TOWARDS EFFECTIVE LUMPY SKIN DISEASE CONTROL: INTEGRATING COMMUNITY ANIMAL HEALTH WORKERS (CAHWS) INTO NATIONAL ANIMAL HEALTH SYSTEMS

Authors: Richard Nyoni, Gilbert Banda, Marko Chiumia, Ireen Kachepa, Mary Ng'oma, Monica Mzumara, Sudden Mwale, Tionge Chunda, Wellington Mtengula



Key Messages

- **Lumpy Skin Disease (LSD) remains a significant threat** to cattle health and rural livelihoods, with **21.1% of cattle-owning households** reporting suspected cases in their herds.
- **Vaccination coverage is critically low**, with only **23% of cattle owners** reporting that they had vaccinated their cattle against LSD, leaving the majority of the cattle population susceptible.

- **Access and affordability of vaccines remain major barriers**, despite ongoing government-led vaccination campaigns. Some farmers reported limited vaccine availability, while others cited high vaccine costs.
- **Communal grazing and shared watering points**, among local cattle farmers, continue to increase the risk of disease transmission and undermine outbreak control efforts.
- **Knowledge gaps persist**, with approximately **75% of cattle owners** demonstrating low to moderate knowledge of LSD prevention and control, highlighting the need for intensified awareness and extension services.
- **Farmers are relying on treatment rather than prevention**, with nearly **48% purchasing veterinary drugs** to manage the disease after infection instead of preventing it through vaccination.
- **Community Animal Health Workers (CAHWs) present a strategic opportunity** to strengthen disease surveillance, farmer awareness, vaccination mobilization, and delivery of basic animal health services, especially in underserved areas.
- **LSD is causing substantial economic losses.** One in five affected households reported cattle deaths, with losses of up to three animals per household—equivalent to **more than MWK 4 million** in some cases.
- **Government efforts to expand vaccination are encouraging**, but increased investment is needed to improve vaccine access, affordability, farmer awareness, and coordinated surveillance to achieve effective disease control.

Executive Summary

Lumpy Skin Disease (LSD) remains one of the most economically significant transboundary cattle diseases affecting livestock production in Malawi. A rapid assessment involving 98 cattle farmers revealed persistent challenges including low vaccination coverage, delayed disease reporting, and varying levels of farmer knowledge despite relatively good access to animal health services. Integrating Community Animal Health Workers (CAHWs) into the national animal health system offers a practical and cost-effective approach to strengthening surveillance, vaccination, farmer awareness, and outbreak response.

Background

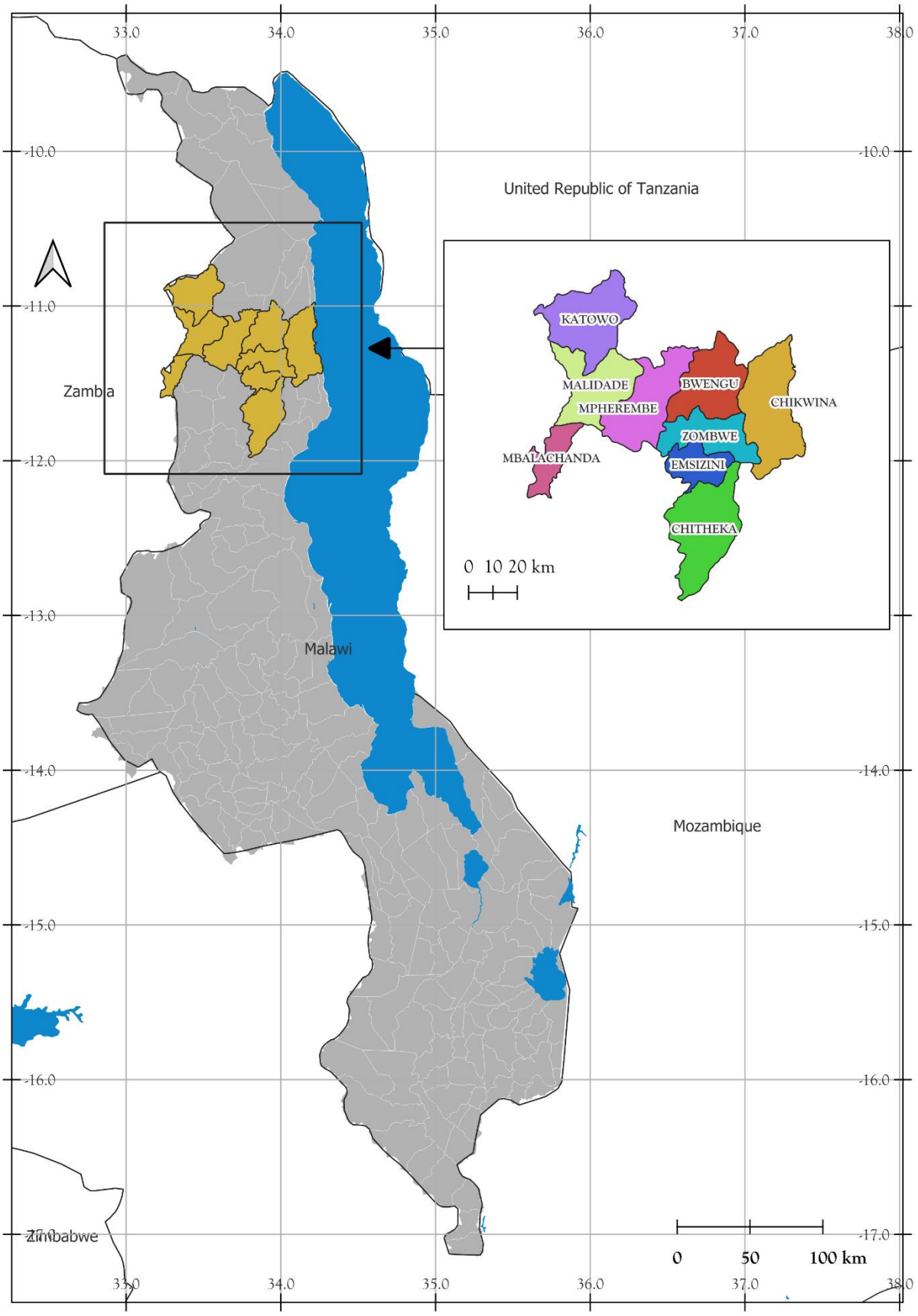
Cattle are an important asset for both rural and urban households, contributing to income generation, food security, draught power, manure production, and household wealth. In the context of increasing climate change and variability, livestock play an even more critical role in disaster risk reduction by strengthening the adaptive and absorptive capacities of

vulnerable households. This is significant in Malawi, where the majority of smallholder farmers depend on rain-fed agricultural systems that are highly susceptible to climate-related shocks. Livestock provide an alternative source of income and a financial safety net during periods of crop failure, thereby enhancing household resilience.

Despite their importance, recurrent livestock diseases such as Lumpy Skin Disease (LSD) continue to undermine cattle productivity and threaten rural livelihoods. LSD causes substantial economic losses through reduced milk production, weight loss, infertility, skin damage, mortality, and restrictions on livestock movement and trade. Effective disease prevention and control are further constrained by shortages of veterinary personnel, limited financial and logistical resources, and inadequate coverage of veterinary services, especially in remote and underserved communities. These challenges underscore the need for innovative and community-based approaches to animal health service delivery. Integrating well-trained and appropriately supervised Community Animal Health Workers (CAHWs) into the national animal health system offers a practical and cost-effective strategy for extending veterinary services, strengthening disease surveillance, improving farmer awareness, and enhancing the timely detection and control of livestock diseases such as LSD.

In April, 2026 Mzimba District Agriculture Office has launched a cattle vaccination campaign following an outbreak of lumpy skin disease that has affected over 500 cattle in several Extension Planning Areas. The response includes farmer awareness activities, vaccination efforts, and livestock movement restrictions, including the suspension of cattle markets in Mzimba South. Authorities have confirmed that the disease affects cattle only and poses no risk to human health.

Center for Community Empowerment Initiatives (CCEI), through projects supported by VSF-NL and Wilde Danzen, conducted a rapid survey to assess the extent of spread of the disease in Mzimba North and Nkhatabay. Targeted Extension Planning Areas included Chikwina and Chitheka/Kavuzi EPAs in Nkhatabay, Zombwe, Mbalachanda, Bwengu, Mpherembe, Mbalachanda, Emsizini, in Mzimba North and Mwazisi and Katowo in Rumphi districts. Through purposively sampling, a total of ** cattle owners, rearing both local and dairy cattle were interviewed.


33.0
34.0
35.0
36.0
37.0
38.0
-10.0
-11.0
-12.0
-13.0
-14.0
-15.0
-16.0
-17.0
United Republic of Tanzania
Zambia
Malawi
Mozambique
Zimbabwe
KATOWO
MALIDADE
BWENGU
CHIKWINA
MPHEREMBE
ZOMBWE
MBALACHANDA
EMSIZINI
CHITHEKA
0 10 20 km
0 50 100 km

Background

Lumpy Skin Disease (LSD) remains a significant threat to cattle production and the livelihoods of livestock-dependent households. LSD is a highly infectious viral disease of cattle caused by the Lumpy Skin Disease Virus, a member of the *Poxviridae* family. First reported in Northern Rhodesia (now Zambia) in 1929, the disease has since become a major transboundary livestock disease with significant economic consequences. LSD is characterized by fever, weakness, weight loss, reduced milk production, eye discharge, and the development of painful skin nodules on various parts of the body, including the head, legs, udder, scrotum, and muzzle. The disease is primarily transmitted by biting insects such as flies, mosquitoes, and ticks, making outbreaks more common during the rainy season when vector populations are high. The disease reduces livestock productivity and causes substantial economic losses through decreased milk and meat production, reduced animal value, and trade restrictions. As there is no specific antiviral treatment for LSD, vaccination remains the most effective strategy for preventing and controlling outbreaks.

Findings from the rapid assessment indicate that households keeping local cattle own an average herd size of 11.5 (SD = 6.6) animals, significantly larger than dairy farmers, who own an average of 2.4 (SD = 1.4) cattle. 21.1% of cattle-owning households reported observing clinical signs consistent with LSD in their herds, while 78.9% reported no suspected cases. However, only 17.4% of households reported suspected cases to government livestock officers, highlighting gaps in disease surveillance and reporting.

Vaccination coverage against LSD remains inadequate. Only 23% of cattle owners reported vaccinating their herds, leaving the majority of cattle susceptible to infection. Among vaccinated households, an average of 17 local cattle and 2.4 dairy cattle were vaccinated. During the assessment, government livestock personnel, including Assistant Veterinary Supervisors (AVSs), Assistant Veterinary Officers (AVOs), and Veterinary Scouts (VSs), were conducting farmer mobilization and vaccination campaigns. Although vaccines were available in some areas through government services and farmer cooperatives, many livestock owners reported limited access or unaffordable vaccine costs. Consequently, farmers often relied on treatment rather than prevention, with 47.7% reporting the use of veterinary drugs such as Long-Acting antibiotics, Ivermectin, Verivexon, Ciber Premix, and Albendazole, while others relied on dipping to control external parasites.

Livestock management practices continue to increase the risk of disease transmission. According to the data collected, most local cattle farmers rely on communal grazing lands and shared watering points, creating favourable conditions for the spread of LSD, especially where vaccination coverage remains low. In contrast, dairy farmers are less likely to use communal grazing systems, reducing their animals' exposure to disease vectors. These

findings emphasize the need to promote improved biosecurity practices alongside routine vaccination, mostly among local cattle producers.



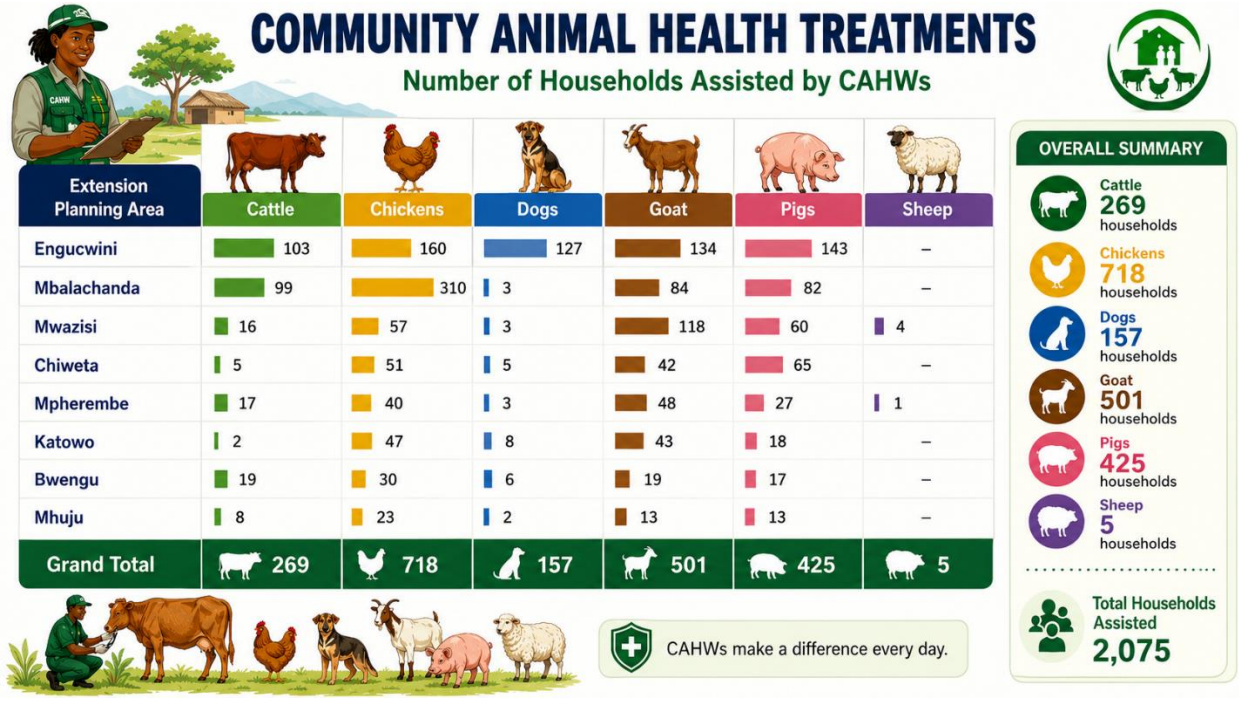


The assessment also identified important opportunities to strengthen LSD prevention and control. Ongoing government efforts to expand access to vaccines provide a strong foundation for increasing vaccination coverage. However, greater investment is needed to improve farmer awareness of the importance of timely vaccination and disease reporting. Community Animal Health Workers (CAHWs) represent an important resource for supporting disease surveillance, farmer mobilization, awareness creation, and delivery of basic animal health services in areas with limited access to government livestock officers. Between April and May 2026, CAHWs supported through the VSF-CCEI programme reached more than 2000 households, delivered at least 16000 treatments, and provided basic animal health services to atleast 1400 cattle. These CAHWs were selected in collaboration with government livestock extension officers and completed a 14-day competency-based training programme covering both theoretical and practical aspects of livestock health management. However, approximately 60% percent of cattle owners indicated that they belonged to a Village Savings and Loans Associations (VSLA), presenting an opportunity for livestock owners to access to have access to credit to purchase or pay for vaccination.

Number of Treatments by Type of Livestock

Done by Community Animal Health Workers

Type of Livestock	Drug administration	Deworming	Wound care	Vaccinations	Dipping
Cattle	1,447	456	77	–	986
Chickens	1,223	1,066	638	6,506	–
Dogs	64	73	17	–	111
Goat	2,383	1,242	480	–	1,577
Pigs	907	678	181	–	527
sheep	26	11	–	–	5
Grand Total	6,050	3,526	1,393	6,506	3,206



Knowledge of LSD among livestock keepers remains limited, with approximately 75% of cattle owners demonstrating low to moderate understanding of disease prevention and control measures. This knowledge gap, combined with low vaccination uptake and continued reliance on high-risk grazing practices, constrains effective disease control.

The outbreak has also imposed considerable economic costs on affected households. Among households reporting LSD, 20% experienced cattle deaths, with the highest recorded loss being three animals in a single household-representing an estimated economic loss exceeding MWK 4 million per household. These findings highlight the urgent need to strengthen prevention, surveillance, and response measures to reduce livestock losses and protect rural livelihoods.

Policy Recommendations

Based on the findings of the rapid assessment, the following policy actions are recommended to strengthen the prevention and control of Lumpy Skin Disease (LSD) in Malawi:

1) **Scale up mass vaccination campaigns.** Increase investment in the procurement and timely distribution of LSD vaccines to achieve high vaccination coverage, mostly in high-risk districts. Annual vaccination should be institutionalized as the primary strategy for preventing outbreaks.
2) **Improve vaccine access and affordability.** Strengthen last-mile vaccine delivery through government veterinary services, livestock cooperatives, and private providers while introducing measures to reduce the cost burden on smallholder farmers, including targeted subsidies or cost-sharing mechanisms.
3) **Strengthen disease surveillance and reporting.** Enhance active surveillance, early detection, and timely reporting of suspected LSD cases through government livestock extension services. Standardized reporting systems and regular outbreak monitoring should be strengthened to enable rapid response.
4) **Leverage Community Animal Health Workers (CAHWs).** Formally integrate trained CAHWs into the national animal health system to support disease surveillance, farmer awareness, case reporting, vaccination mobilization, and delivery of basic animal health services in underserved communities.
5) **Strengthen farmer awareness and extension services.** Implement sustained behaviour change and awareness campaigns to improve farmers' knowledge of LSD transmission, recognition of clinical signs, reporting procedures, vaccination benefits, and appropriate biosecurity measures.
6) **Promote improved livestock management practices.** Encourage biosecurity measures that reduce disease transmission, including minimizing communal grazing

and shared watering points during outbreaks, implementing vector control measures, and isolating infected animals where feasible.

7) **Enhance coordination of outbreak response.** Strengthen collaboration among the Department of Animal Health and Livestock Development, district councils, development partners, livestock cooperatives, and community structures to improve planning, vaccine distribution, surveillance, and emergency response.
8) **Support livestock producers to reduce economic losses.** Develop mechanisms to cushion vulnerable livestock-keeping households from the economic impacts of LSD through improved access to veterinary services, emergency animal health interventions, and livestock recovery programmes following outbreaks.
9) **Promote innovative livestock financing through Village Savings and Loan Associations (VSLAs).** Government and development partners should leverage these existing community financial platforms to improve access to affordable financing for livestock health. Integrating livestock vaccination and animal health financing into village-based VSLA loan products and savings plans would enable farmers to meet the costs of routine LSD vaccination and other essential veterinary services, thereby increasing vaccination uptake and strengthening disease prevention.
10) **Invest in livestock disease preparedness.** Increase funding for veterinary personnel, cold-chain infrastructure, diagnostic capacity, and emergency vaccine stocks to improve preparedness and response to future livestock disease outbreaks.
11) **Strengthen monitoring and operational research.** Establish routine monitoring of vaccination coverage, disease incidence, and farmer compliance with recommended control measures, while supporting operational research to identify effective strategies for improving vaccine uptake and reducing disease transmission.

Conclusion

The rapid assessment demonstrates that LSD continues to pose a significant threat to cattle production and the livelihoods of livestock-dependent households. Low vaccination coverage, limited farmer awareness, continued use of communal grazing systems, and barriers to vaccine access have increased the vulnerability of cattle populations to disease outbreaks. While ongoing government vaccination efforts and the engagement of CAHWs provide a strong foundation for improving disease control, sustained investment is needed to expand vaccination coverage, strengthen surveillance, improve farmer awareness, and enhance veterinary service delivery. Implementing these measures will be critical to reducing livestock losses, safeguarding household incomes, and building a more resilient livestock sector capable of preventing and responding to future disease outbreaks.

References

Hidayatik, N., Khairullah, A. R., Atik Yuliani, M. G., Hestianah, E. P., Novianti, A. N., Damayanti, A. N., Madarina Hisyam, M. A., Moses, I. B., Ahmad, R. Z., Kusuma Wardhani, B. W., Wibowo, S., & Ariani Kurniasih, D. A. (2025). Lumpy skin disease: A growing threat to the global livestock industry. *Open Veterinary Journal*, *15*(2), 541. https://doi.org/10.5455/OVJ.2025.v15.i2.5

Malawi Government (2004). Guide to Agricultural Production and Natural Resources Management in Malawi. Lilongwe: Agricultural Communication Branch, Ministry of Agriculture, Irrigation and Food Security