

**Wildlife Livestock-Human-Interface: An urgent Public Health Concern demanding strengthened One Health Action in India.**

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Dear Sir,

India stands at a critical crossroads in battle against emerging zoonotic diseases. As a nation, harbouring extraordinary biodiversity alongside one of the world's largest livestock populations, the risks arising at the wildlife-livestock-human interface deserves far greater public health attention than they currently receive.

Nearly 60% of all infectious agents pathogenic to humans are zoonotic in nature, and alarmingly, 75% of emerging and re-emerging diseases share this origin (1). India's vulnerability is particularly acute. With the diverse ecosystems and rapid urbanization, the country has witnessed several major zoonotic outbreaks over the past 2 decades, including Nipah Virus, Kyasanur Forest Disease (KFD), H1N1 influenza, and the COVID -19 pandemic (2).

The drivers of this growing threat are well-documented. Deforestation for agricultural expansion has distributed ecological balance, while increasing livestock populations have led to shrinking and increasingly shared wildlife habitats. The use of wildlife reserve areas for livestock grazing and fodder collection acts as an important risk factor for pathogen sharing between wildlife and livestock (3). A stark historical illustration of this dynamic is KFD itself; first introduced into human populations in 1957 following clearance of the Kyasanur forest, cattle became major hosts for the tick vector that carried the virus from its simian reservoir, now causing as many as 1000 human cases per annum.

Recently, the outbreaks of Lumpy Skin Disease, Avian Influenza and Nipah Virus in India have simultaneously affected public health and livestock sector, causing significant economic losses (4). Shared infections at the wildlife-livestock interface account for biodiversity conservation as well (5). Pastoralist and live-stock rearing communities have a

disproportionate burden, with diseases such as brucellosis, scrub typhus and anthrax being prevalent among them.

On a promising note, India has already begun to respond institutionally. The National One Health Mission has recognised that the COVID-19 pandemic, outbreaks of Lumpy Skin Disease, and the constant threat of Avian Influenza collectively demonstrate the urgent need to address diseases among human, livestock, wildlife and plant sectors in an integrated manner. Additionally, ICMR has recently launched a pioneering inter-ministerial study to build a surveillance model for detecting zoonotic spillover at bird sanctuaries and wetlands across Sikkim, Maharashtra and Tamil Nadu, utilizing One Health approach and advanced tools including Next Generation Sequencing (6).

However, institutional momentum must translate into grounded-level action and we must focus on:

- Integration of human, veterinary and wildlife surveillance systems at the district level.
- Capacity building of primary healthcare workers to recognize and report zoonotic signals early.
- Community-level risk communication, particularly among forest-fringe and livestock-dependent populations.
- Inclusion of One Health modules in undergraduate and postgraduate medical curricula.

Defining and prioritizing research on zoonotic pathogens at wildlife-livestock-human interfaces, within a multidisciplinary One Health framework, is essential for efficient and rapid disease-outbreak response (1). The community medicine fraternity, positioned at the intersection of epidemiology, public health policy and community engagement, is uniquely placed to champion this cause.

The question is no longer whether another zoonotic spillover will occur- it is whether we will be prepared when it does.

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**References:**

1. Tiwari S, Roy I, Daptardar M, Singh R, Mishra A, Kedia R, et al. Transforming One Health in India: National Multisectoral Mixed Method Study on Prioritization of Zoonotic Diseases. *JMIR Public Health Surveill.* 2025;11:e77850. doi: 10.2196/77850
2. Soni A, Chauhan DS, Yadav JP. Emerging zoonotic viral diseases in India: One Health perspective. *J Pure Appl Microbiol.* 2025;19(1). doi: 10.22207/JPAM.19.1. [Published online 2025 Feb 27]
3. Singh BB, Gajadhar AA. Role of India's wildlife in the emergence and re-emergence of zoonotic pathogens, risk factors and public health implications. *Acta Trop.* 2014;138:67-77. doi: 10.1016/j.actatropica.2014.06.009
4. Borham A, Abdel Motaal K, ElSersawy N, Ahmed YF, Mahmoud S, Musaibah AS, et al. Climate change and zoonotic disease outbreaks: emerging evidence from epidemiology and toxicology. *Int J Environ Res Public Health.* 2025;22(6):883. doi: 10.3390/ijerph22060883
5. Karmacharya D, Herrero-García G, Luitel B, Rajbhandari R, Balseiro A. Shared infections at the wildlife-livestock interface and their impact on public health, economy, and biodiversity. *Anim Front.* 2024;14(1):20-29. doi: 10.1093/af/vfad067
6. Indian Council of Medical Research (ICMR). India set to launch a pioneering inter-ministerial scientific study to address zoonotic spillover risks at the human-wildlife-environment interface [Internet]. New Delhi: Press Information Bureau, Government of India; 2025 [cited 2026 Apr 20]. Available from: <https://www.pib.gov.in/PressReleaseframePage.aspx?PRID=2118855>