Call for Fellowships Afrique One-ASPIRE

TTP5: Human and Animal Disease Surveillance-Response Systems

TTP5 aims to address the need to increase the reporting of zoonotic diseases through integration of human and animal surveillance systems, the use of innovative surveillance tools and involvement of communities in disease reporting. This TTP will focus on three themes:

- Surveillance tools and community involvement
- Surveillance-response systems
- Cost–benefit analysis of integrated human–animal disease surveillance systems

Theme 2: Surveillance-response systems

Ref: TTP5-Surveillance-Response-MSc2

Project Title: Establishing surveillance systems for human and livestock abortion: etiology, impact and the design of interventions

Enrolment: The candidate will be enrolled at NM-AIST, Tanzania, EISMV, Senegal or UFHB, Côte d'Ivoire.

Project Description: Ruminant livestock are critical to the livelihoods and food security of millions of livestock-keeping communities across Africa. However, productivity is constrained by a high burden of infectious diseases. Many abortive agents are known to circulate widely in livestock in Sub-Saharan Africa, causing reproductive losses. Many of these pathogens are zoonoses that are equally important causes of common human diseases. However, surveillance systems to generate data on the incidence and etiology of livestock reproductive losses and their impact on productivity in Sub-Saharan Africa are inadequate. In addition, there is still a poor

understanding of the most effective and acceptable interventions that can be implemented in response to livestock abortion surveillance data. Currently there is no accepted modeling framework for measuring the direct and indirect impact of animal health interventions on farmers in low-income settings. Interventions are often conducted piecemeal and the benefit–cost ratio of potential up-scaling is difficult to evaluate.

This PhD project aims to address these gaps through trailing a pilot livestock abortion surveillance platform in livestock-keeping communities in Tanzania. The different aims of this project are to (a) determine the etiology of livestock (i.e. cattle, sheep and goat) abortions in different livestock systems; (b) assess the impact of livestock abortions in terms of production losses and impacts on household economics; (c) evaluate the cost–effectiveness of different reporting systems; (d) identify and evaluate potential response/intervention strategies; (e) explore the relationship between reporting and response to understand factors that are likely to increase farmer/community engagement and to improve the cost–effectiveness and sustainability of different potential interventions.

Mentorship Team: Blandina Mmbaga (KCRI/KCMC); Joram Buza (NM-AIST); Rudovick Kazwala (SUA); Ruth Zadoks, Alicia Davis and Sarah Cleaveland (UoG); Felix Lankester (WSU); Bassirou Bonfoh and Gilbert Fokou (CSRS)

Qualifications: The candidate must be a citizen of an African country and have a BSc in health and allied sciences.

For more information, contact the Co-leads:
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