

probably a bigger culture-shock than arriving in India but we appreciated the relative luxury after five weeks of continuous camping. Having returned to Srinagar by truck Paul and Simon continued home via Calcutta, whilst Debbie and Rachel travelled around the South of India for a further fortnight. This was independant of the expedition and separately financed.

FINANCES

<u>Income</u>	<u>£</u>	<u>Expenditure</u>	<u>£</u>
Mount Everest Foundation	300	Flights	1184
Royal Geographical Society	150	C.U.E.T.C. Levy	14
Texas Instruments Ltd.	200	Insurance	208.50
W.A. Cadbury Trust	200	Film	180.50
Gilchrist Educational Trust	100	Administration	60
Godman Fund	100	Food	90
St. John's College	80	Hire of mules	100
Newnham College	70	Travel in India	30
Gonville and Caius College	50	Miscellaneous	70
Aston University	100		
Sponsored walk	100		
Small Donations	127		
Personal Contributions	360		
TOTAL	1937	TOTAL	1937

The cost of the final report will be met by the members of the expedition.

ACKNOWLEDGEMENTS

We would like to thank our patrons and sponsors without whose generous support the expedition would not have been possible. In particular Hussein and Deen Kahn; Sir Robert Fowkes; Largil, our guide; and finally our parents.

THE CAMBRIDGE MOUNT KENYA EXPEDITION 1980

PATRON

Sir Jack Longland

MEMBERS

Christopher Benham, 3rd year, Natural Sciences, Pembroke

Lucy Grove, 2nd year, Geography, Newnham - Leader

Jocelyne Hughes, 1st year, Geography, Girton

Rob Stephenson, 3rd year, Medicine, Pembroke

Nancy Thomson, 2nd year, Geography, Girton

AIMS - AN INTRODUCTION

The mountains of Tropical East Africa are of considerable biological and geographical interest. However direct measurements of temperature and other meteorological elements in these regions are scarce.

The aim of the expedition was to study the microclimatic controls of the high altitude vegetation in the Afro-Alpine Zone of Mt. Kenya. Particular reference would be made to the extraordinary Giant Lobelia and Senecio plants which are found between 12,000 ft. and the upper limits of vegetation. A second project, based on the surrounding plains of Mt. Kenya at Embu, aimed to study the voluntary organisations in 'Non Formal Education' and to make an assessment of the contribution of the Educational Programme to rural development in Kenya.

Both projects provided the bases for dissertations which will be submitted as part of the B.A. Geography Tripos.

THE EXPEDITION

The five expedition members flew to Nairobi on July 10th and spent five days here finalizing research permission and collecting official meteorological data. The remote sensing facility in Nairobi provided Landsat Imagery for the mountain, and maps and aerial photographs were obtained from the survey of Kenya. During our stay in Nairobi, the Ringshall's household very patiently put up with us as we organised these first few steps.

On July 16th we arrived at Naro Morn (at the foot of Mt. Kenya), a small, colourful village 6,000 ft. up on the brown, hot plains. We set up our tents at the Naro Morn River Lodge - a green oasis in comparison to the area around - and organised the gear which we were to take up the Mountain. It was at this stage that the expedition split, with Rob, Lucy and Jocelyne making their way up Mt. Kenya, while Nancy and Chris set off for Embu.



Gorges Valley, Mt. Kenya

Our ascent up Mt. Kenya had to be taken fairly slowly allowing us to adjust to altitude, but eventually after two luggage hauls, we established base camp in the Teleki Valley at 13,200 feet, and surrounded by giant species of Lobelia and Senecio. The first stage of the fieldwork was quickly under way, with the automatic temperature and humidity recorder registering readings every half-hour, while we dashed up a 200 metre slope every three hours to read temperatures above and below ground.

As well as field work we did plenty of walking and scrambling around the peaks, and ridge walking at the head of the Teleki Valley. One of the highlights was the four-day hike around the peaks which Rob, Lucy and Jocelyne completed, descending the incredibly spectacular Gorges valley and ascending Point Lenana at 16,500 feet. Meanwhile Nancy and Chris had a very different time at Embu, Eastern Province.

In this area they visited many primary schools and 'village polytechnics' accompanied by Lt. Muhindi, a Salvation Army officer. Data collecting was both interesting and amusing; it involved some novel experiences including a "Fanny Craddock" session on how to make soda bread without an oven the result was a very "stable" loaf which was politely received.

The original plan had been to reunite halfway through the fieldwork in two weeks time. By then, it was hoped that our food supplies would have been freighted out by the R.A.F. ... this was not to be. The first piece of news was that the flight was delayed a week; the second was that our food had not arrived at all. Consequently the market and shops at Nairobi were raided for supplies by Nancy and Chris.

The second set of temperature measurements were done at the head of the Teleki Valley just below Teleki Tarn and Shipton's Peak. This was our second camp at 13,800 feet and was where Nancy and Chris came to join us. The view across to Batian (17,500') and Nelion (17,200') was quite spectacular and it was an appropriate setting in which to celebrate Nancy's 21st birthday together with balloons, Senecio hats and jelly that never set. The last week on the mountain was spent walking and climbing (Rob climbed quite a bit with a friend from Nairobi) and just revelling in the extraordinary environment which the mountain possessed with the huge hairy giant lobelias, rock hyraxes, malachite sunbirds and swirling eagles.

With the data collecting at an end, we packed up camp and descended to the meteorological station (10,000') in a hail storm on the 26th August. The intervening days before the return flight to the U.K. on the 14th September were spent on the coast at Lamu, Malindi and Murbara, experimenting with our amateur Swahili and absorbing culture.

FINANCES

	£
<u>Donations</u>	
R.G.S.	100
M.E. Foundation	300
Mary Euphrasia	240
Worts	60
Newnham	dissertation allowance
Girton	" "
Gra-Bar Ltd.	25
Powell Duffryn Co. Ltd.	50
Selection Trust Ltd.	250
Heffers	5
Keeler Holdings Ltd.	25
L.G. Harris & Co. Ltd.	20

Expenses: A full breakdown will appear in the final report.

ACKNOWLEDGEMENTS

Thames Rice Milling Ltd.; Colman Foods; Park Cakes Ltd.; Force
A.C. Fincken & Co. Ltd.; The Prestige Group Ltd.; London Williamson Ltd.;
Golden Ltd.; Itona Products; Smiths Flour Mills Ltd.; Beecham Foods;
Whitbread & Co. Ltd.; Whitworths Holding Ltd.; The United Yeast Co. Ltd.;
[R.A.F. Lyneham] !

We should like to convey our special thanks to the Ringshalls and the
Hilkins who gave us so much help in Nairobi and to all those people whose advice
made the expedition so much easier to organise.

THE CAMBRIDGE KUMAON HIMALAYA SLOPE STUDY GROUP 1980

PATRONS

Professor Sir Peter Swinnerton-Dyer, Bt., F.R.S., Master of St. Catharine's
College, Vice-Chancellor of Cambridge University
Mr B.H. Farmer, Fellow of St. John's College, Director, School of South Asian
Studies, University of Cambridge

MEMBERS

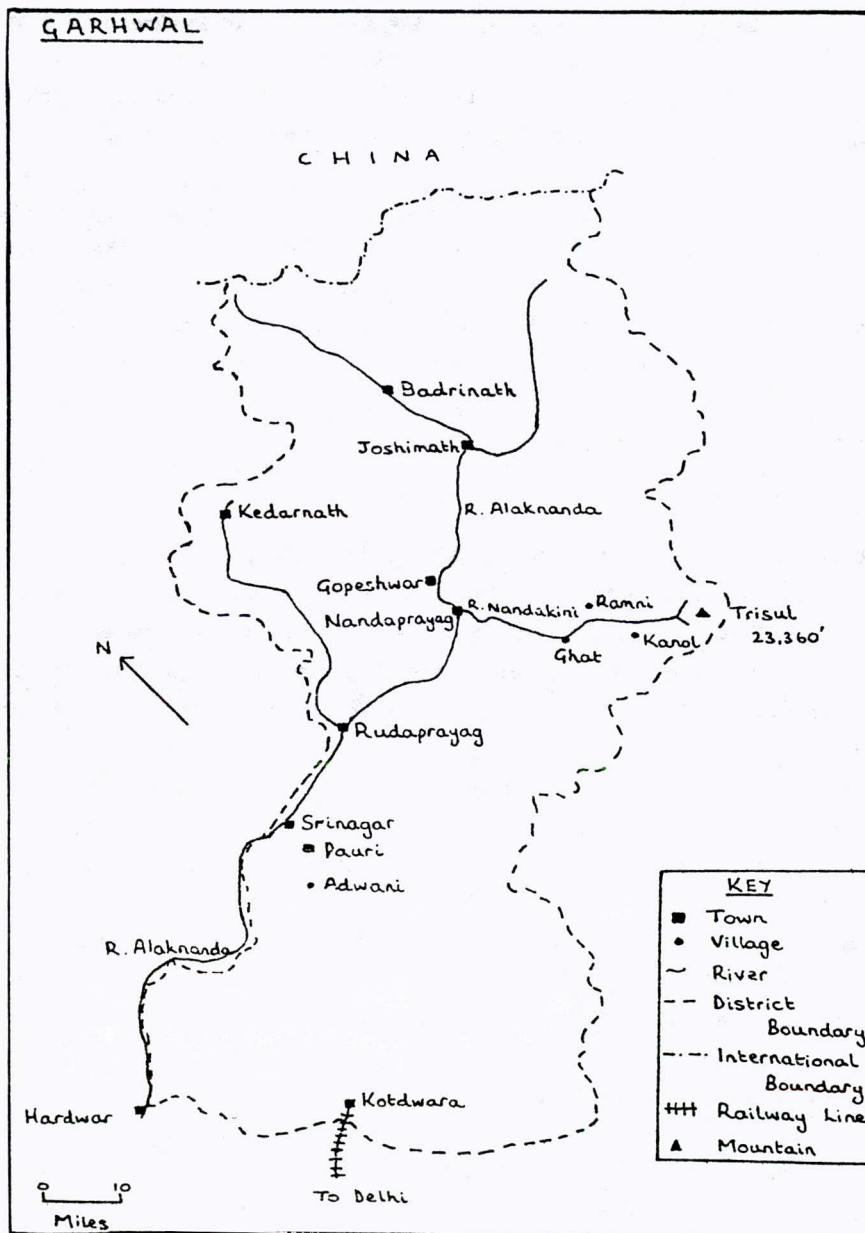
Harriet Allen, Geography, Girton College, Project Co-ordinator
Carol James, Geography, New Hall, Food Officer
Richard Munn, Geography, Pembroke College, Treasurer
Graham Munro, Engineering, St. Catharine's College, Leader and Medical Officer

INTRODUCTION

The study was conceived in October 1979 through a mutual interest in
mountainous regions and a desire to go further afield than Iceland, where we had
all been together in 1979. More specifically our courses covered subjects that

we felt could be applicable in the field, including Soil Mechanics, Geomorphology, Land Use and Development Studies.

Slides from last year's expedition to the region showed that landslides are a major problem, so we aimed to study their causes and incidence. One project concentrated on the physical aspects while the other was more concerned with their relation to land use, especially deforestation, and the development of the study area, which was the Nandakini valley. The Nandakini River flows from the Trisuli glacier to join the Alaknanda River at Nandaprayag. There is a road only as far as Ghat, half-way up the valley, so we spent two weeks walking round the upper part of the valley, which is very isolated and backward.



THE EXPEDITION

The Group left Heathrow on 26th June arriving in New Delhi at midnight. We were hit straight-away by the stifling humid air and noisy but enthusiastic taxi-drivers. The first few days were spent acclimatising to the oppressive pre-monsoon heat and the bustle of Indian life, and also shopping for equipment.

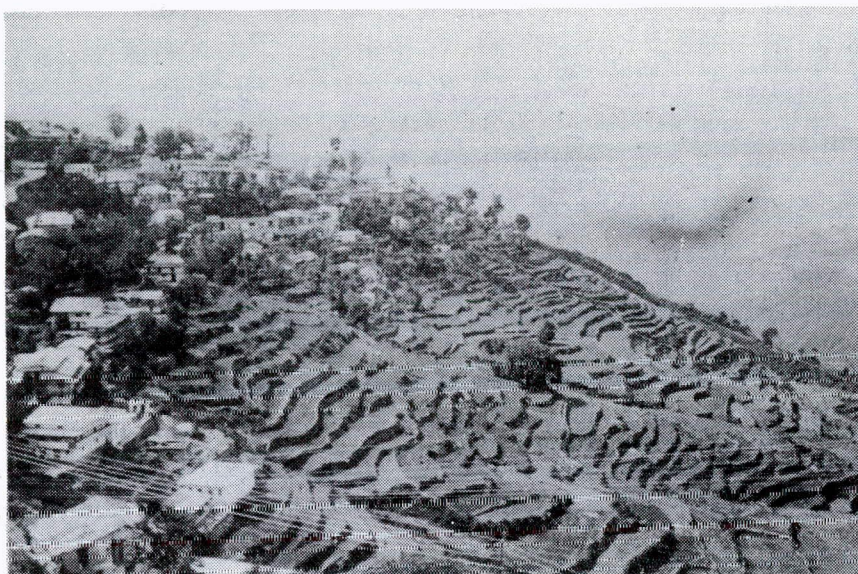
Our first encounters with Indian bureaucracy over, we boarded the overnight train to Kotdwara. There we were met by Bahughuna, Bill Whittaker's field assistant, who introduced us to the sweet tea called 'chai'. From the edge of the plains we then enjoyed the bus trip into the cooler hills, which were much greener and impressively covered with terraces. Bill (a post-graduate research student from Cambridge University doing fieldwork in the Pauri-Garhwal District on the money-order economy) made us most welcome at his Forest Rest House in Adwani, and much of the trip was made possible through his help.

The guide/interpreter we had arranged to hire failed to appear and after a few days and a telegram to Naini Tal we were forced to look at the local talent. After consultations with the Predhan or Headman of the village of Nargoli we employed Jyot Singh, an "accountant" trained at Delhi University. With a large reduction in the wage negotiated we were also able to employ a cook, Laxman Singh, whose gesticulations and few English nouns provided a necessary alternative to Jyot Singh's "he is saying...". They were quickly dubbed J.S. and L.S.

A further bus journey along the Alaknanda valley, following the pilgrim route to Badrinath, brought us to Nandaprayag at the confluence of the Alaknanda and Nandakini Rivers. We spent a few days there obtaining kerosene permits and permission to use the P.W.D. (Public Works Department) bungalows. It was reassuring (!) to find the road to Ghat blocked by a number of landslides and falls.

Once off the main pilgrim route we were met by a very curious local population and word of our presence soon spread. A chance meeting with a herbalist doctor led to some valuable assistance and some letters of introduction to the local Predhans of the valley. The new Block Development Officer (B.D.O.) had only been in Ghat for a month, but he was also helpful in explaining their development aims. Reconnaissance trips were made from Ghat, which enabled us to draw up schemes for recording land use and the details of landslides and other surface exposures. It soon became obvious that roads greatly increased the instability of slopes and we discussed the problems of road building 'Garhwali-style' with the Roads Engineer. Blasting was experienced first-hand with rocks peppering the building where we were staying, hurriedly sending us under the only table. On another occasion we had to evacuate the same building because of rising river levels.

The value of porters was quickly realised after a 4,000 ft. rise to Ramni. Also, J.S. and L.S. were soon assisting us with crop identification, and as we scanned the terraced slopes it was clear that the more obvious erosion features, besides landslides, were gullies which ate back through what little topsoil there was; some slumping was evident on the terraces, as well, but it was not widespread.



Terracing at Pauri, Garhwal
Photograph Carol James

Continuing up the valley we stayed at Boora and Sutol where we slept on the floors of the local primary schools. As we progressed, the valley became more gorge-like and harder for the villagers to produce enough food. Things came to a head in Sutol over not being able to obtain food, causing L.S. to threaten desertion. Here a vaccinator or Field Medical Worker joined our party for the next week and with a clear understanding of how the Indian mind works, he smoothed out many problems.

We returned down the south side of the valley, which was much more heavily forested and less dissected. Stops were made at the Forest Rest Houses of Kanol and Sutail, where local vegetables were again available. Above Ghat the villages were mainly self-sufficient and the main crops were potatoes, pulses, rice, jhangora, koda and marsa. The people ate very little meat despite an abundance of cattle. These are kept for religious reasons and are of little use, but they are a major cause of soil erosion. Our staple diet was a 'sabji' dish, generally consisting of potatoes and gourds with a lot of spices, served with chipattis or rice. The sweet tea, 'chai', was drunk everywhere and a proliferation of 'chai-stalls' made a good excuse for stopping for a breather. In bungalows china tea-sets were often provided - a relic of the Raj?

After further discussions with the B.D.O. and the block's only doctor we returned to Nandaprayag, but not without some odd looks as we peered up and down slopes measuring angles and loitered around landslides with little black notebooks.

We visited Gopeshwar, the District Headquarters, in a fruitless bid to obtain more detailed maps. We had a useful discussion with the District Forestry Officer in charge of soil conservation, but even a sketch map of the forests in the Nandakini valley was not allowed. That and a surprise encounter with a complete village undergoing instruction in weaponry brought home some sad reminders about the proximity of the Chinese border. Before we left we also experienced some earth tremors. According to press reports they registered 5-6 on the Richter scale at the epicentre in West Nepal, showing that the area is geologically active.

On our way back we visited the University of Srinagar but the stop was brief as we fled the tummy bugs and noise for the relative comfort of Adwani. Returning by bus via Pauri to Kotdwara we were fortunate in only having to walk a mile to pass a rockfall that had swept the road away. Another overnight train journey brought us back to Delhi, where we awoke to find a more more civilized-looking city, in which western influences were now exaggerated to our eyes.

On the whole we escaped very lightly from tummy bugs, mosquito bites and other medical problems, although L.S. cut his foot badly plying in a barefoot soccer match. Graham, who had probably got off most lightly in India was found to have a minor gut infection on his return to the U.K., but it soon cleared up. The Group returned to Britain from Calcutta on August 19th.

A complete report is in preparation.

FINANCES

<u>Income</u>	£	<u>Expenditure</u>	£
Personal Contributions 4x£250	1,000	Airfares	1,200
Mary Euphrasia Mosley Fund	240	Food	176
Members' Colleges	140	Insurance - personal and equipment	146
Royal Geographical Society	200	Film	76
C.U. Engineers' Association	200	Equipment	23
Drapers' Charitable Trust	100	Expenses in India - excluding food and equipment	521
Gilchrist Educational Trust	100	C.U.E.T.C. Levy	14
David Richards Fund	90	Medical Kit	17
Cambridge Expeditions' Fund	50	Administration	46
Peter Nathan Cultural Trust	50		
Phillips Industries	50		
Worts Travelling Scholars' Fund	40		
Burtons	20		
Heffers	5		
Mr. D. Willingham	5		
Sale of Food and Equipment	43		
	<u>£2,333</u>		<u>£2,219</u>

Balance of £114 to be used for publication of report and final administrative expenses.

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Our Patrons, W. Whittaker, Dr. S.V. Wammali, P. Blaikie, D. Brunsten, F.C. Ford-Robertson.

In India Dr. C.B. Purovit, Chaman Lal, the Ghat Block Development Officer, Lt. Col. C.O. Tobit, Dr. and Mrs. W.S. Rajpal, Jyot Singh and Laxman Singh.

Assistance in kind was given by:-

Contributors to the Club's Block Order Scheme

plus A.C. Fincken & Co. Ltd.; Allied Breweries (UK) Ltd.; Beecham Foods; Colman Foods; Lesme Ltd.; Nabisco Ltd.; Park Cakes Ltd.; Prestige Group Ltd.; and Swiss Cutlery (London) Ltd.

CAMBRIDGE GEOLOGICAL SURVEY OF HURRUNGANE

PATRON

Chris Bonington, C.B.E.

MEMBERS

A.T. Broomhead, First Year Natural Scientist, Emmanuel College, Leader
N.A. Quinton, First Year Natural Scientist, Emmanuel College, Treasurer
D. Nichols, First Year Natural Scientist, Emmanuel College, Medical Officer
M. Grubb, First Year Natural Scientist, King's College, Food Officer

ADVISORS

Dr. P. Banham, Bedford College, London
Dr. A. Gibbs, Bedford College, London
Dr. B. Rickards, Emmanuel College

INTRODUCTION AND AIMS

The aim of the expedition was to produce a geological map of the previously unmapped area lying to the north and west of the Hurrungane peaks. The purpose behind this was to trace out the edge of the Jotun Nappe, a large overthrust of crystalline (igneous) rocks over a meta-sediment basement. The nappe is the largest in Western Europe, about 100 km by 200 km in area, and the depth is variously estimated from 3 to 16 km. It is hoped that our map will prove useful to others carrying out more detailed study of the geology of the area, and of the nappe in particular (the exact origin of which is still uncertain).

The idea of the expedition was Andrew's. He had visited an adjacent area the previous summer with Dr. Banham of Bedford College, London. Apart from the original work, there was the added attraction of the Norwegian mountains and the possibility of climbing in the area.