

The impact of Brucellosis on public health, livestock health and reproduction on Tanzania

Report by Harriet Auty

During the summer of 2002, I spent three weeks in Tanzania, helped by funding from a BVA Overseas Group Travel Award. I had many reasons for wanting to go; to gain experience of working in the field as well as in a foreign and less developed country; to put into practice some of the knowledge I had gained over the last few years; and to return to East Africa, an area I had visited previously and was keen to see much more of. I was fortunate to get the opportunity to work on a project funded by DFID Animal Health investigating the impact of brucellosis on public health, livestock health and reproduction in Tanzania.



Analysing blood samples

I arrived in the Serengeti with a limited grasp of Swahili and a healthy amount of apprehension. From here we continued north in a dusty landrover packed with blood tubes, as far as Loliondo. This is a remote Maasai area to the North East of the park, where the first part of the project would be carried out. The project I was involved in is a PhD project of Gabriel Shirima, a Tanzanian student registered at the University of Glasgow, and supervised jointly by Dr Sarah Cleaveland (CTVM, University of Edinburgh).

Brucellosis is widespread throughout Tanzania and has impacts from both an economic and a public health point of view. In people, it causes a chronic debilitating illness, often so severe that people are unable to work, leading to both economic and social hardship. The study areas are among the poorest in Tanzania, and a large proportion of the population are facing poverty. Brucellosis is a major cause of reproductive and production losses in livestock, which contributes further to this poverty as most people in these areas are heavily dependent on livestock for food and income. The long term aims of the project include reducing human disease risk (for example by disseminating public health messages such as recommending all milk is boiled before consumption), improving reproductive performance of the livestock, increasing milk production and improving detection, treatment and general awareness of brucellosis in people.

From a practical point of view, I was mainly involved in carrying out a cross sectional prevalence study, which involved blood testing livestock (cattle, sheep and goats). The project also included longitudinal studies in a proportion of herds to look at transmission within a herd; blood sampling of people at each household to compare infection patterns in people and livestock, and case-control studies to quantify risk factors for human infection. During the cross sectional study extensive questionnaires were conducted to study the risk factors involved in infection, both in people and animals, for example whether milk is boiled before consumption, who is involved with calving and handles foetal membranes, and the amount of contact between livestock and wildlife. We also spent time in hospitals collecting data on diagnosis and treatment of brucellosis.



Blood testing cattle

On paper everything sounds quite straightforward but the reality was often different! We stayed in a local guest house, leaving early each morning to reach the household by 6am. The cattle are kept running loose inside a thorn-fenced boma to protect them from rustlers and predation by wild animals, such as lions hyaenas and leopards, which occur commonly in these areas. Luckily, we were helped by the morani, (Maasai warriors), who expertly caught cattle for us, running alongside the cattle until they could grab one, at which point the cow is wrestled to the ground and one of us could run in and bleed it.

I unwittingly seemed to provide much amusement at this stage, being not only white, female and unable to speak any Maasai, but also (at least to start with) not very good at bleeding cows! Once we had bled all the sheep and goats, and had a mug of (well-boiled) milk to keep us going until our evening meal of rice and beans, we analysed all the samples, so we were able to give the farmers immediate feedback.



Blood testing a goat

In the time I was in Tanzania we visited several villages and were able to sample lots of households. It was great fun working with the Maasai, and really good experience of working in a developing country. Whilst I was in Tanzania I was also able to spend a few days on other projects. This included vaccinating and blood testing domestic dogs for rabies, visiting abattoirs and spending a few days in the Serengeti working with the park vets, where I was involved in immobilisation of two lions to put on radio collars. This was another great experience and was the perfect conclusion to an amazing and inspiring trip. I am very grateful to the BVA for assisting me with funding.

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