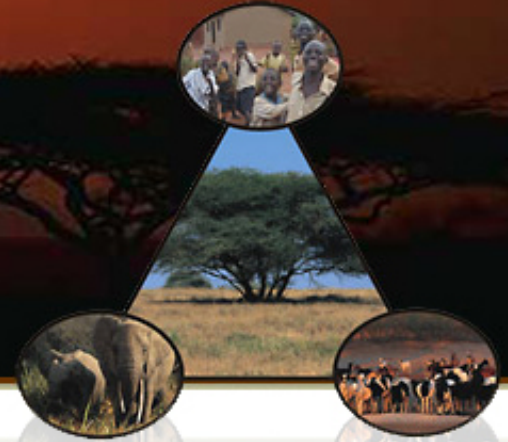


# AHEAD-GLTFCA



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## Research underway to quantify wildlife/livestock interaction and the sanitary risk thereof.

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The African buffalo (*Syncerus caffer*



) is a symbolic species in the panorama of African wildlife; important for hunting and ecotourism and widely present in the main protected areas in sub-Saharan Africa. However this species is also known to be the reservoir of some key diseases transmissible to livestock. Foot-and-mouth disease, corridor disease and even diseases transmissible to human such as zoonoses like bovine tuberculosis and brucellosis are commonly harboured by these wild bovinds, and although not directly detrimental to the buffalo population, may threaten livestock production in the region. In semi-arid sub-Saharan African cattle farming is seen as one of the only options to improve livelihoods for poor human communities. In this landscape, interweaved with National Parks and protected areas, livestock carry a

high socio-economical value for these communities and its production and health are vital. The interface between buffalo and cattle is therefore at the core of conservation and development issues and is the central model studied by the Animals and Integrated Risk Management research unit (AGIRs) of Cirad (International Cooperation Centre for Agricultural Research for Development). Its mission: to understand the wildlife/livestock ecological and epidemiological interactions.

Since 2007 several studies have been implemented by AGIR's researchers in West Africa (W Regional Park – Benin, Burkina Faso & Niger) and in Southern Africa (GLTFCA) in the context of protected areas under increasing agricultural pressure. These studies used telemetry equipment usually only applied to wildlife. Here, buffalo and cattle in the periphery of protected areas were equipped with GPS collars and their movements as well as their sanitary status for major diseases were determined. The aim of which was to describe when and where buffalo and cattle meet and quantify the disease transmission risk associated as well as to understand the

ecological and anthropological factors driving the sharing of similar resources and habitats in periphery of and within protected areas. The first year of data collection in the GLTFCA has ended in November 2009 and the results are being analysed currently.

Then, in June 2010, a combined operation between Cirad, SANParks, the Mozambican and Zimbabwean Wildlife Veterinary Services collared and sampled buffalo herds in the three countries, close to the Crook's corner. The objective here is to understand the ecological and epidemiological links between these buffalo groups: do they belong to the same population? Do they share the same disease burden? Additional cattle herds in the area have also been equipped with collars and sampled. This information will be crucial in understanding the risk of transboundary disease transmission as this disease transfer can lead to the interdiction of animal products exports for the newly infected country. These protocols aim at estimating the risk of transmission of pathogens from wildlife to cattle and vice-versa and in addition the public health risk of human communities living in the GLTFCA.



In November 2008, Cirad in collaboration with the Zimbabwean Wildlife Veterinary Services and SANParks confirmed the first case of bovine tuberculosis in a Zimbabwean buffalo with a strain previously found in Kruger buffalo population. The consequences could be important not only for Zimbabwean cattle were no physical barrier separates them from buffalo, but also for the surrounding human communities, especially in light of the increasing HIV/AIDS prevalence. Ultimately, this information will contribute to the design of management options decreasing the sanitary and public health risk at the wildlife/livestock/human interface. Controlling waterholes access and specific grazing areas as well as strategically vaccinating or treating cattle during high risk transmission season could prove suitable options to enhance livestock production in these remote areas.

Photos by [Marcus Hoffmeyer](#)