

Abstract

The Food and Agriculture Organization of the United Nations/ and the World Animal Health Organization define trans-boundary animal diseases as: “Those animal diseases that are of significant economic, trade and/or food security importance for a considerable number of countries; which can easily spread to other countries and reach epidemic proportions; and where control/management, including exclusion, requires cooperation between several countries”. Currently in East Africa, some of the diseases that fall into this category are: Foot and mouth disease; Highly pathogenic avian influenza; Newcastle disease; infectious bursal disease; Rabies; Rift valley fever; African swine fever; Rinderpest; Contagious bovine pleuropneumonia; Contagious caprine pleuropneumonia; Peste des petis ruminants; Trypanosomosis; Lumpy skin disease. They are of concern because of the impact they have on the livelihoods, food security and socio-economic activities of the affected communities and countries; the potential of some of them to crossover to infect humans; interruptions to local and international trade as well as functioning of associated industries; and the associated, unpredictable and uncontrollable natural forces of climatic factors like drought, excessive rainfall, wind patterns and disease cycles in natural reservoirs. Interventions have to be regional to be effective and include: early detection and diagnosis; vaccinations, treatments and vector control; limitations of livestock movements; public awareness; development of training curriculums; surveillance. This requires adequate human resources capacity for diagnosis of each disease; an effective and reliable diagnostic test for early detection and diagnosis; appropriate legal and policy framework; appropriate teaching curriculum; funding; and the involvement and cooperation of the regional and international animal and human health organizations. Research questions arise regarding the search for appropriate vaccines; diagnostic tests; risk factors presenting vulnerabilities to the occurrence of a specific disease; disease modeling; herd immunity; reservoirs and climatic changes affecting various aspects of a specific transboundary disease; impacts of the occurrence of a specific disease and genetic variability of the causal agents relative the pathogenicity of the agent and the severity of clinical disease. Although some of the diseases have been eradicated (Rinderpest) while some are in the process of being eradicated (trypanosomosis) it is critical to identify a number of them that can be progressively targeted for eradication. Transboundary animal diseases may lay dormant and re-emerge after several years or be freshly introduced into a country. Therefore the search for reservoirs, the attendant silvertic cycles and disease controls such situations; the type and timing of implantation of control measures in the epidemic; the understanding of the methods of spread and adaptation of the pathogen to the local population and the establishment of an endemic status are major challenges now and in the future. While in the past it was difficult to rapidly detect a disease agent, now the polymerase chain reaction test provided a rapid process to detect a disease agent. In the future new diseases may arise and hopefully they will be quickly detected. In conclusion transboundary animal diseases have permeating impacts on livestock and society and demand attention from a wide circle of stakeholders.