

Investigating Livestock Disease in Liuwa Plains National Park, Zambia

Liuwa Plains National Park is in Western Province, Zambia. It is the poorest region of the country, with malnutrition amongst the local population commonplace. The life expectancy is only 37. There are 20,000 members of the Lozi tribe living within the boundaries of the park, who depend for their survival on natural resources, donor aid and subsistence agriculture. The latter includes cassava and maize production, and cattle rearing (totalling 5000 within the park).



Local children and village within the park

The geography of the area renders it a tough one in which to live. The park is flooded for five months of the year. The only way to travel during this time is via boat: it takes a week for canoes carrying goods to reach the capital of Western Province. The majority of Liuwa is a flat plain, but villages are built on the highest land available. During the dry season the population is able to walk through the park. Although it is possible to drive a vehicle through the park there are no roads and no bus services etc to use.

African Parks Conservation (APC) forms a partnership with the Zambian Wildlife Authority in the management of the park. The broad aim of APC is to protect this vulnerable area through conservation and poverty alleviation for the local population coupled with real economic development. Prior to the involvement of APC, wildlife in the park (3660 km sq) had been depleted to an all time low. This can be attributed to unsustainable levels of poaching in the park: the increasing poverty of the Lozi people and the neighbouring civil war in Angola are sighted as the most important factors. The new management system introduced by APC has been extremely effective at increasing wildlife numbers, and having built up a good relationship with the people of the park over the past four years, the environment is now one in which the APC team and the local people can work together effectively.



Wildlife numbers are now increasing at Liuwa

My mandate during a month spent in the park was to investigate disease in cattle. The purpose of this was twofold. Firstly, to determine the major health problems of the cattle, and then to use this knowledge to target vaccines, treatment and management strategies to increase productivity of the cattle. Secondly, now that poaching is well under control, relocation of wildlife into Liuwa will start from next year. The aim is to introduce species (Buffalo, Hartebeest or Eland) that were once found in the park but have since been hunted to extinction in the area. The infection status of East Coast Fever (ECF) and Foot and Mouth Disease (FMD) needed to be established to ensure disease transfer does not occur when the new game arrive.

The project involved blood testing cattle within the park (for FMD, ECF, Brucellosis, Contagious Bovine Pleuro Pneumonia (lung sickness) and BVD) and talking with farmers to gain a better understanding of how they believe the productivity of the cattle could be improved.



Testing – no such thing as crushes available!

A considerable amount of effort went into getting hold of the equipment we would need from the nearest town. This turned out to be the capital, Lusaka, 700Km away. What with dodgy phone lines, frequent power cuts and a distinct lack of fax machines, as well as the bus carrying our equipment breaking down overnight, it was with a sense of relief and surprise when we were finally ready to start testing.

One of the most successful aspects of the testing was being able to carry it out with the assistant to the local Government vet. A project that all the local interests supported sent a positive message to farmers that in the future they would reap the rewards of the tests.

The testing itself was planned such that it would be carried out in a 'north, south, east, west' distribution, to ensure results were representative of the disease status at Liuwa. Following taking samples, our main concern was to store blood properly. Camping overnight in the park with 35 degree midday heat and unreliable electricity, in addition to the 700km bumpy journey back to the capital lent certain challenges in terms of storage! Due to excellent advice from vets in Lusaka, and the use of a centrifuge (by candlelight!), we were able to get the blood to the lab in good condition to yield valuable results.



Processing the bloods before sending them to the lab

The project was the first step of a long term plan to improve the health and productivity of the cattle in Liuwa Plain NP. It will form an important part of the development of sustainable solutions towards which APC and the local people are working in poverty alleviation. In addition, Liuwa is now in a far better position to plan game translocation into the park.

I would like to sincerely thank the BVA for awarding me an Overseas Travel Grant. I believe strongly in the concept of sustainable development, and my time at Liuwa has increased my determination to work in this field once I am a qualified vet. I am confident that the work carried out at Liuwa has laid solid foundations for sustainable solutions to livestock disease and productivity to be instigated in the park.