

EXP Hig 99/01



GANGOTRI *EXPLORER* EXPEDITION

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An expedition to explore the Gangotri Glacier in the Garhwal Himalaya
in North Eastern India.

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INTRODUCTION

1. This expedition was conceived at the AGM of the Royal Navy and Royal Marines Mountaineering Club in Bamford in October 1998 when a chance conversation with Roger Payne, the General Secretary of the British Mountaineering Council, identified the Gangotri Glacier as a suitable alternative to the route which had been planned in the Karakorum Mountains of Pakistan. The political situation in Pakistan had made the original plan unacceptable and, as the expedition was due to take the field in 6 months time, it was necessary to identify an alternative in order for the planning to take place. Unfortunately the short lead in time made the ascent of a peak, with all the additional administration and expense which this entails, inappropriate. It was therefore decided that the expedition would seek to explore the glacier up to the 6000m level, thus remaining within the definition of trekking, avoiding the need for special visas and a Liaison Officer from the Indian Army.
2. It was decided that the expedition would strive to be self supporting once it was on the Glacier, thereby enhancing the requirements for self reliance, team work and management of objective hazards which make ski mountaineering such an ideal AT activity. For this reason porters were only used as far as Tapovan and the expedition did not employ a cook.

The Gangotri Glacier

Gangotri is located in the region of Uttarakhand, in the Garhwal Himalaya of India, North East of Delhi. The town is venerated by the Hindus as one of 5 points along the source of the Ganges where it makes a confluence with another tributary. The holy Ganges is reported to have come to earth at Ganmukh, where it emerges from beneath the snout of the glacier, although at this point it is called the Bhagirathi. The importance of this to this expedition is the existence of a road, which runs from Delhi to Gangotri, thus making the transit to the expedition area a fairly simple matter, and reducing the walk in to the glacier to only 2 days. The glacier, which is dry, is 30km long and 2km wide and, at the snout, has an altitude of 4300m. It is fed by a number of subsidiary glaciers, or "bamaks" which descend from the mountains, the most notable of which is Shivling (6543m). There are 2 recognised camping areas on the lateral moraine at either side of the glacier, Tapovan on the south side and Nambanvan on the north. The expedition planned to use Tapovan as a base camp at which acclimatisation could take place. It was also planned that some initial training in ski mountaineering techniques should take place before the exploration of the glacier could commence.

Transport

Flights to Delhi were arranged through the Services Travel Centre, who also arranged a reasonable rate for the food and kit to be freighted out. The cheapest deal available was with Lufthansa and, although it involved a change of aircraft in Frankfurt, this was considered better than paying an extra £100 each for a direct flight with Emirates. In the event these flights were extremely good, although the problems with the European flight safety organisation were sharply outlined on the Frankfurt leg. Once in Delhi the transport became the responsibility of the Agent, who was contracted to get the team, and all our food and kit, to Tapovan. The use of Agents in India is considered mandatory if problems with the bureaucratic administration are to be avoided. Although several modes of transport were used, the most interesting had to be the descent from Gangotri in an open jeep. Landslides,

mechanical problems and driving rain all failed to halt our progress towards Uttarkeshi.

Insurance

An insurance policy was negotiated through Centurion Financial Services in HMS DRAKE. Although the quote was competitive, it was inflated by the fact that the expedition would be in the Himalaya. In view of the situation in the Balkans it was considered prudent to take out extra cover against cancellation, even though it was not actually used.

Team Selection

The expedition was widely advertised in the bulletins of the various Service Mountaineering Clubs and Associations, and also by DCI. There were in excess of 30 applications for information, which reduced to around 15 requests for consideration. It was considered important that, if possible, the team should contain representatives from the more junior ratings and from the female fraternity. In the event there were no RN junior ratings, and only one female amongst the 15 applicants. It had always been envisaged that the core of the team would be formed by members of the training expedition from 1998, and this was achieved when 4 of that team were selected. The inclusion of Army and RAF personnel was considered important in order to make contact with their ski mountaineering fraternities but, in the event, the people selected were not ski mountaineers.

The final team consisted of:

Lt Cdr Keven Blake	DNOA	Leader
Lt Cdr Dave Mackie	DERA	Deputy Leader
Lt Grant Lewins	HMS HERON	Caterer
WO Tug Wilson	CFM Portsmouth	Kit
Capt (QRH) Jim Nash	RAC Bovington	Kit
CPO Sean Yates	CFM Plymouth	Environment
WO Sarah Vanes	FOSF	Medical
Cpl Ian Williams	RAF Marham	

Weather and Conditions

Although the Gangotri Glacier is dry, it is usually covered in snow until the Monsoon rain washes it away in mid-July. A very mild winter had failed to produce the normal snow cover in Jan/Feb 99, causing the snow cover to disappear by mid-May. Unfortunately the agent either did not know this, or failed to inform us of the problem, consequently we did not discover it until we arrived in Tapovan to find that there was no snow below 5500m. The temperature, frequently reaching 40o during the day, never fell below freezing, ensuring that such precipitation as was experienced, fell as rain. In the event, only one forenoon was lost to the weather, although we had to walk in waterproofs on a few occasions.

Medical

The expedition was fortunate in that no serious medical problems occurred. Most of the team experienced 'Delhi Belly' to some extent, but not sufficient to incapacitate anyone. Grant had difficulty adjusting to altitude, which he relieved by taking half of a diamox tablet for a few days. Jim damaged the achilles tendons in his left leg, causing him to refrain from walking for a few days of the expedition. Grants finger became infected and was treated with antibiotics. The usual blisters, cuts and grazes were treated and gave no problems. Sarah burned her thumb and finger on a hot cooking pot, which was treated by immersion in cold water and a burn dressing. Apart from these minor injuries the team remained fit and healthy.

Kit

The equipment for the expedition was obtained from various sources. All skiing equipment was supplied from RNWSA sources although it was only used on one occasion. Ropes, tents and cooking equipment were supplied by Thatcham, who waived the charges as the application was made through RAC Bovington. All the kit was serviceable and worked well throughout the expedition. Crampons, ice axes and 2 tents were supplied by RN & RMMC and were completely serviceable. In view of the expected conditions, RAB Carrington Ltd were approached in order to obtain down jackets for all members. They were most helpful, supplying jackets at a very good discount. Members also purchased other items such as sleeping bags and liners. Although the temperature never fell below freezing, the jackets were a great success, combating the dramatic fall when the sun dropped below the horizon each evening. The sleeping bags and liners were also extremely

serviceable, both in the field and in the accommodation on the way to and from Gangotri. After 3 weeks of constant use it was considered that the cost of cleaning and repair of the jackets outweighed their value, and they were therefore donated to the team members. The sledges, which were purchased from Toys R Us, were modified and tested, proving themselves completely suitable for ski mountaineering. Although not used extensively on this expedition they will be retained for future use.

Conclusion

By definition, a ski mountaineering expedition which fails to find any significant snow, must be considered to have failed. However this would overlook the efforts which were made to adapt to an adverse situation. Apart from the first day on the glacier, which was essential for acclimatisation after ascending from sea level to 4300m in 4 consecutive days, the team went out exploring the area around Tapovan every day. Some old snow was discovered in Meru Bamak, and this was used to teach the novices ski mountaineering techniques as well as the use of ice axes and crampons. The final expedition to Nambanvan involved crossing the glacier, setting up a new camp and ascending the Chaturangi Bamak to over 5000m. In addition to these achievements, which were quite impressive for the non-mountaineers, the team operated well together in an unfamiliar environment, remained friends and avoided any significant illness or injury. It is therefore concluded that, although the original objective of the expedition was frustrated from the start, the adaptability and determination of the team ensured that every effort was made to increase their knowledge and experience. Movement on the glaciers, which were buried under loose rocks and littered with pressure ridges of black ice, was extremely arduous, requiring intense concentration and advanced route finding skills, particularly when carrying expedition weight bergens to cover a 3 day absence. There can be little doubt that all team members are stronger, both physically and mentally, and have the experience of Himalayan conditions which will make them useful to future expeditions. Finally, any expedition which takes seven Himalayan novices to the Himalaya where they operate up to 5000m, overcoming the debilitating effects of altitude and achieving a reasonable level of exploration, must be considered justified, if not successful.

EXPEDITION NARRATIVE

1-3 June 1999

"Administration in Delhi"

Grant and Keven flew out to Delhi on 1 June as an advance party. On arrival, after a very pleasant flight with Lufthansa, they were conveyed to the USI Complex, at Visant Vihar, in an Indian taxi which looked, and sounded, like a 1950s Ford Prefect. After their first journey through the busy, exhaust laden, streets they were extremely pleased to turn off into the ordered calm of the complex. After taking out temporary membership of the United Services Institute they eventually got to bed at 0230 local time. The USI Residency appears similar in function to the Union Jack Club, and is set in a walled garden off the main airport road. The staff are extremely helpful and respectful in a manner which seems evocative of the British Raj. The first morning they were met by a representative of Ibex Travel, who took them to the airport to retrieve the food and kit which had been freighted out as unaccompanied baggage. This day was unlike any other they had previously experienced, enforcing the requirement for an agent to deal with the incredibly bureaucratic Indian system. Patience is not so much a virtue as a necessity as numerous sheets of paper are taken to every petty official who can wield a stamp or operate a pen. The kit was eventually released at 1600, and conveyed to the accommodation where it was piled in the room. A visit to the Assistant Defence Attache at the British High Commission, Major Jon Harradine, was most useful, particularly in view of the political situation in Kashmir, where Indian aircraft were bombing Pakistani territory to remove alleged terrorists. Major Harradine also agreed to provide the expedition rupees against a personal cheque, which precluded the requirement to carry large sums of sterling into the country. On 3 June they went to the market to purchase rice and spices with which to improve the quality of the High Altitude Rations, on which the team would be existing once they were on the glacier. The return journey, by three wheeler motorised tri shaw, was an experience not to be missed, or repeated, ending at the USI where the driver tried to charge an exorbitant fare. The security staff invited them to go inside whilst they encouraged the driver to accept what he had been given. Later in the evening they went to the airport to meet the incoming team. The transfer was accomplished in 3 taxis and with the minimum of fuss, except when

Sarah left her bag in the taxi and became quite emotional when she could not get it back before departure. Fortunately it did not contain anything important, only cosmetics and Open University books - quite unnecessary.

4-6 June 1999

"Travel to Gangotri"

An early start had all the kit and food loaded onto the minibus which was to take the team into the mountains to Gangotri. The bus was spacious but not air conditioned, causing it to become very hot and stuffy as it followed the course of the Ganges across the Northern Indian plain. It was interesting to note the change of land useage as the dirt and dust of Delhi was left behind, giving way to fields of cereal crops and then fruit trees. It was also interesting to see the extent of the recycling which is endemic to Indian society. Car tyres had recycled rubber melted on to them, after which new treads were gouged out. It is probably fortunate that the traffic never seems to exceed 60 km per hour. The first night was spent in Rishi kesh, a bustling town where the Beatles had studied under the Maharishi Yogi in the 1960s. It soon became apparent that this was a religious area where meat and alcohol were not available. The delicious meal which was enjoyed that evening would not be found in a British curry house but we were to learn what to order over the next few weeks. We awoke to find the kit being transferred to a smaller bus for the rest of the journey. It appeared that there was a problem over safety, although Khem Singh, our agent's representative, suggested that he had been unwilling to pay the baksheesh which the park officials had demanded. We then set off into the foothills of the Himalay, up the steep, narrow road which quickly ascended through the Alpine scenery. A short lunch stop in Uttarkeshi surprised us all when the sag allo turned up as a plate of soggy spinach with a small piece of potato. We then moved out of the town to a small guest bungalow where we stayed overnight. The owner had obtained some bootleg chicken for us but we could not understand why it had 4 legs. He had also procured some beer and seemed amazed when we managed to consume more than one bottle each. After a disturbed night, with noisy neighbours and car horns from 0300, we were awoken with bed chai, the most traditional way to start the day on an expedition in India. The tea is luke warm and heavily sweetened but, to those brought up on tales of early Himalayan exploration, no expedition would be complete without it. We continued along the precipitous road towards Gangotri, following the

course of the Ganges. There were several points where we seemed unacceptably close to the crumbling edge of the road, but we eventually arrived in Gangotri to find the place crowded with pilgrims, vendors and beggars. We were met by our porters who transferred all the kit and food to the Bhagirathi Sadam, the guest house where we were to spend the night. Having ascended over 3000m in 2 days we all felt a little breathless and light headed, but this passed as we explored the village whilst the porters vied with each other for the best load. Although we had paid for 28 porters, many of them were content to accept a double load (50kg) for double pay, so we only needed 18. The Guest House was very basic but it had a balcony which overlooked the Ganges, where the pilgrims could be seen bathing in the fast moving, grey waters. This was the first night that we had needed sleeping bags as the temperature was considerably lower at night.

7-8 June 1999

"On foot into the wilderness"

The porters set off at about 0745 and we followed on when we had checked that all the kit and food had gone. Shortly afterwards Sean went back to retrieve the ski poles that he had left behind. The start of the 14 km ascent to Bhojbasa was quite pleasant once we got used to the steady plod which was required to overcome the effects of altitude. The path was very good, allowing us to walk two abreast if we wanted to, and we were soon strung out along the route, re-grouping as necessary to make sure that we were all OK. There are regular 'chai stops' along the well made path, serving food and hot, sweet tea. These consist of scaffolding and canvas shelters in which families live and work, receiving their supplies from porters. It is not unusual to see children as young as 11 or 12 with 40 litre containers of kerosene on their backs, toiling up the path to their family home. We all mustered at one such stop after about 3 hours before continuing, in the heat of the day, for the last 6 km. We passed many pilgrims descending the path, having bathed at the source of the Ganges at Gaumukh. Almost all of them greeted us, with a friendly 'Namaste', asking us where we were from and shaking our hands. It was most impressive to experience the warmth and good natured banter of these devout people who were basking in a state of grace, indeed we hardly met anyone who was not open, friendly and pleased to see us. We finally reached Bhojbasa, where we were to spend the night. Unlike the 'rat infested place' described in the guide book, we found a fairly new complex with accommodation and food. We booked a dormitory and then sat on the steps to rest from our labours. Dave and Jim joined in a game

of cricket with some locals but Dave broke the bat so they had to give it up. They subsequently returned with a repaired bat, but Dave was not invited to join in. Jim agreed to play and then could not get away. Dinner, a take it or leave it affair, was at 1930 and, after instructing the cook to make chai without sugar, was quite good. We couldn't work out whether we were getting used to rice, dahl and chapatis or whether the cook had made a particularly good job of these, but we really enjoyed the meal. The evening had turned quite cold as the sun dropped below the horizon and we were glad of our down jackets. Just before turning in, we went outside to marvel at the stars, which looked so close in the rarified air. After the first fully active day we felt quite exhilarated and ready to go.

At about 0530 the porters awoke and began clearing their lungs and throats for the day's exertions. As this disgusting performance took place immediately outside our dorm, we had little chance of any further sleep. We were on the trail by 0730 and at Gaumukh by 0845. We then began the tortuous climb up the terminal moraine which covers the snout of the glacier and leads to Tapovan. Although the ascent is not particularly difficult, the effects of the rapid rise in altitude over the previous few days had us all gasping for breath, and increased our heart rates significantly. We eventually reached Tapovan to find all the kit laid out by a large rock where Murgo, our Sirdar, was waiting for a receipt and the porters tip, both of which he got. Tapovan is a meadow at about 4300 m. It is wedged between the flanks of Shivling and the lateral moraine which borders the Gangotri glacier. Although the ground is made up of rock and very fine sand, the area is covered in grass-like plants which give it the look of an Alpine meadow. The most significant point for us was the complete lack of snow below about 5,500 m. This was a huge disappointment, although we had had some warnings as we trekked up the valley, and would change the entire nature of the expedition. If there was no snow we could neither ski nor tow our sleds. In this case the expedition was forced to walk out from a base camp as our food and kit were too heavy and bulky to be carried on our backs. As we set about erecting the tents we became very aware of the effects of altitude. We were breathless and lightheaded, particularly when we leaned down and stood up again, which would cause dizziness. Fortunately we were aware of what was happening and that these effects would pass in time. It was necessary that we should remain at this altitude for a few days before attempting to go any higher if we were to avoid more unpleasant symptoms which would necessitate evacuation to lower levels. After spending the day sorting out the base camp we had our first meal containing meat since we left Delhi. Sarah managed to burn her fingers on a pan lid, her woollen gloves

were actually man made, and spent some time with them stuck in a cup of cold water. At least she avoided her share of the cooking. It had been an important day for the expedition and we went to our sleeping bags under an overcast sky.

Wednesday 9 June 1999

"Acclimatisation Day"

Ian rose early and prepared bed chai for the team, a gesture which was appreciated after our first night in the tents. After a good breakfast we all mustered whilst Sean instructed the use of avalanche transceivers. This is most important as you only get one chance when you do it for real. It is essential that all members have the confidence that the others could find them if they were buried. After practising searches until we were satisfied, we ensured that all the crampons fitted the boots, making the most



of this enforced rest day. We had noticed that there were other tents along the valley, so after lunch, we took a slow walk out to meet our neighbours. There were 2 expeditions in the area, a South African team were attempting to climb Shivling and a Japanese team were attempting to climb Meru. Both teams were on the mountains but their Indian Army Liaison Officers were at base camp and were glad to offer us tea and popcorn, which their cook prepared in a few minutes. Our agent had advised us that we should reassure any Liaison Officers of our intentions as trekking teams occasionally climbed peaks without permission. We did this and found them to be charming, amiable men who were glad of some company. They suggested that we might find some snow in Meru Bamak. After a short stay, we set off into a biting wind to walk along the moraine until we could overlook the

glacier. When we found a viewpoint we were amazed to see what a dry glacier looked like. It was completely covered in rocks and sand, giving it the appearance of a quarry. Where the ice had been forced into pressure ridges it had been covered in rock and grit, giving a somewhat grubby appearance. Sarah was most disappointed as she had expected something resembling a glacier mint, but when she was shown a hanging glacier on the side of Shivling she was a little happier. We could see about 10 km of the glacier and there was no snow in sight. The Liaison Officers had told us that there had been 2 feet of snow only a few weeks before, but the high temperatures had removed it. We made our way back to the camp, already experiencing headaches from the gentle exercise. A bank of cloud passed through the valley during the late afternoon, causing temperatures to drop very quickly, but it passed on, leaving outstanding views of Shivling, believed by many to be the most beautiful mountains in the Himalaya.

Thursday 10 June 1999

"Exploration of the Meru Glacier"

The col to the Meru Glacier was just above our base camp, and it was to this area which we set out at about 0830. The climb was relatively simple, taking about 90 minutes, but the view over Meru Bamak was worth the effort. We followed the crest of the lateral moraine all the way along the south of the Bamak, looking for possible skiing opportunities. We eventually reached the bowl below the NW face of Shivling but, although it was full of old snow, it was overhung by a huge serac which was obviously unstable. Nonetheless it was an impressive sight and we discussed possible lines of ascent to no avail. After a quick lunch we started our descent and investigated some old snow which, we considered, would at least allow us to practice techniques. The patch was about 2 km long and 30 m wide, with some banks of steep snow at the sides. It was not ideal but there did not appear to be any alternative. The objective dangers of glacier travel were all around us, as regular avalanches of rock and snow fell from the flanks of the mountains surrounding the Bamak. Although most of the team returned to base camp feeling slightly rough, Grant looked positively ill, so he started to take a low dose of diamox and agreed to remain at base camp until he recovered. That evening we were hit by huge black clouds which thundered up the valley, sending us scuttling for our tents. After a few hours of ferocious rain there was a short break when we could go out and observe huge white clouds of condensation rising from the glacier. Then the wind changed direction and the storm rolled back over us.

Friday 11 June 1999

"Exploration of the Gangotri Glacier"

The storm having passed, leaving only low cloud and a drop in temperature, we set off along the moraine to find the path onto the glacier. Jim had damaged his Achilles tendons on the previous walk, so he had to remain in the base camp to rest them. We followed the flanks of Shivling, always about 200 m above the glacier with only unstable rock and grit below us. We identified one route which, although not particularly stable, would get us onto the glacier, but we continued to scramble up and down, looking for a more suitable route. Dave, nicknamed the mountain goat, was particularly adept at scrambling up steep slopes to spy out any possible routes. We stopped for lunch in the cold rain, which would have been snow but for the unusually high temperatures, and watched a herd of Ibex playing games on the ridge above us. This, of course, sent rocks down in our direction, but we accepted this as they did not hit us. On the way back to our base camp we discussed the ground with the Liaison Officers, who confirmed that we had discovered the best route across the glacier. We returned to the camp in the warm evening sunshine causing a general rush to the river to wash away the accumulated filth of the last few days. The water was icy cold and carried a high concentration of silt, but we soon turned the base camp into a Chinese laundry as we dried our dhobi where we could. It was as well that we took the chance while it existed because we were hit by another storm that evening which gave us rain all night. The whole plateau was wreathed in mist and an eerie light arose from the glacier.

Saturday 12 June 1999

"Crossing the Gangotri Glacier"

We set off after breakfast to descend onto, and to cross, the Gangotri Glacier. There was another campsite on the far side which gave access to the Chaturangi Bamak to the north of the Bhagirathi range. Our earlier exploration was helpful and we made good time to the descent point through the lateral moraine. Jim and Ian had stayed at the base camp, Jim was still resting his tendons and Ian was tired after the previous day, his acclimatisation not being complete. We carried plastic boots, crampons and ice axes as well as ropes and harnesses, giving us the capacity to deal with any conditions, but, in the event, did not need them. It was the first time any of us had traversed a dry glacier and we found the going quite strenuous. Even very large rocks, which looked quite stable, would wobble and move as soon as they were asked to take any weight, and it was interesting, trying to

find a route through the tortured maze of pressure ridges. We saw huge rocks balanced on columns of black ice, waiting until the ice could no longer support them, at which point they would come crashing down. We built small cairns to mark our path, so that we could find our way across in the future. We eventually reached the far edge of the glacier where Dave, Tug and Sean climbed up to the top to check on the quality of the alternative, or advanced, base camp. They came back to report that it was similar to Tapovan but more exposed to the weather. We were all feeling the effects of



the traverse as we ate our lunch, but it was necessary to return before evening. We attempted a different route on the way back but it appeared even more strenuous than the route out. In particular,

we got into a series of valleys which all appeared to lead to the far side, only to offer another ridge to climb and another valley into which to descend. By the time we were scrambling up the steep moraine on the home side we were all quite tired and glad to be back. Just to make our cup of joy complete, it began to rain as we trudged back to the base camp for a soggy meal. Grant and Ian worked hard to make an appetising risotto to supplement the boil in the bag food, but fatigue had dulled our appetite and they did not get the thanks which they deserved. Later that evening the rain stopped and Shivling was bathed in golden sunlight, sending us all rushing for our cameras. Sarah, who was extremely tired, stayed in her tent all evening, refusing food or company.

Sunday 13 June 1999*"Ski Sunday"*

We set off after breakfast to take sledges and skis up into Meru Bamak. We intended to get as much value as possible from the limited amount of snow. The route up was hard work after the exertions of the previous day, indeed Sarah had declined to join the team, being very tired. Once on the snow Sean demonstrated the technique for skinning up hill, then promptly fell out of his skis. Dave demonstrated ice axe and crampon techniques and Tug demonstrated the use of the sleds. Ian had an opportunity to use his new telemark skis and Jim just got to ski, which is all he ever wanted to do anyway. The snow was not particularly good but it was all we had and a good time was had by all. When there was no snow left to ski we packed up the winter equipment and returned to the campsite. At least we had managed one day on the snow.

Monday 14 June 1999*"Exploration of Kirty Bamak"*

Emboldened by our previous foray onto the Gangotri Glacier, it was decided to explore up the glacier towards Kirty Bamak. The same descent route, onto the glacier, was used, but then the team turned south, ascending towards the junction with Kirty Bamak to the west of the glacier. It was hard going and it took some time to reach the junction, but it gave a completely different view of the south end of the Gangotri Glacier, which had previously been hidden.



It was covered in snow and would be skiable if we could get all the kit and the camp up there. Unfortunately this was not possible without a team of porters which we did not have and could not get. The higher reaches of Kirty Bamak were also snowbound but were also out of reach. The team returned to the base camp to rest after three very strenuous days. It was agreed that Tuesday would be a Sunday routine, in the best traditions of the Navy.

Tuesday 15 June 1999

"Sunday Routine"

We made a leisurely start to the day before sorting out all the skiing kit and packing it away for return to UK. It would not be needed again. We also took the opportunity to clean all the cookers and pans and to give the base camp a good clear up, burning as much gash as we could. After lunch Dave took some ropes to a large rock, where he set up a crevasse rescue scenario. We all joined him and practised prusskiing up and down the ropes until we were all proficient. Dave then reset the ropes and we ensured that all the team could abseil. This particularly pleased Sarah and Ian as they had never done it before. The evening remained fine and we prepared to move to advanced base camp at Nambanvan, across the glacier.

Wednesday 16 June 1999

"Traverse to advance base camp"

After a full breakfast we set off, with heavy bergens, to move across the glacier to Nambanvan. Grant and Jim, neither of whom was very well, remained in Tapovan to take care of the kit and prepare for departure at the end of the mountain phase. After our rest day we all seemed to be strong as we stormed across the moraine to the descent point. We followed our cairns onto the glacier, where it became apparent that all was not well with Sarah. At first she was just over cautious but then she began to hyperventilate, becoming very anxious. Jim and Keven sat her down with a handkerchief over her mouth until she calmed down, after which we waited until she regained her composure before proceeding, more slowly, on to Nambanvan. Investigation ascertained that she had eaten very little over the previous few days, reducing her reserves to an unacceptable level. Having eventually reached the far side of the glacier Tug, Sean and Dave carried her bergen up to Nambanvan whilst Ian and Keven escorted her to the top. In the event, after some forced feeding (you will eat it!) she had no further problems. She agreed that she owed the team a drink if we ever got out of the dry area. We spent the late afternoon erecting the tents and improving the site, particularly

the cooking/ dining area where a good shelter was required against the strong winds. We were particularly pleased to see a herd of Ibex grazing about 50 m away, completely oblivious to us. After a good meal Sara seemed completely recovered and we enjoyed the evening sunshine before turning in. It was possible to see the col just below the summit of Shivling, where the South African attempt had been beaten back by heavy snowfall!!

Tuesday 17 June 1999

"Expedition High Point"

The night was disturbed by torrential rain which continued until late morning, making movement ill advised. As soon as it eased we left the tents and made our way up onto the Chaturang Bamak, the subsidiary glacier which runs north of the Bhagirathi range. The path was very good, gaining height onto the lateral moraine until we were walking along its crest. Sean, Dave and Ian pulled ahead and ascended a small peak which just exceeded the 5000 m height, setting the expedition high point. The rest of us remained at 4900 m to conserve our energy for the traverse of the glacier tomorrow. After a short, but strenuous, day we were glad to turn in after our evening meal.

Friday 18 June 1999

"Return to Tapovan"

Early morning rain ensured that we had to pack the tents away wet, making them heavier than they had been on the outward journey. A mist had descended, giving visibility of about 30 m, causing us some concern about route finding on the glacier. Fortunately it lifted in time for us to make a rapid traverse, returning to Tapovan by 1200. After lunch we set about packing as much kit as we could, ready for departure the following day. All equipment was mustered and packed into porter loads whilst any food which could not be eaten was burned with the gash. This was to prevent the distinctive packaging being scattered around the Himalaya by anyone who received them. The porters arrived at about 1600 and agreed to come back at 0800 the following morning. We gave them some surplus kerosene and any non-service food which we could spare, which they accepted as a right and went away to find shelter. We enjoyed our last evening meal at Tapovan before turning in for an early start the next day.

Saturday 19 June 1999*"Farewell to Tapovan"*

By 0800 we had broken camp, stowed all our domestic equipment and cleared the base camp of any trace of our presence. The porters had arrived and manoeuvred for the best loads, either the lightest or, if possible, double loads. When they were all happy, with dire threats of financial consequences if they failed to deliver the gash to the trail office, we set off down the 25 km trail to Gangotri. We picked a good route through the terminal moraine down to Gaumukh, making good time as we descended through the sweet smells of herbs and flowers which we had missed on the way up. We were soon strung out along the path again, each moving at their own pace, either rushing, strolling or limping, according to condition and inclination. We passed through a rain storm but it felt so good that we didn't bother to put waterproofs on, much to the amusement of the locals, who all carry umbrellas. The porters, who had sheltered from the rain, arrived at 1830, depositing all the kit at the Bhagirathi Sadan, our accommodation for the night. We were surprised at how our appetites had shrunk during our time in the field, we were unable to do justice to our evening meal.

20-22 June 1999*"Return to Delhi"*

On 20 June we arose to find that the transport was late so, after breakfast, we hung all the tents out to dry and repacked all of our kit. At 1200 we got into a jeep for the drive down to Uttarkeshi whilst our luggage followed on in the regular bus with the porters. The drive was very interesting as we could see over the edge of the road, into the depths below. The heavy rain helped to keep the temperature down, but it also caused a landslide which blocked the road for a while, until an impatient army officer insisted that we all drive over the rubble. We eventually reached Uttarkeshi and our accommodation for the night. We were not pleased when the baggage arrived because the ski bags were badly damaged and it was obvious that our bags had been tampered with. The only item which appeared to be missing was Jim's bivvi bag, which turned up when the sirdar was approached. This was unfortunate as we had tried hard to nurture good relations with the porters. The following day we travelled to Rishikesh by jeep taxi. This was a bit of a squeeze but it was another interesting journey, out of the mountains, and gave us a taste of the heat which the plains endure at this time. It also gave us access to sit down toilets, luxury. On 22 June we made the long journey across the Northern plain to Delhi. It was mango harvest time and we

saw dozens of stalls selling them at the roadside. Just as we were entering Delhi we saw the ultimate Indian sight, a herd of elephants bathing in the Ganges. They were almost certainly working elephants who were resting between jobs but it was the sight we most wanted to see. We returned to the USI, where we were welcomed back, and enjoyed a meal which included meat for the first time in weeks. If the quality was good, the prices were significantly higher than those to which we had become accustomed in the mountains.

23-25 June 1999

“Post expedition administration”

On 23 June we began the frustrating business of winding down the expedition. All the kit had to be freighted home, and experience suggested that this would not be straightforward. We were not disappointed. Indian customs checked every item, even requiring the tents to be unrolled. After everything was sorted, at about 1745, Lufthansa announced that they needed a letter from the British High Commission to confirm that we had obtained the Rupees, with which we had paid the agent, from them. This could not be completed that evening and would require a further visit the following day. That evening we went out to TGI Fridays for a very good meal and a few drinks to celebrate the safe return of the expedition. On Thursday Keven and Sarah went to the BHC to de-brief the Assistant Defence Attache and to obtain the exchange certificate. After this informal meeting, during which the team were invited for a few drinks the following evening, we returned to the USI to get the certificate to the agent. In spite of his sense of urgency over the need for the certificate he did not arrive to collect it until 1430. It was as well that we had anticipated these problems after the experiences of the advance party because had we stuck to our original plan it would have been very difficult to get all the kit freighted before we were due to fly home. On 25 June we spent the afternoon at the Ashok Hotel swimming pool, before attending the BHC for a few drinks and smally eats. The staff seemed impressed with the high morale exhibited by the team and a most enjoyable evening was had by all. We then returned to the USI, collected our kit and went to the airport for the journey home.

EXPEDITION CATERING REPORT

Planning for the expedition catering began in January with a visit to DSFM, at Ensleigh to discuss ration options, after the visit a decision was made to opt for cold climate 24 hour Operational Ration Packs (ORPS) to cater for the 14 day unsupported phase of the expedition. ORPS were ordered by DSFM on the expedition's behalf, from Colerne Depot, and delivered in early February to RNAS Yeovilton.

At Yeovilton all ration packs were broken down and repacked into polybags, 2 man days worth of food sealed in each bag, double wrapped. Boiled sweets and some of the the sugar was removed before repacking. In addition, dehydrated main meals, left over from the 1998 Corsica expedition were substituted for 50% of the pouched main meals.

Four menus were created and each team member was supplied with 4 days worth of each menu, giving a 48 hour emergency ration in addition to the 14 day supply for the unsupported phase.

Once sealed in the polybags, with the bags marked to identify the menu option they contained, all rations were packed back into the '10 man' boxes, taped and banded, then subsequently delivered to Heathrow for freighting out to Delhi.

Cash in lieu of rations (CILOR) was claimed for the expedition days when it was possible to purchase food on the local economy. The CILOR (India) rate was only £2.44 per day. However, with a small party supplement of 49p and an arduous duty supplement of 61p (for the high altitude phase of the expedition). This proved sufficient to feed each team member. Outside of Delhi food was very cheap in comparison to the UK.

CILOR was claimed on behalf of all team members by the expedition caterer and paid directly to the expedition bank accounts through RNAS Yeovilton's cash account. This proved a most useful method. However, it should be noted that the recent disaggregation of CILOR in unit budgets requires written authority from each item member's budget holder for payment. If centralised payment of CILOR is chosen, this requirement should be notified to prospective team members, early.

Due to the unexpected lack of snow cover and warm conditions, the decision to take cold climate ORPS proved to be wrong. As it turned out, team members did not require all the calories provided in each ration pack. In particular, the extra biscuits supplied proved unnecessary.

Although very work intensive, the decision to 'break down' the 24 hour ORPS into double wrapped packages, prior to departure from the UK proved correct. By doing so, quite a weight saving was achieved (and hence air freight cost) and the rations themselves were very securely packaged for the difficult journey up to the expedition base camp. No rations were lost during this lengthy journey, at all. The only problem occurred during the process of 'clearing' the rations through Indian customs when officials insisted that all boxes be opened and a selection of polybags be split open for inspection. However, in case of damage, spare polybags and sealing tape had been packed so it was possible to seal the rations up again.

It should be noted that the expedition was required to pay import duty on the rations, which was set at 60% of their value. This was not expected as the Indian agent had not notified us of the requirement. It is strongly recommended that any future expeditions to India ensure that this extra cost is taken into consideration during the planning phase.

FINANCIAL REPORT AND BALANCE SHEET

1. The income and expenditure statement for the Joint Services Gangotri Explorer 99 Expedition is attached. There were 8 members of the team, seven of whom paid a personal contribution of £600.00 whilst the JNCO on the team paid £400.00. It was a condition of participation that each individual be a member of their own Service Mountaineering Club and Winter Sports Association. Those not already members joined prior to the expedition.
2. Expenditure on kit was necessarily high, partly to replace that which had simply worn out, and partly to cope with the expected demands of Himalayan conditions. Where possible kit was drawn from service sources rather than purchased.
3. The excess of income over expenditure produced a surplus which should significantly reduce the financial support which will be requested for the 2000 expedition. This was achieved by prudent husbandry, not to say parsimony, and the availability of cheaper flights than had been anticipated.

INCOME AND EXPENDITURE STATEMENT

<i>INCOME</i>		<i>EXPENDITURE</i>	
Brought forward	1794.75	Flights	3218.40
Equipment Grant	1000.00	Freight	1021.00
RNRMMC Grant	1000.00	Taxis	160.00
RNWSA Grant	1000.00	Food	453.00
RAF Grant	650.00	Accommodation	460.88
Army Grant	650.00	Agents Fees	3659.00
Personal Contributions	4600.00	Insurance	899.00
CILOR	314.44	Kit	1885.32
DNPTS Grant	900.00	Maps	34.00
Sports Lottery Grant	1800.00	Bank Charges	43.00
Interest	13.05		
	13722.24		11833.80
			1888.44
			13722.24

Excess of Income over Expenditure: 1888.44



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