Perspectives of using seasonal climate forecasting for climate related zoonotic diseases with a particular focus on Rift Valley fever

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As experienced recently throughout much of the globe, weaknesses of disease surveillance systems and the inability to control major diseases at their source, along with the globalization of trade, have been held responsible for the emergence and spread of animal diseases. These diseases continuously threaten the livestock sector on a world-wide basis, some with public health implications.

Early warning and accurate forecasting of new outbreaks of epidemic livestock diseases, and the capacity for spread of such diseases to new areas is an essential pre-requisite to effective containment and control.

Because both the geographical and seasonal distribution of many infectious diseases are linked to climate, the possibility of using seasonal climate forecast as predictive indicators in Early Warning systems has become more relevant in the past decade, especially through significant advances in remote sensing data availability, epidemiological modelling and information technology.

In West Africa, a regional early warning system for the surveillance of Rift Valley fever was established and has been in operation since 2000. This system is based on the seasonal monitoring of small ruminants sentinel flocks located in high risk areas combined with the collection of near-real time climatic data provided by satellite imagery as well as the result of three-months climate forecast delivered at the onset of the rainy season.

This study describes the innovative approach adopted in surveillance of Rift Valley fever in West Africa and focuses on the value of using predictive climatology in the surveillance of vector-borne diseases.