

Livestock health priorities in the Tanzania livestock master plan

More than 85% of Tanzanians live in rural areas, out of which about 37% keep livestock. The livestock population is estimated at 107 million animals, of which an estimated 88% are kept in smallholder traditional systems. Animal health services—through disease control and prevention—are important drivers of livestock production and productivity. Improved animal health would contribute to on-farm profitability, ensure food quality and safety; and enhance the international competitiveness of Tanzania's livestock and livestock products.

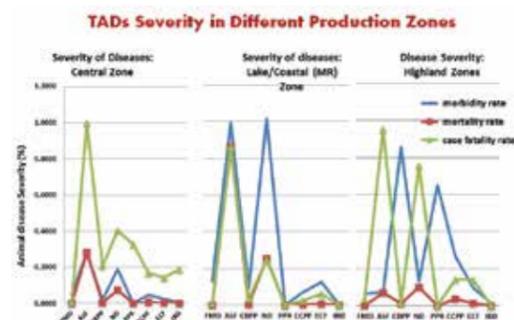
Disease is a significant constraint to livestock production, productivity and safe utilization of animal products. In 2015 alone, the Tanzanian government recorded 329 animal disease outbreaks involving 32 animal disease conditions and 24,231 clinical cases, causing 5,864 deaths and the destruction of 167 animals. Disease control and/or prevention is a recurring and costly burden to individual livestock keepers, institutional herd owners, and local and national authorities.

Inadequate resources including funds, skilled personnel and logistics have also weakened the ability of national veterinary services to contribute to reducing the impact of reported transboundary and zoonotic diseases and pests. Detecting, controlling and preventing these diseases requires highly-coordinated public surveillance and response systems at all levels in all areas of the country. The department of veterinary services needs to strengthen the country's animal disease surveillance and reporting system, including by empowering livestock communities to detect and report disease incidents to facilitate prompt responses to outbreaks.



An analysis was undertaken of disease occurrence and corresponding morbidity, mortality and case fatality rates in 2015, broken down by production zone, for six key transboundary diseases and East Coast fever. The findings indicated that the responses by producers and local animal health services were least effective in the central zone, followed by the highland and coastal and lake zones.

Figure 1. Differences in livestock disease severity/frequencies in 2015 in central (left), lake and coastal (middle) and highland (right) zones



Disease prioritization

Animal diseases cause serious socio-economic consequences including production and livelihood losses, exacerbating poverty, food insecurity and public-health risks, and reducing investment. Transboundary animal diseases and zoonoses

are some of the major constraints to livestock production in pastoral and agro-pastoral areas and are by large the most important constraints to herd health and trade in animals and their products. The main diseases constraining livestock production in Tanzania are Rift Valley fever (RVF), foot-and-mouth disease (FMD), peste des petits ruminants (PPR), African swine fever (ASF), Marek's disease, Newcastle disease (ND), contagious bovine pleuropneumonia (CBPP), brucellosis, and East Coast fever (ECF).

During the process of developing the Tanzania livestock master plan, the livestock sector investment and policy toolkit (LSIPT) was used to help decision makers prioritize diseases to work on. Based on expert opinion and data on animal diseases, the toolkit was used to: assess qualitative and quantitative socio-economic impacts of diseases on household assets, markets/value chain and intensification of production; develop a priority list of animal diseases; and characterize the status of veterinary infrastructure in the country. This work sought to determine the optimal allocation of financial and human resources for surveillance, prevention, control and elimination of selected infectious diseases. The species targeted were food-producing animals: mainly cattle (beef, dairy), small ruminants (sheep and goats), chickens and pigs. The priority diseases hampering:

- household assets were CBPP (cattle), small ruminants (RVF), ASF (pigs), and ND (poultry);
- markets and value chains were FMD (cattle), brucellosis (small ruminants), ASF (pigs), and salmonellosis (poultry); and
- livestock intensification were FMD (cattle), PPR (small ruminants), ASF (pigs), and Salmonellosis (poultry).

Current animal health policy and services

The National Livestock Policy (NLP) in Tanzania recognizes that constraints imposed on the industry by the high prevalence of diseases, such as transboundary, vector-borne and zoonotic and emerging diseases. Official policy calls for the provision of veterinary services in compliance with World Organization for Animal Health (OIE) standards and guidelines for international animal disease control and trade. According to the NLP, the main goal of the country's veterinary services is to control, eradicate and prevent the introduction of animal disease.

The government prioritizes responsibility for the control of transboundary and other diseases of economic importance to the country. It delegates principal responsibility for non-transboundary diseases to the private sector and other stakeholders, with the former also expected to supply veterinary medicines and other inputs. Although the control of neglected zoonotic disease is not classified as a public good, official policy commits the Tanzanian government, in collaboration with other stakeholders, to strengthen infrastructure and facilities for, and promote the provision of, veterinary public health and food safety services.

The Directorate of Veterinary Services (heretofore referred to the Directorate)—through teams comprising 740 veterinarians and more than 5,000 para-veterinarians, mostly based in local government authorities—seek to

control and prevent vaccine-preventable diseases, and deliver effective pro-poor livestock and dipping extension services at ward level to farmers, traders and processors. Based at the ministry, the Directorate also has three sub-directorates for transboundary animal diseases and sanitary inspections; veterinary public health and input control; and vector and parasitic disease control. Though ill-equipped, the eight Directorate zonal centres conduct disease surveillance, manage zoosanitary inspections, and support regional and local government authorities in the provision of field services, e.g. clinical diagnosis and mass vaccinations. In the provision of:

- *Veterinary diagnostic services*, the Directorate collaborates with the Tanzania Veterinary Laboratory Agency (TVLA) which oversees the Centre for Infectious Diseases, eight zone-level laboratories and 157 local government livestock departments, and with the Tanzania Wildlife Research Institute and Reference laboratories on wildlife disease surveillance and diagnosis. While the TVLA biosafety level 2 laboratory is ill-equipped and staff are poorly trained, it has the capacity to undertake advanced diagnosis of most endemic diseases, e.g. using DNA-based techniques. However, it cannot be used to diagnose most evolving epidemic pandemic threats, e.g. Ebola.
- *Infrastructural support*, the Directorate collaborates with the Tanzania Vaccine Institute in the manufacture of ND vaccine etc. and the farmers centre in the production of anti-helmintics (levamisole syrup).
- *Livestock dipping services*, from 2006–2014, the Directorate facilitated access of local authorities and livestock keepers to subsidized acaricides, as well as performance monitoring. Unfortunately, as of 2015, only 52% of dip tanks are functional, carrying out approximately 1% of the animal emersions per year.
- *Clinical animal health services*, there are 338 registered private and retired veterinarians providing mostly urban clinical care, diagnosis and private vaccinations. Contract veterinary services are rare. In Tanzania, there is only one national artificial insemination centre, and a few permanent crash pens, mostly in the research and training farms.

Transforming the livestock sector through health interventions

The threats posed by endemic and epidemic animal diseases in Tanzania need to be urgently addressed. Effective disease control and animal health services delivery are a prerequisite for the transformation of the livestock sector. The resultant gains should lead to further increases in livestock production and purchasing power in the country, particularly of key value chain actors in the sector. Improved animal health and veterinary service delivery needs to be able to control all priority transboundary animal and zoonotic diseases hindering production and catalyze livestock intensification, investment and innovation. The proposed strategies should:

- Strengthen disease control, targeting the elimination of all priority vaccine-preventable transboundary animal and zoonotic diseases. Particular attention should be paid to the I₂ strain of the Newcastle disease virus. It is avirulent, immunogenic and highly protective against virulent isolates of the virus, making it as a suitable vaccine to use for poultry in rural areas.
- Ensure the Directorate receives sufficient funding to fulfil its mandate to control and prevent animal diseases and deliver effective animal health services. The present allocation is insufficient to implement an effective national animal health strategy, strengthen its institutional mandate, procure essential veterinary medical supplies and revamp the working infrastructure, e.g. dip-tanks, crush pens for artificial insemination/vaccinations and vaccines/drug manufacturing, etc. Most of this infrastructure is absent or dysfunctional. Adequate public and private funding is needed to assure the delivery of quality veterinary services, while undertaking animal identification, registration and traceability, protecting animal welfare, and supporting the public veterinary service.
- Strengthen the chain of command in the Directorate. Separating the Central Veterinary Laboratory and diagnostic zonal-level centres from the directorate was a serious oversight. Given the scale of the threat posed by these diseases, mechanisms should be found to reintegrate the Central Veterinary Laboratory back into the directorate, while seeking to ensure a harmonized and efficient working relationship between relevant central, regional and local government authorities working to control transboundary animal and zoonotic diseases.
- Ensure the Directorate designs and undertakes periodical disease epidemiological and impact studies/surveys urgently needed to benchmark morbidity and mortality rates, and embarks upon the mapping of high risk areas for the five selected species-specific priority diseases to facilitate their control.
- Improve capacity to undertake rapid disease surveillance and respond effectively. This entails the early detection of diseases or virus incursions, demonstration of presence/absence of clinical disease or infection, determination and monitoring of the prevalence, and the spatial-temporal distribution and occurrence of priority animal diseases or infections.
- Strengthen animal disease data collection, collation and analysis. There is a paucity of consistently collected disaggregated data for different animal diseases. A new real-time efficient data capture and sharing system is needed to improve animal disease reporting from the field, laboratories and abattoirs, including data from processors, market facilities and Directorate animal diseases response operations.
- Improve the inspection and certification system protecting the safety of processed animal-source foods, consumed locally and for export. The consequent improvements in ante- and post-mortem meat inspection and the monitoring of food hygiene, chemical residues and other toxins present in animal-source foods will require increased investment in the training of human resources. In addition, the strengthening of border controls, internal checkpoints, quarantine stations and abattoirs will require investment in the infrastructure of, and human resources employed at, these structures.
- Strengthen collaboration between local, national, regional and international agencies. These interventions should focus on enhancing the capacity of local and zonal veterinary laboratories to diagnose key transboundary, zoonotic and other diseases, and on assisting the Directorate with animal disease control, outbreak preparedness, and the rapid assessment of disease threats and delivery of support to affected populations. Similarly, wild animal disease surveillance and data should be integrated into the national surveillance system and cooperation between key national and international organizations strengthened to facilitate understanding of these disease processes and help manage the livestock-wildlife interface, minimizing the effects of emerging zoonotic filoviruses causing epidemic pandemic threats, e.g. Ebola, Marburg viruses, etc.
- Encourage the Directorate to prioritize support for the animal-disease monitoring/evaluation system through the undertaking of periodic surveys and studies on performance indicators and respect for standard operating procedures in particular production zones, and to publish the findings on the status of animal diseases and quality of the delivery of core animal-health services.
- Enhance the capacities of national, zonal and field veterinary laboratories, both public and private, through the provision of financial resources and facilities to diagnose diseases and provide timely and reliable laboratory and analytical services (e.g. food toxins) to producers, processors and traders.
- Promote alternative cost-effective approaches for animal health service delivery through the creation by the Directorate of an enabling regulatory and policy environment facilitating the growth of private veterinary practices and broad multi-stakeholder public-private partnerships. Dynamic and mutually supportive partnerships will ease shortages of skilled staff, increase efficiency in the sector, facilitate new investment, and enhance access to new technologies, such as medicines and vaccines, benefitting livestock keepers and their animals.

Background to the LMP

The Tanzania livestock master plan was developed by a joint team from the Tanzanian Ministry of Agriculture, Livestock and Fisheries (MALF) and the International Livestock Research Institute (ILRI). Its development was overseen by a high-level technical advisory committee (TAC) convened under the auspices of the MALF Livestock Permanent Secretary, Maria Mashingo, and chaired by Catherine Dangat, the director for Policy and Planning. The TAC comprised the directors of key MALF livestock-related departments and other government agencies, and representatives from the private sector, civil society organizations and development partner agencies.

Data collection and quantitative diagnostics were supported by the ongoing involvement of key national livestock experts and consultation with a wide range of key stakeholders. The quantitative sector analysis was undertaken using the Livestock Sector Investment and Policy Toolkit developed by the World Bank, the Agricultural Research Centre for International Development (CIRAD) and the Food and Agriculture Organization of the United Nations working under the auspices of the African Union Interafrican Bureau for Animal Resources.

Photo credits:

Page 1: ILRI/Stevie Mann

Page 1: ILRI/Brigitte Maass

James Stapleton works for the International Livestock Research Institute, Getachew Gebru as an independent consultant, and Matthew Maziku for the Tanzania Ministry of Agriculture, Livestock and Fisheries.

Contact

Barry Shapiro
b.shapiro@cgiar.org
ILRI, Ethiopia



BILL & MELINDA
GATES foundation



ILRI
INTERNATIONAL
LIVESTOCK RESEARCH
INSTITUTE

ILRI thanks all donors that globally support its work through their contributions to the [CGIAR system](#)

International Livestock Research Institute
Box 30709, Nairobi 00100 Kenya
Phone +254 20 422 3000
Fax +254 20 422 3001
Email ilri-kenya@cgiar.org
ilri.org

Ministry of Livestock and Fisheries Development
Veterinary Complex, 131 Nelson Mandela Rd
Box 9152, Dar es Salaam
Phone +255 22 286 1910
Fax +255 22 2861908
mifugouvuvu.go.tz