

9 Avenue Terrace
York YO30 6AX
28th November 2019

FAO: Phil Rowswell, GPF Secretary

Dear Phil,

We are delighted to enclose our application for funding for the 2020 Gates of Hell Expedition (www.gatesofhellexpedition.org). On this expedition we will tackle one of the last great problems for speleologist, to reach and explore the caves beneath the Puncak Jaya karst plateau. Due to the high altitude of the area we will be visiting (>4000m), its remote location (3 days walk in) and the strong exploratory nature of our project, we anticipate that we additionally will be eligible to be considered for support by the Mount Everest Foundation.

Consequently we attach to this application the following additional documents that we believe will be of interest to the MEF in considering our case, and would be grateful if you could forward these documents to them:

1. Our expedition Prospectus;
2. A detailed risk assessment;
3. Our communications plan;
4. A statement on minimising the impact of the expedition.

Based on the guidelines for MEF grant applications, we would like to seek meaningful MEF support, comprising £5,000. While we recognise this figure is large compared to usual funding receipts for caving expeditions, it is:

- a) Only approximately 7.5% of our expected total costs due to the unusually high expense of reaching the remote expedition area;
- b) Within the bounds of support for significant alpine mountaineering and scientific expeditions offered by the MEF in 2019; and
- c) Intended to be spent on confirming the participation of the younger and less financially secure members of the expedition (Benn, Field, Starnes).

Given that we accept this is an unusual financial request from a caving expedition, it would be our pleasure to attend interview at the MEF on a future date to further explain our vision for this exciting project.

Yours sincerely,



Fleur Loveridge

2020 Gates of Hell Caving Expedition

Safety

This ambitious expedition will explore arguably the last great mountain range on Earth yet to be visited by cavers. Our goal is to explore the high limestone plateau on the approach to Puncak Jaya (Carstensch Pyramid, 4884 m), the highest mountain in Oceania, located in Indonesian Papua. This highly karstic limestone plateau extends for around 70 miles on either side of Puncak Jaya at an elevation of between 3,500 to 4,800 meters.

There are three main areas of hazards associated with the expedition. These relate to travelling and living in harsh environments, exploration of unknown caves and the local geopolitical situation. The extreme remoteness, high altitude, changeable weather, heavy rainfall and serious mountain conditions will be major challenges to solving this last great problem for speleologists.

Risk Assessment Date: 27.11.19		Activity: 2020 Gates of Hell Caving Expedition			
Completed by: Fleur Loveridge & Martin Holroyd					
Location: Puncak Jaya, Indonesian Papua					
Likelihood of Hazardous Event:	1 = Very Unlikely	2 = Unlikely	3 = May Happen	4 = Likely	5 = Imminent
Severity of Consequence:	1 = Minor Delay	2 = Minor Injury,	3 = Injury requiring treatment,	4 = Major Injury,	5 = Fatality,
Likelihood x Severity = Risk Factor			RISK RATING		
Risk Rating	1-11 = Low	12-19 = Medium	20-25 = High	1 – 11 = LOW	Acceptable RISK
				12 – 19 = MEDIUM	Additional controls if reasonably practicable.
				20 – 25 = HIGH	All reasonably practicable controls have been considered.

HAZARD (What could potentially cause harm?) HAZARDOUS EVENT Who might be harmed? How might they be harmed?	Level of Risk Initial Risk without control measures				RISK CONTROLS (What action is necessary?)	Level of Risk Residual Risk with control measures			
	Likelihood (1-5)	Severity (1-5)	Risk Factor	Risk Rating (L, M, H)		Likelihood (1-5)	Severity (1-5)	Risk Factor	Residual Risk Rating
Local politics. Expedition to take place in Indonesian Papua that has a strong independence movement that has led to violent clashes. Team members caught up in violent confrontations.	3	5	15	M	Correct visas, knowledge of local laws and relevant insurance cover organised. Expedition dates are chosen to avoid Indonesian Independence Day. The trip has been registered with Dr.Weiglein (https://www.papua-explorer.com/) an experienced local expert who is well connected with both the local villages in the area of Ilaga, and the Indonesian government. This will assist with access and safety in the field working closely with the local chiefs General behavior to avoid confrontation. Copies of passports and visas to assist with replacement if they are lost/stolen	3	3	9	L

					Monitoring of situation ahead of travel, both via local contacts and via FCO status and recommendations.				
Physical Exertion, working in extremes of weather from heat and humidity in lowland jungles to cold and wet conditions in high mountains. This may lead to exhaustion, sunburn, altitude sickness, heat exhaustion, and hypothermia.	4	3	12	M	<p>The expedition involves carrying equipment while trekking through mountainous/ jungle/rivers/uneven & unpredictable terrain. Some areas may result in access and egress difficulties and therefore the team members must make judgments on the ground and ensure that there is always a safe method.</p> <p>Team members are experienced in operating in extreme locations and weather conditions. They are physically fit and well equipped with the correct protective clothing. Regular meal breaks, maintain hydration and rest periods will be taken. Trekking to the high level camps allows for acclimatization.</p> <p>The team will carry emergency equipment, both in terms of preventing exposure, and communications.</p> <p>The team has casualty care trained team members for cave and remote areas.</p>	3	3	9	L
Living and camping at altitude in cold and wet environments. Poor personal hygiene, food preparation and contaminated drinking water may lead to illness.	4	3	12	M	<p>Team members will have durable tents, sleeping bags and clothing. Regular meals will be taken and supplies include provisions for a high calorie diet due to physical exertion.</p> <p>Personal hygiene including hand washing when preparing food.</p> <p>Water purification or boiling for all drinking water.</p>	3	3	9	L

					<p>Sanitation arrangements will be made at the base camp taking into consideration environmental issues and team hygiene.</p> <p>Emergency equipment will be kept at base camp including satellite phone.</p> <p>The team has purchased assistance from (https://www.papua-explorer.com/), a local trekking tour company familiar with the area and the logistics of living and camping at altitude.</p>				
<p>Serious injury or illness. Delayed medical attention due to length of time required for emergency evacuation.</p>	4	5	20	H	<p>Experienced cavers using recognized caving techniques would reduce the risk of an accident.</p> <p>Comprehensive first aid equipment will be kept at base camp and lightweight first aid kits carried by each exploration team.</p> <p>The team includes team members of cave rescue teams with casualty care training and qualifications. All team members will have basic rescue skills and the expedition is equipped for self-rescue. Team training will take place before departure.</p> <p>Base camp is within flying range of a helicopter if an urgent evacuation is required. A satellite phone will be available at base camp.</p> <p>All team members to have full insurance cover and will all follow the ethos of prevention is better than cure.</p>	2	4	8	L

<p>Contact with wild animals, snakes, insects, vegetation that may lead to: Physical injury, bites, mauls, swelling, itching, other complications. Malaria Illness due to travel to a foreign country</p>	3	5	15	M	<p>All routine vaccinations for the area of travel must be up to date. If any team members have any specific allergies this will be shared with the team as appropriate. Medical advice from own Health centre before travel. Good personal hygiene at all times.</p> <p>Team will be accompanied by local guide or receive instruction/advice from guide or local expert prior to travelling / trekking anywhere. All animals are potentially dangerous are carrying diseases so avoid contact.</p> <p>If coming face to face with a wild animal:</p> <ul style="list-style-type: none"> • Always follow advice of guide • No sudden movements. • Stay Calm. • Do not run. • Make loud noise to scare off wild animal if applicable. • Stay with group when ever possible <p>Team members should be vigilant and try to avoid contact with all species of snakes, scorpions and spider etc. Wearing protective clothing such as long sleeves greatly reduce the risk of bites. Ticks, fleas and leeches may also be present so regular checks. Immediate treatment for bites or stings.</p>	3	3	9	L
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Slips and trips due to terrain covered.	4	3	12	M	All team members are experienced explorers, physically fit, well equipped and are able to make good judgment on the safest way to cross the terrain.	3	3	9	L
Falls from height, particularly on underground pitches and climbs	3	5	15	M	Use of specialist caving equipment including harnesses and ropes (Single rope techniques) are used to protect falls from height. This will include the safe position of ropes to prevent falls, rope abrasion, underground waterfalls and rock fall. Where natural anchors do not exist then artificial anchors will be used to ensure safe rigging.	2	5	10	L
Loose rocks, resulting in injury or damage to equipment.	3	5	15	M	Careful choice of underground routes and removing loose rocks in advance of descending pitches and avoiding loose boulders.	2	5	10	L
Extreme rainfall, rising water levels and flooding leading to possible drowning, entrapment, swept away and hypothermia.	4	5	20	H	Monitor water levels, current and anticipated rainfall and the effect it has on water levels. Make use local knowledge about likely weather patterns, obtain forecasts by satellite communications. Use historical data to predict likely rainfall patterns, interpret indicators of past flooding to understand the likely consequence of flooding. If necessary only enter caves during certain times of day or to rig ropes to higher levels above	3	4	12	M

					possible water levels. Use recognized swift water techniques when crossing or following rivers. Additional safety kit to include spare clothing, food drinks, 1st Aid and survival equipment such as a group shelter.				
Light failure in darkness above and below ground.	3	3	9	L	Modern LED light provides greater reliability and run time. All team members will carry spare lighting. Team members will work in a minimum of two people both above and below ground.	2	3	6	L
Lost underground and during surface exploration	3	3	9	L	All trips will have a "callout" time with a surface person at camp. At least one team member will remain on the surface at all times. Caves are surveyed and in a complex cave the use of temporary markers at key junctions. On the surface use of GPS devices, map and compass will be used to maintain orientation.	2	3	6	L
Damage to the environment above and below ground	1	3	3	L	All team members are conscious of the impact on the environment and all activities undertaken will be to minimize any damage to the delicate environments. Watercourses will be avoided in relation to sanitation and washing. Litter will be removed.	1	2	2	L

FCO Status

Current FCO recommendations do not exclude travel to Indonesian West Papua, but they do highlight risks especially with respect to political instability. This is included in the risk assessment above.

Insurance

The team will be insured via the British Caving Association scheme that has been set up to serve expeditions and recreational caving. Full details can be found here: https://british-caving.org.uk/wiki3/doku.php?id=expedition_insurance. The policy includes emergency medical expenses up to £10M and rescue expenses up to £150,000 as well as more routine travel insurance items. However, it is understood by the team that self-rescue will be required in the case of incident and the team will train specifically in case of this occurrence.

Consents and Permissions

We require permission from both the regional government (in terms of a West Papua tourist visa, which will be obtained in person in Timiika or Jayapura) and also from the local village chief in Illaga whose land we will cross on the expedition. We will be issued with a letter from the Chief to carry at all times and will also be accompanied by members of the village acting as guides. We will also employ members of the village to act as porters and cooks and support us at base camp. These requirements are in addition to standard national visa requirements.

Gates of Hell Expedition 2020

Minimising the Environmental Impact of the Expedition

In line with an expedition which aims to record baseline information for wilderness areas, we will apply leave no trace principles and undertake minimal impact caving. In particular we will:

1. Remove all waste materials from the mountain when the expedition leaves;
2. Bury human waste in (organic) soils on the surface, and pack out any human waste from caves;
3. Minimise any alterations of the sites where we camp;
4. Use stoves (rather than fires) for cooking unless working with local tribes who are experienced in living within their own landscape;
5. Respect all wildlife above and below ground;
6. Develop preferred (and if necessary marked) routes for travelling in caves to avoid damage to vulnerable materials like sediments and speleothems;
7. If necessary mark routes in complex or vulnerable caves, but use non-permanent means. Remove any purely navigational route marking materials at the end of the expedition;
8. Avoid making any alterations to caves to provide access;
9. Survey and photograph all cave finds to provide a baseline record for future conservation;
10. Leave in situ any bones or other archaeological material;
11. Place bolts well, and a minimum number for risk reduction, to minimise impact.

Communications Plan

Aims and Objectives: The purpose of the communications plan is to make it clear, including to all expedition members, the purpose of the expedition and the key messages that the expedition team wish to communicate, and the audiences they are to be communicated to. In essence the expedition is concerned with the geographic and scientific exploration of the karst environment around Puncak Jaya. With our expedition publicity we will seek to reach: the general public, the adventure community, the caving community, the cave science community. The key messages for these will be different as follows, although it is accepted that there will of course be some overall between some audiences, e.g. the caving audience and the adventure audience. Overall we wish to inform, engage and inspire others.

Audience	Messages
General public and general adventure community.	The wonder and unique environment of caves. The scientific potential of, along with the vulnerability of cave and karst environments. The role of Ghar Parau and Mount Everest Foundations.
Caving community.	The ambitious and trailblazing nature of our project The challenges we faced and how we overcame them The details of the caves we explored
Cave science community and science community in general.	The particular findings of our fieldwork in terms of - caves explored. - scientific observations. - potential for future research.

Some of these key messages are general and the expedition serves as a vehicle for better informing public discourse, while some are specific to our results. The details of the messages cannot be completed until after our return from the field with complete findings.

Pre-expedition Plan

We have already set up:

1. Expedition web page: www.gatesofhellexpedition.org
2. Expedition Facebook page <https://www.facebook.com/gatesofhellexpedition/>
3. Expedition Twitter account @GoHexpedition
4. Expedition prospectus (attached with this application)

Further timeline of pre-expedition communication:

1. December 2019
 - a. Officially launch expedition's social media platforms and communication tools.
 - b. All expedition participants to share social media platforms with contacts with a request to contacts to do so as well.

- c. Share social media platforms on wider platforms, such the international Cavers of Facebook page, UKCaving.
2. Ongoing: updates on social media regarding funding and sponsors gained, kit, training, research and other points of interest to gain a following and generate interest in the project. This is to include moving and still images.
3. On successfully obtaining funding or sponsorship, update all social media to publicise funding bodies and sponsors.
4. Identify dates of caving and other conferences within the UK and further afield and notify organisers of our intention to present.

Communication during the expedition

Social media updates made en-route to Papua will be possible and will be provided. However, it will be impossible for us to access WiFi in the remote, mountainous areas that we are intending to explore. Live updates direct from expedition members are therefore highly unlikely whilst we are in the field. However, assuming communications can be established via the satellite phone, we will have the opportunity to text short updates to our home agent who can add these to our social media accounts and website news section.

As soon as we find reliable WiFi after the end of the expedition, all social media accounts will be updated with a brief summary of our findings and initial photographs from the field.

Whilst we are in the field and in preparation for communication post the expedition, we will:

1. Collect data (GPS locations, photographs) for surface features and entrances we find that would inform us on the likely hydrology and geology of the area.
2. Collect data underground for both plan and elevation surveys and rigging topographies.
3. Collect scientific observations of sediments, speleothems and cave life.
4. Take photographs both above and below ground.
5. Take video footage.

Post Expedition Communications

On returning to the UK (and other home countries), we will:

1. Within a few days to a two weeks
 - a. update all social media accounts and funders with a more detailed summary of our findings and some further photographs;
 - b. confirm with conference and events organisers the summary of our presentations and our attendance;

2. Within one month – release video clips and further photographs, with initial cave survey data.
3. Within two months
 - a. prepare an initial written report on our findings and expedition as a whole, including some cave surveys, featuring our sponsors in a prominent position;
 - b. send electronic and/or hard copies of our report to our sponsors;
 - c. prepare a presentation on our findings and expedition, strongly featuring and thanking our sponsors;
4. Within four to six months
 - a. prepare a full, in depth, written and video report on our findings and expedition as a whole, including all cave surveys, featuring our sponsors in a prominent position;
 - b. send electronic and/or hard copies of our report to all our sponsors;
 - c. send electronic and/or hard copies of our reports to our contacts in the cave science community
 - d. make the report publically available on our website, and deposit a copy in the British Caving Association Library
5. Within six to twelve months - write article(s) on findings and the expedition, featuring our sponsors and submitting to, for example:
 - a. Descent Magazine;
 - b. Darkness Below;
 - c. Geoscientist;
 - d. WILD
 - e. Australian Geographic
 - f. Side tracked magazine
 - g. National Speleological Society News
6. At various dates – attend events and conferences to present our findings and engage with participants.
7. Within two years – develop articles for scientific journals as appropriate according to fieldwork findings.