropriate to this activity.

Assistant Leaders to have undertaken basic mountaineering course from reputed organisation.

- Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

▪ Certifications (check if current or lapsed)

Chief Leader to have current certification in First Aid & CPR from reputed organisation

Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

▪ Experience

- Leading groups in hilly terrain
- Conducted Adventure Activity courses (including Valley Crossing)
- Outdoor pursuits on personal trips.
- Handling emergencies, both medical and non-medical

▪ Skills

- Ability to set up anchoring stations on natural and artificial surfaces (anchor systems, belaying, rescue operations, safety on approach and exit to all points during this activity)
- Ability to supervise members of Leadership Team
- Ability to create a safe environment on the activity site; context: approaches to both sides on the top, instructing Participants on what to do and what not to do, and monitoring for safety throughout a session
- Conservative approach in risk management while handling emergencies
- Group management skills
- Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
- Proficiency in best practices for environmental safety

Equipment:

Technical equipment

Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment.

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

For Valley Crossing, use of following equipment is recommended:

- Semi-static ropes of 11 mm. or 12 mm. diameter is
- Equipment needed to create anchor stations
- Padded harnesses in dry seasons (full body, or seat harness with chest harnesses)
- Non-padded harnesses (full body, or seat harness with chest harnesses) if activity is conducted during monsoon season - this helps in such harnesses drying faster than the padded harnesses. (Padding of harness take a long time dry which tends to damage the inside of straps
- Tandem Pulleys **only** on both fixed ropes. DO NO USE SINGLE PULLEYS FOR THIS ACTIVITY.
- **Note:** in some areas, tandem pulley is also locally referred to as 'pulley train'
- Mittens or Gloves for all persons.

Emergency kit

1. At least one cell phone, with important contact numbers entered in
2. 1 pair of toy walkie-talkie sets for communication across the Valley Crossing length (to be included only if feasible)

First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

Check for damage prior to beginning activity - this has to be the second check. The first check should be done at office / store before packing the equipment.

If natural resources like trees and boulders are to be used for activity set-up, ensure that the right kind of trees / boulders are selected: locals may be consulted for this. Note: Advisable is to use rope protectors or any kind of thick padding between the rope and the any type of natural anchor to avoid direct contact / friction between the two

Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)

Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks)

Set-up activity; ensure that: all over-the-edge and rope-on-rope points are protected by appropriate rope protection gear, each member of Leadership Team has independent points for self-anchoring at either end of the Valley Crossing set-up.

Safety Note: There should be another rope above the main rope to serve as a back-up. Both ropes should be anchored at either end on distinct and exclusive anchor systems. Have a tandem pulley for each of the ropes. Connect both pulleys using a tape sling (with carabiners). There should be no slack in the tape joining the two pulleys.

Dry run is mandatory

Cordon off the areas at both the ends of the Valley Crossing set-up for the safety of Participants at the edges, especially those who have finished or are waiting for their turn at the Activity

Check the Leaders to Participants ratio in the context of Activity site; some parameters that could be relevant are:

a. The terrain at either end of the set-up: if the approach and exit are hazardous then have a Leader to act as an escort for Participants as they make their way to the top. Consider if a fixed rope is needed for each Participant to be clipped in till he / she reaches safe area.
b. Whether there are adults in the group who are willing to take on simple responsibilities like maintaining group discipline, looking after food and water needs of the group and helping consolidate equipment in the area designated as safe area by Chief Leader (such adults are NOT to be given responsibilities related to risk management in Valley Crossing)

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately set up the Valley Crossing along with its in-built safety back-ups, and monitor the site for safety
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Valley Crossing are clearly communicated to

outsourced Service Provider and ensure implementation of the same during the Activity

- Organization's Leaders to monitor crucial points and actions of staff for safety (e.g., check anchor systems to see if they are safe, check that all staff / Activity Leaders are self-anchored when at the start and end of the Valley Crossing, that each Participant receives a double-check on their personal gear before starting the Activity)

Briefing to Participants:

Description of Adventure Activity in detail: a Leader to do this along with demonstration on the set-up of Valley Crossing, with emphasis on safety aspects; the group should be in a safe and comfortable; make sure to tell the group about what not to do (e.g., 'do not touch the gate of the screwgate carabiner')

Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity

Inherent risk in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group

Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety

Mandatory practices

For Leadership Team members: role modelling, self-anchored at any point of time when at the edge of the gap (valley/river/etc.), environment-safe practices

For Participants: all personal gear, shoes not to be removed, no wandering away from the spots designated by the Leadership Team, all instructions to be followed

Safety precautions for minimization of risks

Leaders to double check all points of anchor in the anchoring system

Leaders to double check all personal equipment when it has been put on anyone

Leaders to monitor the group at all times (note, adults in group of Participants should only help in non-technical aspects, and Leadership Team is responsible for the safety of the whole group)

Participant training, if required

To be done only if a Participant is found to be struggling .

Policy of ‘no alcohol, tobacco and drugs’: Leaders to ensure that this is followed strictly by everyone in the whole group

Leaders’ authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)

Minimisation of environmental impact

- No littering
- No breaking branches of shrubs and trees
- No damage to nearby cultural structures like shrines
- At least one trowel in group-kit in case anyone wants to ‘take a dump in the woods’

Leader to make clear expectations from everyone in emergency situations

Instructions for activity / operations

Do not rush through this activity at any point of time; treat each Participant as a fresh one, and do all required safety checks at each stage

Rescue Leader in place with emergency kit and first aid kit right from the beginning

Ensure that each Participant’s hair, loose clothing and jewellery will stay clear of all gear including personal protective equipment

Last check on the equipment for each person just before he/she starts the activity using the ‘Touch-Say-Confirm’ method: touch each item of personal gear on the Participant while saying its name aloud to confirm that it is firmly in place in the required manner.

Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix

Monitor Participants who have finished Activity or are waiting for their turn

Monitor changes in environment: look for loose rocks, incoming weather, harmful animals, etc.

Monitor for environmental impact – repeat expectations from Participants if necessary

Wind up

Inspect equipment, pack equipment according to norms. If you use ‘tape knots’ to join the tapes or ‘rope knots’ to join rope cords / slings, after the activity, on the location itself open all the knots and then store the equipment.

Pack separately equipment that needs repairs or is to be discarded: attach a tag to each item with a note on damage

Do not pack wet gear like tapes, ropes and harnesses

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- ***end of safety guideline -***

24. Safety Guideline for Zip Line (Permanent)

Safety Guideline for Permanent Zip Line

(This format is to be used by Organisation for formulating its own SOP for a 'Permanent Zip Line' *set-up)*

Note: This guideline is meant only for the permanent Zip Lines that are set up using equipment meant for such installations. This guideline is not valid for semi-permanent and temporary systems set up using mountaineering ropes and other gear meant for those systems. However, since Zip Lines are being set up by many Organizations on a temporary basis, this document includes notes for such set-ups wherever relevant.

Introduction

A Zip Line is a method of crossing through free space between two points using certified/tested wire ropes without a hanging cart (or equivalent to a cart. This activity has gained popularity in the past few years, and the number of installations is constantly on the rise. This activity can be undertaken even by novices without any technical training. But it must be noted that if this activity is conducted with improper equipment, inappropriate rigging and by incompetent Leaders then it can lead to injury and serious accidents. Hence Organizations are required to conduct the same in safe manner.

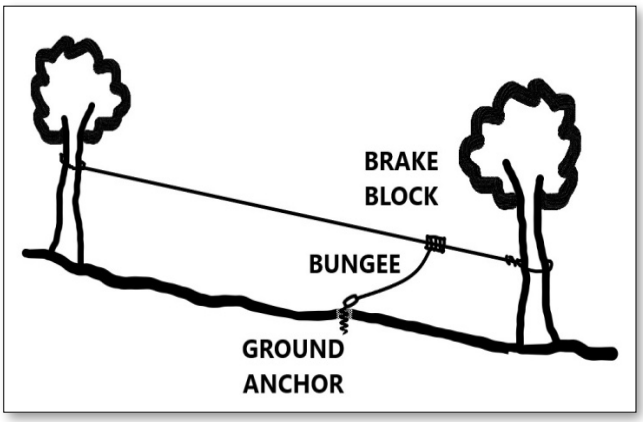
A Zip Line can be setup in two ways:

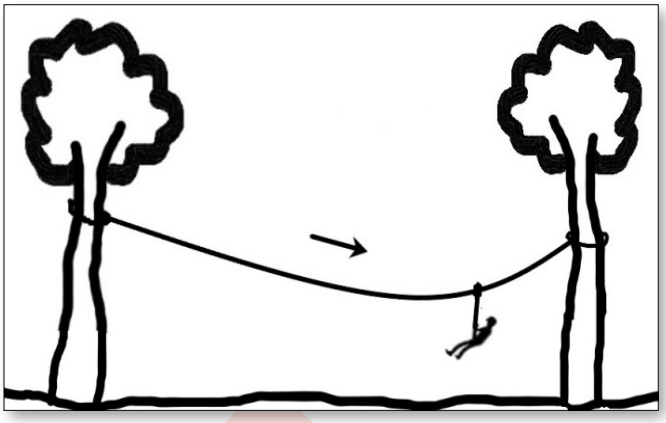
1. **Using gravity along a slope**.

The starting point is higher than the ending point. A crucial component of this kind of a set-up is the brake-system for such Zip Lines since the speed with which a Participant comes down the Line can be considerable. This system can be set up between two strong trees or towers.

2. **Using Parabolic shape**

In this case, the starting and ending points are at same level. The slack in the cable reduces the speed after the Participant crosses the half-way point and stops before the end point. This system can be set up between two strong trees or towers.





Safety Note:

1. Both images above are just to explain two ways of how a Zip Line can be set up. THIS IS **NOT** A DRAWING/DIAGRAM which can be used as reference to set up a Zip Line either on artificial towers or on trees.
2. There are established calculations for rigging up Zip Lines that will help Organizations determine parameters of a Zip Line for every given location – Organizations must study this information to help plan for safe construction and operation of a Zip Line.
3. For a Zip Line there are established international Standards for construction and tests to be undertaken before it can be put to use (tests that include weight test, speed test and inspection procedure for installation and all operations related equipment) – Organizations must study this information to help test their Zip Lines before allowing operations to begin.
4. Appropriate tree protection padding is to be used.

MAC recommends that Organizations should follow Safety Standards by associations recognised internationally as authority Organizations. Three examples are:

European Standard: EN 15567:2015 (Sports and recreational facilities – Ropes courses:

Part 1: Construction and safety requirements;

Part 2: Operation requirements).

Association of Challenge Course Technology

ANSI/ACCT 03-2019 Standards which contain Definitions of Terminology, Design, Performance, and Inspection Standards, Operation Standards, and Training Standards

European Ropes Course Association

ERCA Standards comprise guidelines for installation, inspection and operation of ropes courses.

However, such Standards are new in India so MAC recommends that following procedure should be followed when creating a Zip Line set-up that is being set up using artificial towers:

Soil testing of the area where the facility is to be erected
Consultation by an architect
Drawings provided by a structural engineer
Competent supervision in person by adventure specialist and structural engineer throughout the construction
Getting the facility validated by a structural engineer

It is crucial that the architect and structural engineer responsible for the design and erection of the course be briefed about the special features and requirements, along with all hazards – structural as well as operational. This briefing needs to be based on the international Standards mentioned above or study of factors affecting such an installation, and should include but not be limited to

- The direction of forces (pull) acting on anchors
- Specifications of all steel cables (wire ropes) needed for safe operation of the Zip Line
- Total weight of all equipment including wire ropes
- Recommendations for periodic inspection
- Effect of weather conditions on the structure
- Operational aspects including safety of people that may affect construction (e.g., access ladders and location of platforms)
- Aspects that would help the structural engineer to recommend periodicity of inspection and review of the structure – these may include aspects like, but not limited to, the following: number of people expected to use the ropes course, time of year when ropes course will be in use and not in use, nature of daily operational checks by Leaders, etc.

These details should help the architect and structural engineer to design the Zip Line, organise appropriate materials, type of welding, and any other parameters that will affect the safety features.

Organisation should monitor the entire erection of Zip Line to make sure that work is going as per planned design, with no compromise on material and workmanship. Once installation is completed, operations should not begin before a thorough installation-check has been undertaken by architect and

structural engineer. Periodic inspection of the structure as advised by structural engineer is essential, and should be a part of Organization's maintenance plan.

Note: there is a set of recommendations stated later in this document for a set-up that uses trees instead of artificial towers.

Information required for Leaders

Activity objectives
Names and qualification of Leadership Team, along with Leaders to Participants ratio
Approach to the top on both sides – ensure that these are safe approaches
Back-up plans which can be used in emergencies – the requisite rescue and evacuation process has to be in place, to be activated as soon as an emergency arises. Leaders need to practice the procedure of rescue and evacuation on a regular basis.
When was the Zip Line constructed
Complete details of previous inspection of Zip Line setup and allied equipment such as harness, pulleys, carabiners

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
    a. Feedback forms
    b. Emergency Response / Evacuation Plan
    c. Critical Incident Report form
    d. Medicines used report form
    e. Equipment logs and equipment damage report form
    f. Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person
Person who refuses to follow safe practices
Person with medical issue that will pose a risk to the Participant
Person who refuses to wear safety gear
Pregnant woman

Person with backache (use first aid protocols to take decision) – they may try if a full body harness is available/improvised, follow first aid protocols to decide

Qualifications of Leaders

Formal training

All Leaders to have undertaken basic rock climbing course from reputed Organizations or having equivalent experience in adventure and related activities.

Preferable: Chef Leader to have undertaken basic and advance mountaineering courses from reputed organisation and having good knowledge, practice of rescue (Organisation should ensure such rescue-practice is undertaken).

Assistant Leaders to have undertaken basic mountaineering course from reputed organisation.

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

Certifications (check if current or lapsed)

Chief Leader to have current certification in First Aid & CPR from reputed organisation

Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

Experience

Leading groups in Adventure Programs

Conducted Adventure Activity courses (which includes Zip Lines)

Outdoor pursuits on personal trips

Handling emergencies, both medical and non-medical

Skills

Ability to check / inspect anchors on platforms at either ends of Zip Line, locking U clamps, checking if there is any slippage of cables from the U clamps, general condition the cables and other related climbing mountaineering equipment etc

Ability to supervise members of Leadership Team

Ability to create a safe environment on the activity site; context: safe approaches to both sides on the top, instructing Participants on what to do and what not to do, and monitoring for safety throughout a session
Conservative approach in risk management while handling emergencies
Group management skills
Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
Proficiency in best practices for environmental safety

Equipment:

- Technical equipment

Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment.
Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.
Metal equipment to meet structural needs of artificial towers. Wire ropes to have ISI mark.

Use 11 mm. or 12 mm. cables with ISI mark
U clamps, Turn Buckles, Thimbles, Nut bolts etc. I-type or C-type channels, Pipes etc - of reputed brand / company.
The wall thickness of such structural steel should be minimum 5 mm. The construction steel to be ISI marked and concrete grade should be minimum M 25 or M 30 depending upon the soil testing report.
All exposed part of structural steel is to be coated with anti-rust paint of approved quality.
Wherever climbing ropes are required, 11 or 12 mm semi-static ropes should be used.
Use ‘non-padded’ harnesses (full body or seat harness or chest harnesses if activity is conducted during monsoon / rainy season) for this activity. This helps to dry the harnesses faster than the padded harnesses. Padded harness don’t dry quickly and that is harmful for the tape inside the padding.
Using 2 cables of 11 mm or 12 mm for Zip Line is advisable.
Use only tandem pulleys meant for cables (i.e., wire ropes) made to standards recommended by CE / EN, UIAA, ANSI. (these pulleys are also

known as known as ‘pulley trains’). DO NOT USE SINGLE PULLEYS FOR THIS ACTIVITY. Both the pulleys must be connected to two separate cables using tape sling / webbing. While joining the pulleys, there should no slack between the 2 pulleys. (Having 2 cables gives back up support during any rescue situation.)

Use only certified bungee cords for brake system; minimum diameter of bungee cord should be 16 mm. Use 2 bungee cords for braking to bring additional safety in the system.

Mittens or Gloves should be used during Activity.

NOTE:

1. Using certified braking system for Zip Line is recommended.
2. There are situations where a Participant or Leader runs the risk of suffering from ‘suspension trauma’; e.g., in case of injury, a person may stay suspended in a near-vertical position in his/her harness for a long time before rescuers can evacuate him/her, or a rescuer may spend a long time in his/her harness during rescue operations. Organisation should have relevant products that are to be used in conjunction with certified harnesses to prevent suspension trauma. Please refer to the note in the following box.
3. IMPORTANT: The Participant’s harness should always have 2 self-anchors (also called ‘cow-tails’) for attachment.

Suspension Trauma, also known as Harness Hang Syndrome (HHS), is a phenomenon which occurs when the human body is hung upright without any movement for a period of time. If the person is strapped into a harness and kept hanging for a certain period of time without making any movement, they will eventually faint due to impaired circulation. Fainting while remaining vertical increases the risk of death. The most common cause is accidents in which the patient remains motionless suspended in a harness for long periods of time.

How to avoid Suspension Trauma: use either of the products shown here as illustrations OR similar products. Such a product is to be used as an attachment, 'along with the person's harness'. In addition to preventing Suspension Trauma this kind of product also makes the activity more comfortable since it gives a feeling of sitting in a chair. Rescuers are advised to use this for getting more comfort in case of a rescue .
NOTE: This is NOT a replacement or an alternate option to the harness. It has to be used with the harness. MAC document does not endorse any brand, the images used just as illustrations.

Emergency kit

- At least one cell phone, with important contact numbers entered in
- Toy Walkie-talkie sets (recommended, to be included only if feasible)
- First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

- Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)
- Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks)
- Check Equipment for damage prior to beginning activity - this has to be the 2nd check. The first checking should be done at office / store before packing the equipment.
- If trees are to be used for activity set-up, ensure that the right kind of trees are selected.

Safety Note for trees:

- The trees should be very big in size and are of a species that spread their roots wide and have trunk and branches that withstand huge stresses; necessary expertise in this matter needs to be consulted (e.g., botanists specialising in flora of the region in question, local agriculturists)
- Use protectors or any kind of thick padding between the cable and the tree to avoid the direct contact / friction between the two. Regardless of the size and strength of any tree, the weight and constant movement of the cable during the activity damages the tree over a period of time.
- Common practice is to use wooden planks between the cable and the tree as tree protectors. After few years, depending on the growth of the tree, the loosing of the cable and provide enough space for a tree to grow further is must.
- Checking the condition of the bungee cords used as brakes for Zip Line, every time before and after the activity is mandatory.
- Dry run and equipment inspection
- Cordon off the areas if necessary for the safety of Participants, especially those who have finished or are waiting for their turn
- Check the Leaders to Participants ratio in the context of Activity site; some of these parameters are:
- Nature of permanent Zip Line set-up: how big is the area of activity, number of Participants, age group (kinds in such environment need more attention) etc.
- The approach: if this is hazardous the this may need a Leader to act as an escort for Participants.
- Whether there are adults in the group who are willing to take on simple responsibilities like maintaining group discipline, looking after food and water needs of the group and helping consolidate equipment etc. (such adults are NOT to be given responsibilities related to risk management)

Service Providers:

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately conduct the activity
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider

- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity
- Organization's Leaders to monitor crucial points and actions of staff for safety (e.g., check anchor systems to see if they are safe, check wire ropes, U clamps etc, climbing equipment, check that all staff / Activity Leaders are always self-anchored, that each Participant receives a double-check on their personal gear before starting the activity)

Briefing to Participants:

Description of Adventure Activity in detail: a Leader to do this along with demonstration on Zip Line; equipment used to be explained; make sure to tell the group about what not to do (e.g., 'do not touch the gate of the screw-gate carabiner', why there are 2 self anchors are given provided, what's the use, how its more safe etc)

Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity

Inherent risk in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group

Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety

Mandatory practices

For Leadership Team members: Being role models, being self-anchored at any point of time during the activity, following environment-safe practices

For Participants: all personal gear, shoes not to be removed, no wandering away from the spots designated by the Leadership Team, all instructions to be followed

Safety precautions for management of risks

Leaders to double check all points of anchor in the anchoring system

Leaders to double check all personal equipment when it has been put on anyone

Rescue Leader or Leaders to be dressed properly with entire rescue kit placed on their harness.

Leaders to monitor the group at all times (note, adults in group of Participants should only help in non-technical aspects, and Leadership Team is responsible for the safety of the whole group)

Participant training, if required

To be done only if a Participant is found to be struggling without being intensely afraid

Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group

Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)

Minimisation of environmental impact

- No damage to nearby cultural structures like shrines
- Leader to brief the group

  Leader to make clear expectations from everyone in emergency situations

Instructions for activity / operations

Do not rush through this activity at any point of time; treat each Participant as a fresh one, and do all required safety checks at each stage

Rescue Leader in place with emergency kit and first aid kit throughout the activity

Note long hair, loose clothing and accessories/jewellery that can get entangled. Make sure that these are managed before the Participant gets on the Zip Line. (Loose hair are tied, loose clothing is tucked in etc.)

Last check on the equipment for each person just before he/she starts the activity using the 'Touch-Say-Confirm' method: touch each item of personal gear on the Participant while saying its name aloud to confirm that all equipment is firmly in place.

Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix

Monitor Participants who have finished or are waiting for their turn

Monitor changes in environment

Monitor environment friendly practices – repeat expectations from Participants if necessary

Wind up

Inspect equipment, pack equipment according to norms. Open all knots that are used for joining tapes or ropes on the location itself and then store the equipment.

Equipment that needs repairs or is to be discarded should be tagged (with a note on the nature of damage) and kept separate

Do not pack wet gear like ropes and harnesses

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

SAFETY NOTE:

Important for set up of temporary Zip Lines:

Recommended:

1) Avoid setting up a temporary Zip Line on sloping terrain (where Participants would go down due to gravity). Reason: creating effective brake-system in such Zip Lines is difficult since it involves technicalities, and failure in such brake-system can result in serious accident.
2) a) Set up temporary Zip Line of 'parabolic design'
   b) Create the brake-system using bungee cords which are set in place and which can act as a back-up. This becomes useful in cases of over-weight participants.
3) Conventional belay (manual belay using friction belay devices) is **not** a solution to be used for slowing down and stopping Participants on any kind of Zip Line.
4) Temporary Zip Line should have a back-up in the form of another rope tied between two different trees, and used in a manner described above in this document.

- ***end of safety guideline -***

25. Safety Guideline for Caving or Cave Exploration

Safety Guideline for Caving or Cave Exploration

(This format is to be used by Organisation while formulating its own SOP for Caving session)

Introduction

Caving – also known as Spelunking in the United States and Canada and Potholing in the United Kingdom and Ireland – is the recreational of exploring wild caves. This is a serious activity which has hazards where high risk is involved. Hence Organizations are required to conduct the same in a safe manner.

The challenges involved in caving vary according to the Cave being visited. In addition to the total absence of light beyond the entrance, negotiating small pitches, chimneys and water hazards can be difficult. In many cases mapping of Cave is essential / advisable. Formal publications of survey or mapping of Caves may not exist. Sometimes Caving is categorized as an "extreme Adventure Activity".

Special note for Caving:

Caving is a serious and hazardous Activity. Caving requires special skills which are exclusive to the Activity. In India it is not as common as other Adventure Activities like rock climbing, rafting and even paragliding. Less common is for an Organisation to conduct Caving Programs for Participants who are novices.

Hazards in Caving include (but are limited to) steep and slippery terrain, flooding, falling rocks, cold temperature and moisture (related to the risk of hypothermia) and physical exhaustion. Rescuing people from Caves is difficult and time-consuming, and may require high level of rescue skills, training, and equipment. Full-scale Cave rescues involve the efforts of many of rescue workers who may themselves be put in jeopardy in effecting the rescue. So, for organised programs, it is recommended that the Organisation has entire Cave map, information about appropriate artificial anchoring locations are in place and those are in good condition. Participant to Leader ratio is an important factor and should not be compromised upon.

Guidelines for Organizations conducting Caving Adventure Activity

Note: these guidelines are exclusive to Caving, and are in addition to those stated under Part-1 of the MAC Safety **Guidelines titled** '**Safety Management System**'**.**

1. For Caves that fall under 'difficult or very difficult' categories, the maximum group size should not exceed 8 Participants.
2. For Caves that fall under 'difficult or very difficult' categories, have one Leader for every two Participants. In addition, Chief Leader should have

two people under him only to monitor safety of the group and to be ready to handle any crisis situation.

3. Children should be taken inside a Cave **only** if the Cave is simple to enter and come out of, has a simple walk inside of the Cave that does not involve use of any equipment and ropes. BUT if a Cave involves rappelling and/or ascending and/or traversing on ropes then the event should be kept ONLY for adults.
4. Each team of Cavers should have at least four Leaders. If an injury occurs, one Leader stays with the injured person, one Leader stays with the rest of the group and the remaining two Leaders go out for help, assisting each other with belays etc. wherever required.
5. Particularly recommended for Caving program organised for Participants, Organisation should arrange for its Leaders to undertake one/two visits to Caving route being considered. During these visits or trial runs, some or all of the following tasks could be taken care of: creating anchor stations, mapping the Cave-route, making note of locations for markers with reflective tapes, making note of safe zones, making note of risky & high risk zones, etc. These details are important because of safety measures to be put in (e.g., if the entry to Cave is vertical, and if there are traverses on the route, then marking the ledges for halt points and having anchor stations on those halt points is mandatory, along with information like on how many people can each halt point can accommodate). Such documentation can help plan logistics of the organised program.

Information required for Leaders

Activity objectives

Names and qualification of Leadership Team, along with Leaders to Participants ratio

Back-up plans to be used in emergencies (some information that can be included: how deep can groups enter, timelines including turnaround time/point, keeping an eye on each Participant is must and if needed, guidelines and resources for a Participant who is not feeling well or is not comfortable after entering in to the Cave, process for getting an evacuee out of the Cave.

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (registration documents, permits, etc.)
2. Personal information including medical information of Participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
    a. Feedback forms
    b. Emergency Response / Evacuation Plan
    c. Critical Incident Report form
    d. Medicines used report form
    e. Equipment logs and equipment damage report form
    f. Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

Intoxicated person
Person who refuses to follow safe practices
Person with medical issue that will pose a risk to the Participant
Person who refuses to wear safety gear
Pregnant woman who is at risk of injury
Person with backache (use first aid protocols to take decision) – follow first aid protocol to take a decision on this
Person with known history of claustrophobia

Qualifications of Leaders

- Formal training

All Leaders

Basic rock climbing course from reputed Organizations or having equivalent experience in adventure and related activities

Competence for every Leader should include knowledge & experience of creating appropriate anchors. (e.g., ability to build 'complex anchors': mix of natural & artificial anchors OR only artificial anchors)

Competence for every Leader should include knowledge & experience of rescue practices.

Essential:

Chief Leader to have undertaken advance rock climbing course, basic and advance mountaineering courses from reputed organisation.

There has to be at least 3 to 4 such experienced Leaders in this team.

Assistant Leaders to have undertaken basic and advance mountaineering course from Mountaineering Institutes

Chief Leader to have undertaken course in outdoor Leadership from reputed organisation

- Certifications (check if current or lapsed)

Chief Leader to have current certification in First Aid & CPR from reputed organisation

Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- Experience

- Leading groups on high adventure activities
- Undertaken personal caving and Cave exploration expeditions
- Few of the Leadership members should have an experience in conducting rescue training sessions (involves stretcher carrying / handling techniques, rescue of a person in lowering, raising or taking casualty on traverses etc)
- Conducting climbing / caving sessions for novices
- Handling emergencies, both medical and non-medical

- Skills

- Ability to set up anchoring stations on natural and artificial surfaces (anchor systems, belaying, rescue operations etc)
- Ability to supervise members of Leadership Team
- Ability to create a safe environment outside and inside the caving site; context: approach to enter and exit the Cave, instructing Participants on what to do and what not to do, and monitoring for safety throughout a session
- Creating a ‘Fast Response Force’ by delegating roles / responsibilities (for this the Chief Leader should know strengths & weakness of her/his entire team)
- Conservative approach in risk management while handling emergencies
- Group management skills
- Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies

- Proficiency in best practices for environmental safety

Equipment:

Refer to relevant SOP created by Organisation for the specific activity site for selecting equipment.

Specifications about technical equipment that may be used for this Activity are given in Appendix 1 on Page 194.

For Caving, use of following equipment is recommended:

- Technical equipment
  1. Low-stretch or semi-static ropes of 11 mm. or 12 mm. diameter. Consider acquiring specialised ropes which are 'edge proof' or ropes which have a comparatively tougher sheath.
  2. Equipment required for creating anchor stations and mid-way protection placement
  3. Padded harnesses (full body, or seat harness with chest harnesses)
  4. Helmets with facility for fitting headlamps
  5. Full body suits and gloves (not mittens) for protection against abrasion from scraping
  6. Consider elbow and knee protection pads
  7. Rappelling and ascending devices (for vertical caving)
  8. Wire ladders (for vertical caving)
  9. Head lamps
- Emergency kit
  1. At least two cell phones, with important contact numbers entered in
  2. Requisite number of toy walkie-talkie sets (to be included if feasible)

IMPORTANT SAFETY NOTE:

Communication is crucial in this Adventure Activity, and detailed information on the cave layout, logistics, data from records of previous expeditions, etc. should be used to decide quantity and type of any equipment.

- First aid kit

Items to be selected based on a) risk assessment and mitigation study done for an activity site, b) Leader's first aid certification and c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

- Check Equipment for damage prior to beginning activity - this has to be the second check. The first check should be done at office / store before packing the equipment.
- Review of medical history of Participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations). If the Cave is very narrow at some places, then people with Claustrophobia should not be taken inside the Cave.
- Refer to weather reports for that particular area where the activity is supposed to take place. This is crucial especially if the region is known to have rains in the time period when the event has been planned.
- Check Leaders to Participants ratio in the context of Activity site; some of these parameters are:
- Nature of caving path/route: whether it involves a simple walk over easily negotiable terrain or has elements like rappelling, ascending ropes, traversing with the help of ropes, change-over situations across protection-equipment and anchoring stations, etc.
- The approach to the entrance of the Cave: if this is hazardous then this may need a Leader to act as an escort for Participants as they make their way to the entrance. In difficult terrain fixed rope is must.
- Notify people outside Cave (e.g., with local government authority, Organization's representative/Leader) about expected time of return so that people outside the Cave can organise a search/rescue party (experienced team) if the group has not returned by the stipulated time and / or if people outside the Cave don't receive any communication from Leader / instructor inside the Cave about ‘activity getting delayed’.
- Ensure each member has helmet-mounted lights (hands-free) with extra batteries. Two lights per person is recommended.
- Dry run is a must: at least two members of the Leadership Team members should visit the path/route in the Cave one day prior to the actual Activity to do complete assessment of the entire route. Most of the following actions are to be undertaken during such a dry run.
- Outside a Cave, if natural resources like trees and boulders are to be used for anchoring set-up, ensure that the right kind of trees / boulders are selected (locals may be consulted for information about trees).
- In Caving Activity, while creating anchors inside a Cave avoid using boulders, natural holes, etc. since using artificial light makes it difficult to

correctly assess appropriateness of such resources. Hence creating artificial anchors inside Caves is recommended.

Safety Note: *use rope protectors to protect ropes from abrasion.*

- Check for environmental hazard on activity site (reptiles/insects/fallen branches/loose rocks, if there is water inside the Cave, then what is the water level etc.)
- Check possibility of flooding during the expedition. Rainwater getting logged underground can flood a Cave very fast, and people can get trapped in passages. For organised programs, avoid entering a Cave if there is strong possibility of flooding.
- Set-up activity, if feasible, by fixing ropes as necessary on the planned Cave-route – this can be done only if, as recommended above, the dry run has been undertaken one day prior to group's program. Ensure that: all over-the-edge and rope-on-rope points are protected by appropriate rope protection gear.

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to appropriately set up this Activity.
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider
- Chief Leader to ensure that all the safety guidelines and SOPs prepared for safe conduct of the Adventure Activity are clearly communicated to outsourced Service Provider and ensure implementation of the same during Activity.

Briefing to Participants:

- Description of Activity in detail:
  - Explanation of the entire caving experience, preferably with the help of photographs and video clips shot during the dry run, and the map of the Cave
  - Equipment that is to be used – this will have been covered in the training program for Cavers who are going to enter a difficult-category Cave.
  - Emphasis on 'what not to do' (e.g., 'do not get detached from the safety system and anchoring stations', do not unlock carabiners at any point of time between change-over points, etc.)

- Check any fresh health issue that Leaders should be aware of: Chief Leader to ascertain this before starting the activity

- Inherent risks in the activity & consequences if process is not adhered to: a Leader to clearly state this to the whole group – this is a must
- Responsibility of Participants towards their own safety and others' safety: a Leader to clearly state the expectations from all in the context of safety
- Mandatory practices
- For Participants: all personal gear, shoes not to be removed, no getting ditched from the anchoring system or from the rope anytime, all instructions to be followed, ask questions for clarifications, do not take any decision on your own, always consult a person from the Leadership team / organisers etc.
- Safety precautions for minimization of risks
- Leaders to double check all points of anchor in the anchoring system
- Leaders to double check all personal equipment when it has been put on anyone
- Leaders to monitor the group at all times (note, adults in group of Participants should only help in non-technical aspects, and Leadership Team is responsible for the safety of the whole group)
- Chief Leader to check qualification of Participants.
- If the Caving route involves with high adventure activities like rappelling, ascending on ropes, and traversing on ropes then previous experience of such activities is a must. A Participant without such experience is not to be taken on such Caving routes. (refer to the section 'Training for Participants')To be done only if a Participant is found to be struggling .
- Policy of 'no alcohol, tobacco and drugs': Leaders to ensure that this is followed strictly by everyone in the whole group
- Leaders' authority to stop activity when necessary: Leaders to be assertive about this when safety is involved (e.g., environmental factors, damage to equipment, uncooperative behaviour of Participants, etc.)
- Minimisation of environmental impact, no littering
- No damage to nearby cultural structures like shrines
- At least one trowel in group-kit in case anyone wants to answer nature's call during the program.
- Leader to make clear expectations from everyone in emergency situations well as for emergencies

Training of Participants

Some or all of the following aspects will be required, depending on the features of the Cave where Activity is to be conducted.

1. Familiarity with emergency response plan including 'lost person protocol'
2. Familiarity with communication equipment and communication signals for situations like when the group is strung out in single file in narrow passages

Note: it may be necessary to conduct an exclusive refresher session prior to undertaking Caving Activity, for a duration that ensures that each Participant is adept and confident at using all equipment in dark environment.

Instructions for activity / operations

Rescue equipment in place with emergency kit and first aid kit right from the beginning

Ensure that each Participant's hair, loose clothing and jewellery will stay clear of the personal protective equipment, Caving gear, anchors, etc.

Last check on the equipment for each person just before he/she starts the activity using the 'Touch-Say-Confirm' method: touch each item of personal gear on the Participant while saying its name aloud to confirm that all equipment is firmly in place.

Entire group uses head lamps for the activity.

Compared to daylight conditions, it is hard to spot damage to ropes, tapes, rope slings, anchors becoming risky, so being cautious during the entire activity is really expected by the 'Leadership Team'.

Do not rush through this activity at any point of time; treat each Participant as a fresh one, and do all required safety checks at each stage

Organization's Leaders to monitor crucial points and actions of staff for safety (and not leave it to Service Provider's staff)

E.g., check anchor systems to see if they are safe, check that all staff / Activity Leaders are self-anchored, that each Participant receives a double-check on their personal gear before starting the activity at each halt point

Ensure sequence of activities and coverage of all actions for prevention of risks as per Risk Matrix

At certain places inside the Cave, Participants may have to pass through chimney or narrow passage where a great amount of friction can take place while passing through. This can cause damage soft equipment like: ropes, harness, slings (tape or rope) etc, so checking the equipment before the activity, even during the activity and after the activity is MUST.

Monitor changes in environment: look for loose rocks, landslides, changes manifesting due to incoming weather (like rising water levels), harmful animals, etc.

Monitor for environmental impact – repeat expectations from Participants if necessary

Mandatory practices

For Leadership Team members: role modelling, self-anchored at any point of time, keeping close eye on each Participant, anchors, environment-safe practices

Wind up

Inspect equipment, pack equipment according to norms. If you use ‘tape knots’ to join the tapes or ‘rope knots’ to join rope cords / slings, after the activity, on the location itself open all the knots and then store the equipment.

Pack separately equipment that needs repairs or is to be discarded: attach a tag to each item with a note on damage

Do not pack wet gear like ropes and harnesses

Fill up all the documents required

Review and feedback (Participants & Leadership Team)

Communicate to the Organization's office any feedback that has not been recorded in paperwork

- end of safety guideline -

26. Safety Guideline for Wildlife Safaris

Safety Guideline for Wildlife Safaris

(This format is to be used by Organisation for formulating its own SOP for a 'Wildlife Safaris' session)

Note: This guideline is meant only for Wildlife Safaris in the protected areas, in a Safari vehicle. For Nature Trail with objectives like Bird-watching, Butterfly-watching, Tree-watching activities please refer to Safety Guidelines for One-day Hike (Nature Walk).

Introduction

Safari now refers to an adventure tour or expedition into the wilds. Safari travel often provides revenue for local conservation projects and game parks, supporting the protection of wildlife and habitats, rather than taking them out. Safaris also play an important role in creating awareness about wildlife conservation, as well as benefiting local communities. The modern safari is also a socially responsible journey designed to interact ethically with local communities and have a positive impact on local economies. The cultural interactions offered by reputable safari operators do not exploit local people. The local communities benefit from sustainable tourism through employment and financial gains from selling goods and services (dance performances, guided trips and resource management etc). Some safari companies directly support social upliftment projects whilst others make use of lodges, reserves and other establishments that assist local communities. The activity is very well regulated by the Forest Departments of the respective states of India. The Guides appointed by Forest Department undergo various training programs. S/he has the knowledge about the terrain, assistance possibilities and local regulations. Hence the role of the person leading such activity is primarily focused on communicating with the participants and enriching the Safari experience with their knowledge and experience. Nowadays Wildlife Photography dominates this activity. Many of these participants are completely unaware of the perils and hazards in wildlife areas, animal (wildlife) behaviour and precautions to avoid difficult situations. Hence leaders are required to be trained in specific areas of knowledge and skills.

This document uses the term 'Wildlife Safari/s'.

Information required for Leaders

- Activity objectives

- Names and qualification of Leadership Team, along with Leaders to Participants ratio
- Current Regulatory requirements by competent authorities (normally State Forest Department through Field Directors and Range Officers of the protected area)
- Back-up plans which can be used in emergencies (e.g., alternative routes and/or activities)

Documents in Chief Leader's Folder (recommended):

1. Compliance documents (permits, etc.)
2. Personal information including medical information of participants and Leadership Team
3. Undertaking from Participants
4. Risk assessment and mitigation done for venue/area and the activity
5. Copies of
6. Feedback forms
   a. Emergency Response / Evacuation Plan
   b. Critical Incident Report form
   c. Medicines used report form
   d. Information related to outsourced Service Provider including copy of contract document

Criteria of exclusion that are relevant to Adventure Activity

- Intoxicated person
- Person who refuses to follow safe practices
- Person with medical issue that will pose a risk to the participant
- Pregnant woman who is at risk of injury
- Person with backache (use first aid protocols to take decision) (IMPORTANT: use first aid protocols to take decision)

Qualifications of Leaders

- Formal training
  - First Aid & CPR.

Preferable:

  - Wilderness First Responder
- Certifications (check if current or lapsed)
  - Chief Leader to have current certification in First Aid & CPR from reputed organisation
  - Preferable:

Chief Leader to have current certification in Wilderness First Responder / Wilderness Advanced First Aid & CPR from reputed organisation

All Assistant Leaders to have current certification in Wilderness First Aid & CPR from reputed Organizations

- Experience
  - Leading groups on Wilderness Safaris
  - Birdwatching
  - Outdoor pursuits on personal trips.
  - Handling emergencies, both medical and non-medical
- Skills
  - Ability to supervise proceedings with respect to compliance with the local rules by authorities.
  - Ability to instruct participants on what to do and what not to do, and monitoring for safety throughout a Wildlife safari.
  - Communication with the participants particularly during Nature interpretation.
  - Ability to administer first aid.
  - Group management skills
  - Ability to be assertive when taking decisions, especially in preventing risky situations and while handling emergencies
  - Proficiency in best practices for environmental safety
  - Use of field equipment - Binoculars, Field Guides
  - Navigation

Equipment:

- Technical equipment

The following list is only 'recommendatory' and can be used as a reference to plan out one's trip:

a) Appropriate binoculars/spotting scope, if feasible (appropriateness can be decided through consultation and can be based on factors that include, but are not limited to, light gathering capacity of instrument, magnification, field view and bulk of instrument)

b) Healthy and well maintained vehicle

c) Field Guides for Birds/Mammals/Snakes/Butterflies/Insects/Amphibians etc. – as required

d) Camera

e) Mobile phones with important contact numbers entered in (if permitted by Forest Department)
where possible/wireless sets for communication with the main gate (optional, and if feasible).
f) GPS tracking systems on every vehicle entering the park (preferable, and if feasible).

- First aid kit

Items to be selected based on a) risk assessment and mitigation study done for the scheduled wildlife safari, b) Leader's first aid certification, c) medico-legal aspects that are relevant to the region that the activity is being conducted

Pre-activity actions by Leaders

- Brief the participants about what to expect on the safari.
- This can include points like Weather, Climate, Appropriate clothing (Camouflage), Kit bag details, Dos and Don'ts, Least impact behaviour in wilderness areas, Local culture, Customs & Traditions, Wildlife, Safari duration, availability /absence of restrooms, Food management, Documents to be carried, Equipment and protective gear, Frequently encountered threats (like Bees attack, Hailstorms, Heat exhaustion, etc), No feeding wild animals, No use of 'Flash' during photography, etc.
- Review of medical history of participants to ensure that preventive and curative aspects are in place (e.g., medicines in duplicate in known locations)
- Check for Weather Forecast on the day of Wildlife Safari.
- Inspection & Maintenance Procedures

a) Check tyre pressure before every safari session.
b) Check sufficient fuel in the vehicle.
c) Check for ample brake fluid and coolant in the vehicle.
d) Regular lubrication of suspension points of the vehicle.
e) Binoculars have moving parts and are very sensitive equipment and can easily be mishandled. They need regular checks for fungus and parallax.
f) Need for regular refresher courses for guides.

Service Providers

- Chief Leader to review contract signed with outsourced Service Provider
- Chief Leader to review the qualification of all staff members of the outsourced service provider, and their ability to play their role (Guide / Driver) during Wildlife Safari.
- Chief Leader to review respective roles and responsibilities with staff of outsourced Service Provider

Briefing to Participants:

In order to provide the clients with a good wildlife experience briefing on following points is important

- Weather/ climate briefing: Before setting off on a Safari, the guide must provide the client sufficient brief on the expected heat/ cold/ rain etc during the trip and to be prepared for personal and equipment protection.
- Garbage is one of the most dangerous problems created by Wildlife Tourism. (Example - Wild animals attempt to lick the salts from inside of discarded empty packets of chips. Animals swallow these packets, leading to chocking and death.)
- Maintenance of vehicles is extremely important. This kind of tourism takes clients into remote areas where access and communication can be a major issue in case of a breakdown. Walking back is not an option.
- Knowledge and experience of the guides is a critical factor in providing the clients with a good experience. Resorts must invest in good Guides/ Naturalists.
- Interpretation: On return from the Safari, the Resort Guide/Naturalist must ensure a good post trail de-brief to provide the tourists with a good experience. Resorts/ campsites should also invest in a good library with field guides and interpretation material.
- Collecting souvenirs like antlers, feathers, bones, shells and plant parts is illegal and a punishable offence. Guides should not succumb to client pressure to collect these materials.
- Sighting a tiger in the forest is an extremely exciting activity. However, it also disturbs the tiger. Guides should ensure adherence to the 5 minute sighting/ photography rule and should move the vehicle away to allow other vehicles to see and move away too.

- Nesting period is a very sensitive time for birds. They can be threatened by our very presence. At such times, extreme care needs to be taken while photographing bird activity. Photographing birds on their nests should be avoided.
- Appropriate distance to be maintained between vehicles and safe distance from respective animals should be adhered to at all times (about 10 meters distance from the animals).
- Using horns/any loud behaviour is strictly prohibited in the parks.
- A strict 'Leave Minimum Impact policy has to be followed in all parks.
- Most of the physical injuries during safaris are - getting hand / fingers stuck while closing doors of vehicles. Safari vehicles are unusually modified to open the top of the vehicle. Many participants can not anticipate potential injuries due to the unusual structure of these vehicles. Specific briefing to avoid injuries and process of safe ingress and egress from vehicle must be given to all the participants. Reminders of the same during stops is highly recommended.

Documentation

- Any illegal activity on the safari routes should be reported at the gate/to the park authorities in writing.
- Vehicle maintenance logbook to be maintained for each vehicle.
- Pollution under control certification of each vehicle should be compulsory for all vehicles entering the park.

- end of safety guideline -

Appendix 1

Climbing and mountaineering Equipment - Technical details

Sr. No.	Product Name	Certification EN	Certification UIAA	For Manufacturers - test certificate of the product	Comment / Remark
1	Climbing Helmet	EN 12492	106	N. A.	Has to be EN or UIAA certified
2	Chest Harness	EN 12277 Type D	105	N. A.	Has to be EN or UIAA certified
3	Seat Harness	EN 12277 Type C	105	N. A.	Has to be EN or UIAA certified
4	Full Body Harness - Adult	EN 12277 Type A	105	N. A.	Has to be EN or UIAA certified
5	Full Body Harness - Kids	EN 12277 Type B	105	N. A.	Has to be EN or UIAA certified
6	Carabiner - Plain Gate	EN 12275 Type B	121	N. A.	Has to be EN or UIAA certified
7	Carabiner - Wire Gate	EN 12275 Type B	121	N. A.	Has to be EN or UIAA certified
8	Carabiner - Screw Gate / 2 Lock / 3 Lock	EN 12275 Type B / Type X	121	N. A.	Has to be EN or UIAA certified
9	Carabiner - HMS Screw / HMS 2 Lock / HMS 3 Lock (pear-shaped carabiner)	EN 12275 Type H / Type K	121	N. A.	Has to be EN or UIAA certified
10	Maillon Rapide	EN 12275 Type Q	121	N. A.	Has to be EN or UIAA certified
11	Quick Draw	EN 12275 Type B & Type Q B/ EN 566	N. A.	N. A.	Has to be EN or UIAA certified

12	Tape Slings / Webbings	EN 566	104	Note for manufacturers having their own test certificate:- breaking strength for any tape (webbing): minimum 2200 kg. valid for tubular non-tubular tapes of any width. This breaking strength figure is based on recommendation of UIAA/EN Standards.	Information: some Indian manufacturers are manufacturing products in this segment which seem to meet specifications of product as well testing methods as stated by UIAA/EN.
13	Lanyards for Ropes courses	EN 566 & / or pr EN 17109	N. A.	N. A.	Has to be EN or UIAA certified
14	Figure of 8 Descender	N. A.	N. A.	Note for manufacturers having their own test certificate:- breaking strength : minimum 2500 kg. This breaking strength figure is based on recommendation of UIAA/EN Standards.	Information: globally no manufacturer provides any EN or UIAA certified Figure of 8 Descender (there may be exceptions). Some Indian companies do manufacture fig-8 descenders that meet the specifications stated here.
15	Tubular Friction or Belay Devices	EN 15151 - 2	129	N. A.	Has to be EN or UIAA certified
16	Assisted Braking Device	EN 15151 - 1	129	N. A.	Has to be EN or UIAA certified
17	All types of Ascenders	EN 12841 Type B	126	N. A.	Has to be EN or UIAA certified
18	All types Pulleys	EN 12278 & / or pr EN 17109	127	N. A.	Has to be EN or UIAA certified
19	Dynamic climbing ropes: Single / Half / Double ropes (kernmantle Ropes)	EN 892	101	N. A.	Has to be EN or UIAA certified

20	Semi Static ropes: 9mm, 10mm, 11mm & 12mm (Kernmantle Ropes)	EN 1891 Type A or Type B	107	For manufacturers having their own test certificate (for Static Loading):- breaking strength minimum for 9 mm diameter: 1700 kg.; 10 mm diameter: 2000 kg.; 11 mm diameter: 2100 kg.; 12 mm diameter: 2200 kg. These breaking strength figures are based on recommendations of UIAA/EN Standards.	Information: some Indian manufacturers are manufacturing products in this segment which seem to meet specifications of product as well testing methods as stated by UIAA/EN.
21	Rope Slings or Cords - 2mm to 8mm (Kernmantle)	EN 564	102	For manufacturers having their own, test certificate (Static Loading) - minimum breaking strength for 2 mm diameter: 80 kg.; 3 mm diameter: 200 kg.; 4 mm diameter: 300 kg.; 5 mm diameter: 500 kg.; 6 mm diameter: 700 kg.; for 7 mm diameter: 900 kg.; 8 mm diameter: 1250 kg. These breaking strength figures are based on recommendations of UIAA/EN Standards.	Information: some Indian manufacturers are manufacturing products in this segment which seem to meet specifications of product as well testing methods as stated by UIAA/EN.
22	All types & sizes of chock nuts, hex	EN 12270	N. A.	N. A.	Has to be EN or UIAA certified

23	All type & sizes of Friends or Caming Devices	EN 12276	N. A.	N. A.	Has to be EN or UIAA certified
24	Anchor Bolt (not an expansion bolt with a wedge)	EN 959	N. A.	For manufacturers having their own test certificate - Stainless Steel Anchor Bolt. Specifications: Min 10 mm diameter, Min Length 85 mm. Minimum breaking strength should be 2500 kg. These breaking strength figures are based on recommendations of UIAA/EN Standards.	Information: some Indian manufacturers are manufacturing products in this segment which seem to meet specifications of product as well testing methods as stated by UIAA/EN.
25	Anchor Bolt Hanger	EN 795	N. A.	For manufacturers having their own test certificate - Stainless Steel Hanger. Minimum thickness of the hanger should be 4mm. Minimum breaking strength should be 2500 kg. These breaking strength figures are based on recommendations of UIAA/EN Standards.	Information: some Indian manufacturers are manufacturing products in this segment which seem to meet specifications of product as well testing methods as stated by UIAA/EN.

26	Chain anchors (to be used with Anchor Bolts & Bolt Hangers, as specified in point 24 & 25)	EN 959	N. A.	For manufacturers having their own test certificate - Stainless Steel chain. Minimum Length of the chain should be 25 cm. Minimum breaking strength should be 2500 kg. These breaking strength figures are based on recommendations of UIAA/EN Standards.	Information: some Indian manufacturers are manufacturing products in this segment which seem to meet specifications of product as well testing methods as stated by UIAA/EN.
27	Via Ferrata / Lanyards	EN 958	128	N. A.	Has to be EN or UIAA certified

NOTES - these are based on research done till date. Hence, please note that this document is 'dynamic & progressive' and can be improved upon through further versions.
Information: there are few Indian manufacturers offering products that meet the specifications and testing standards as stipulated by UIAA/EN Standards (e.g., ropes, fig-8 descenders, tapes/webbing). They also provide the test reports or breaking strength reports with the products. Using such products is recommended. Please note that it is required for any manufacturer to give product manual with specifications with each item sold.
There is one manufacturer in India who is offering some items of mountaineering & climbing gear which is UIAA & EN certified. Please note: there is a difference between following legal terms: a) ‘UIAA or EN or both certified’ and b) ‘as per UIAA / EN standard’ and ‘Meets the UIAA / EN standards’. The term 'a', i.e., ‘UIAA or EN or both certified’ is the correct version.
A product which has only the 'CE' mark without any number is not considered safe when the same item is needed to be certified as per UIAA?/EN Standards. An example for what is safe and recommended: a seat harness which has UIAA and EN number & certification, and also has CE 0123. (So, a seat harness which has only the 'CE' mark is not recommended).
Explanation for Breaking Strength of tape slings or webbings & for Semi Static Ropes, Rope Slings or Cords: Globally 'kN' is a measure used to define breaking strength for tape slings / webbings, for ropes and ropes slings or cords (kiloNewton is the unit used for dynamic forces). The conversion for our understanding is: 1 kN = 101 kgs. Hence the figures indicated as breaking strengths of tape slings / webbing & ropes, rope slings or

cords are in kg. after the conversion as per International Standards. The breaking strengths mentioned are the ‘Minimum’ required figures.

Important requirement related to construction or manufacturing design / type for Climbing Ropes: the use of the term ‘Kernmantle Rope’. Kern means core and mantle means sheath (of the rope). So Core and Sheath are 2 parts of construction of the rope. This formation is a must for all ropes used for adventure activities. The percentage of Core and Sheath of a rope mass - maximum percentage of core: 70% & minimum percentage of sheath: 30% (of the total mass of the rope).

- END OF DOCUMENT -