Cambridge Expedition to the Cordillera Blanca – Expeditions Committee Report

Introduction
In July-August 2015 our expedition travelled to the Cordillera Blanca mountains of Peru to conduct research on water use in the face of climate change. As a team of four Cambridge students, we spent six fascinating and action-filled weeks in the country in total. During this time we had the opportunity to conduct 54 interviews for the research, live in homestay accommodation with a local family, participate in a number of current volunteering schemes and trek up to almost 5000m, through glaciated valleys that fed both the Pacific and Amazon basins. The variety of the experience was not only hugely enjoyable; it also utilised and put to the test the different skill sets of the team members. As team leader, Cecily Church coordinated the expedition, organised the logistics and directed the research. Louise Ellis remained vigilant for signs of altitude sickness and food poisoning in her role as team medic and ensured that all team members considered – and took measures to avoid – risks to themselves and others. Chase Smith was responsible for chronicling the expedition and writing a detailed blog of events, while Addye Susnik oversaw funding and budgeting as the team treasurer. In addition Yesenia Lazaro Roque, a local resident, took the role of interpreter and fifth team member. As a result of teamwork and dedication, the expedition proved to be a great success, both logistically and in terms of outcomes. Sufficient data was collected for the research, progressive collaborations were initiated between local organisations and all team members learnt a vast amount about the region and its social and environmental complexities. The ultimate goal had been to gain as much of an understanding of the area as we could while giving as much back through participation in local community schemes, and upon completion of the expedition we feel we have achieved this aim.

The Field Site
The Cordillera Blanca Mountains contain the highest peaks in Peru and are home to over 700 glaciers. Not only does this ice provide a vital water source to numerous communities, it is also retreating at an alarming rate. While there, we were informed that approximately 40% of the ice mass has been lost since the late 1970s. This follows a long-term trend of retreat throughout the Holocene, which appears to have been accelerated by anthropogenic effects over the last half-century. Such rapid environmental change is a major social and political concern for the region, because of the heavy reliance on this increasingly scarce water for consumption and irrigation. In competition with governmental schemes for large-scale hydroelectricity and irrigation projects, agrarian communities of the high Andes risk having their needs overlooked. The aim of our research project was to investigate the way in which water management schemes are affecting people within these traditionally marginalised communities.

Data for the geography dissertation project was collected from the small, rural communities of Cachipampa, Rivas and Tukipayok. These spatially overlapping areas of residence are located approximately 10km from Huaraz, the principle town of the Cordillera Blanca. Each settlement has a separate water committee and as a result there have been differences between them in the way water is managed. Cachipampa’s residents have elected to instate concrete channels for the water within the last five years, while Rivas and Tukipayok have retained their non-concreted streams. There is great variability in levels of support for these different systems within the communities. Our intention was to investigate perceptions of the water management and personal interactions with the water supply on an intra-household level. In particular we were looking at the way men and women utilised water in different ways according to the gendered division of labour present within the area. During the dry season (March-August) men are likely to be employed in seasonal construction work while women retain their pastoral and home-based roles. As a result women use on average far greater quantities of water on a daily basis. Conversely, water management meetings have a tendency to be male-dominated. It was these uneven landscapes of water use, access and control on the household level, situated within a broader context of urgent climate change and social marginalisation, that we were exploring.
Logistics

The expedition lasted for six weeks in total, from the 21st July to the 31st August. This was divided into an initial week of acclimatisation in Huaraz, four weeks of research within the communities and a final week of trekking at the end of the trip. Two team members were located in the USA before the expedition began, so different flights were taken to Lima, where we reconvened. We travelled to Huaraz by bus and spent our initial week in a hotel, exploring surrounding area and trying out delicacies at the local restaurants. The four weeks of research were spent living with a host family within Cachipampa, which we reached by taxi. Our host family provided breakfasts and evening meals, while lunches were eaten at the local community centre, which houses the locally-run Andean Alliance organisation that we worked with. We returned to Huaraz by taxi once halfway through our community stay, then again at the end of the four-week data collection period. A weekend was spent gathering equipment for the trek, before heading to Cashapampa to begin 6 days of hiking through Santa Cruz and the Ulta Valley in the Northern Cordillera Blanca. Upon returning, we spent one night in Huaraz before taking the bus back to Lima and taking our separate flights home to the UK and the US.

For the four of us, the trip cost approximately £12,000. The greatest costs consisted of flights, which came to £3600 in total, the in-country travel and accommodation (£1880), the costs associated with the homestay, food in the community and the NGO work, which totalled £1920, and the trek which came to £2880. Other costs included vaccinations and medical supplies (£800), translation (£400) and equipment, for the trek and the weather conditions particularly (approximately £1000). Through fundraising we raised over half of our total, which covered all in-country food, accommodation and travel, as well as costs associated with the volunteering and research. We gained £1500 from the Royal Geographical Society, £500 from the Careers Service, £350 from the Geography Department funds and £1830 from college travel scholarships. Beyond this, fundraising was conducted through money-raising events, an advertised GoFundMe page and a number of other small grants and donations. The shortfall we paid for with our own savings from summer work and internships. Fundraising proved to be a particularly major challenge of the expedition, but our time in the country was appreciated all the more when we considered the effort it had taken to get there.

Medical concerns

Throughout the trip we were fortunate that the first aid skills of our team medic were not required. Although members of the team suffered from altitude sickness, in some cases for extended periods of time, this was relieved by maintaining our altitude for several weeks and deciding not to ascend further until our high altitude trek. Beyond common issues including minor food poisoning, the team was fit and well to carry out research duties. Before departing it was ensured that all team members were equipped with a comprehensive medical kit and all had necessary vaccinations. In several cases vaccines were required well in advance, so time was very much of the essence before departing for the summer.

The Research

As described, our research was concerned with the gendered effects of water management within three rural communities in the Cordillera Blanca. The approach taken was informed by Feminist Political Ecology, which aims to unravel the power relations, and in particular the gender dynamics, entangled in environmental issues. Political Ecology seeks to demonstrate how decisions relating to resource use are made within a broad political context, and a feminist lens enables the differing implications for men and women to be viewed on multiple scales. In our own research, we conducted household surveys and in-depth interviews with 54 local residents to explore their opinions on local water management and their personal, daily interactions with water sources. These surveys and interviews were invariably conducted in the fields while agricultural work was taking place. We found that interviewees were generally more comfortable answering questions while simultaneously performing other tasks, which we were able to assist with. To supplement the surveys we attended a local water meeting and conducted village walks, while mapping out the water channels through the communities. Our data in currently in the process of being analysed, but our initial findings revealed a marked gender difference. At the intra-household level, women dominated water use through their
daily activities but on a community level, male decision-making dominated water meeting discussions. This disparity could potentially result in particularly high vulnerability for women in the face of continued climate change and social, political and structural responses.

Volunteering Work
Throughout the research period we assisted with a number of voluntary projects in the area. We worked particularly closely with the 'Guias Locales, a branch of the community-run NGO Andean Alliance. The Guias Locales are involved with local environmental and development schemes and our intention is that our findings will help to inform their future projects. Additionally we worked with them while we were there, translating their guided walks of the area into English assisting with the construction of 'improved stoves' (in place of open fires) in the most impoverished households, which reduce smoke build-up and the risk of severe burns within the home. Most significantly though, we assisted with the collaboration between the Guias Locales and a local NGO which runs a reforestation project. By chairing meetings between the two organisations and incorporating reforestation-related questions into our interviews, we were able to gauge community interest in a native tree-planting scheme. We received highly positive responses, and the hope is that the Guias Locales will work with the reforestation organisation to facilitate native tree planting in the area.

The Trek
Our expedition was rounded off by a trek into the spectacular mountains of the Northern Cordillera Blanca. Having worked in the foothills, it seemed only fitting to explore the icy peaks and glaciers providing the ever-diminishing water supply. Our trek took us along the Santa Cruz trail for four days, past Alpamayo (claimed to be the most beautiful mountain in the world) and Artesonraju (the peak used in the Paramount Pictures symbol). We crossed from the Pacific to the Atlantic watershed via the stunning Punta Union pass and continued into slightly more verdant and temperate valleys (though the temperature still plummeted at night). In our final two days of trekking we extended our walk beyond Santa Cruz and into the Ulta Valley. For our final night we camped in a vast corrie, at the altitude of the glaciers. All through the night it was possible to hear the groans and rumbles of the ice avalanches. With incredible night skies and sunrises, heaps of delicious food and a fascinating guide, the trek provided the perfect end to our expedition.

What we learnt from the experience
The research we conducted was fascinating, but we gained so much more from our expedition than just dissertation data. From the initial conception of the idea to the writing-up of findings afterwards, the entire experience was a challenging but rewarding learning experience. The planning and logistics of the trip greatly improved organisational skills and time management, particularly as much of it took place during busy Cambridge terms. While in the field, our level of Spanish improved dramatically, as well as our understanding of regional expectations and customs. The people we stayed and worked with were truly wonderful, with amazing levels of generosity and thoughtfulness. While staying with the host family we found the best way to show our gratitude was to immerse ourselves in their way of living as much as possible and learn all from them that we could. As a result we can now milk a cow, construct a roof from freshly-felled trees and wash in a bucket of sun-warmed water. But most of all we made some great friendships and have an enormous number of fantastic memories from our time there.

We would like to thank to CUEX and the CEC for all their support and advice with the expedition planning and logistics, Sam Williams and the Project Cordillera team for their advice and guidance and everyone we met in the community for their willingness to help us. Thank you also to all our donors, who made our expedition possible.