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for the Veterinary Profession in Malawi***

ABSTRACTS

Spatial Distribution of Bovine Trypanosomosis in Malawi

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The alteration of the environment has affected the epidemiology of the disease. We report on the spatial distribution of bovine trypanosomiasis in Malawi and use of cattle as predictors of human infection. A cross sectional study with a multistage sampling design was performed at dip tanks in 13 selected districts. A total of 444 blood samples were collected from cattle between January 2016 and February 2016. Samples were screened for trypanosomes by use of indirect ELISA, PCR-RFLP and LAMP diagnostic methods. We used questionnaires to establish the knowledge of trypanosomiasis in the communities. We plotted risk maps to identify areas at risk of infection with human and animal trypanosomes. Moran's I and Cuzick-Edwards tests were used to determine the spatial pattern of bovine trypanosomosis and the estimation of nearest neighbours was performed by calculating the Euclidean distance. Identification of high risk areas of infection with trypanosomes will help in implementing effective and efficient prevention, control and mitigation measures.

Evaluation of Bovine Tuberculosis surveillance data at three abattoirs in Lilongwe, Malawi from June 2015 to May 2016

Marvin Phonera

Background: Bovine Tuberculosis (BTB) is a reportable veterinary disease in Malawi. Beef for commercial use is inspected for its suitability for consumption, including checking for presence of BTB. Surveillance data for BTB from abattoirs is reported to veterinary office, but its completeness and timeliness is not known. The main objectives of our project are to establish the completeness and timeliness of BTB surveillance data and report the cases of BTB in three Lilongwe abattoirs from June 2015 to May 2016.

Methods: BTB Surveillance Data from June 2015 to May 2016 was collected from three abattoirs - Chankhadwe, Kanengo and Lilongwe Cold Storage (LCS) - through interviews with abattoir staff and by reviewing records. Reporting completeness and timeliness was established by reviewing records at Central Veterinary Laboratory.

Results: From June 2015 to May 2016, the surveillance data sent by meat inspectors from all three abattoirs to Meat Inspector Supervisor was complete but it was timely for Kanengo and Lilongwe Cold Storage abattoirs only. Data sent by Inspector Supervisors to the Central Veterinary Laboratory for the same period was neither complete nor timely.

Kanengo abattoir reported more cases of BTB than Chankhadwe and LCS abattoirs. The number of BTB cases in animals from commercial farms versus non-commercial farms for Chankhadwe, Kanengo and Lilongwe Cold Storage abattoirs were 5.7 and 0.2, 17.8 and 0.4, and 1.8 and 0.3 per 100 slaughters respectively.

Conclusion: BTB Surveillance Data sent to the Central Veterinary Laboratory was neither complete nor in time. There were more BTB cases in animals from commercial farms compared to non-commercial farms. Further research is required to identify the causes of poor reporting of BTB surveillance data.

EUS Surveillance in Malawi

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The Government of Malawi (GoM) has prioritized the agricultural sector as it has great potential for economic growth. The agricultural sector contributes about 30% of the Gross Domestic Product, 64% of total employment and 80% of national export earnings (GoM, 2016a). The fisheries sector which is quite significant within the agricultural sector contributes about 4% to the National Gross Domestic Product directly and indirectly through the production of fish from capture fisheries and aquaculture. Devastating effects on fisheries and aquaculture production and the livelihoods of producers could be expected due to recent outbreaks of emerging trans-boundary aquatic animal diseases affecting the sector, notably Epizootic Ulcerative Syndrome (EUS) infection in Zambia, Democratic Republic of Congo, Zimbabwe, Botswana and Namibia (Songa, 2013; Andrew et al., 2008) and Tilapia Lake Virus (TiLV) in Egypt (FAO, 2017). There is no previous reported outbreak of EUS in Malawi and the status is still unknown. The incursion of EUS in Malawi would further add to the existing challenges of HIV/AIDS, malaria, tuberculosis, cholera, Newcastle disease, and foot and mouth disease that have already put a strain on the country's social, health, and economic systems. It is against this background that Malawi, with support from Food and Agriculture Organization of the United Nations (FAO) under project name GCF/SFS/001/MUL, carried out EUS Surveillance in the high risk areas to establish the presence or absence of the infection.

Control of transboundary and other important animal diseases in Malawi - can communities take more responsibility?

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Control of transboundary animal diseases (TADS) is primarily the responsibility of the state veterinary service (SVS). Activities include movement controls, testing, vaccination and sometimes slaughter of animals. They are applied to large **populations** (e.g. district or region level) because they are ineffective if applied at **herd** level. Activities are “for the public good” because the whole livestock industry benefits and the state covers the cost.

Control of other important diseases may involve the SVS (other vaccination programmes, dipping) but activities are termed “for the private good” because they can be applied at a herd or community level and the benefits accrue to individual farmers. Cost recovery from stock owners is attempted.

In Malawi, the need for control of diseases is as important as ever, but government budgets are decreasing, and the mechanisms for cost recovery from stock owners are weak.

This paper describes ways in which livestock-owning communities could take more responsibility for controlling important diseases. This includes use of community animal health workers, cost recovery and insurance. It covers exotic TADs such as PPR, CBPP, FMD and avian influenza for which the risk of incursion is high, and Newcastle disease and African swine fever which are endemic. Other endemic diseases include blackquarter, rabies, ECF and bovine tuberculosis.

The paper concludes that there is scope for increasing community participation but changes in attitude of livestock owners will be crucial and uptake may be slow.