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Editorial

One Health Begins in the Village

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The cattle shed is where the next pandemic will be stopped, or missed

Every morning in an Indian village, the same quiet scene plays out. A woman milks the buffalo tied beside her house. Children chase each other near the calf shed. The herd walks out to graze along a canal or the edge of a forest.

Most of us see a picture of rural life in this. A field veterinarian sees something more. This small courtyard is one of the most important places in the country for public health. If the next serious disease jumps from animals to people, there is a good chance it will happen in a place just like this.

About six in every ten emerging infectious disease events in humans come from animals [11]. So the real question is not whether animals and people share diseases. It is whether we notice early enough when they do. And as the numbers below show, India often does not.

Bigger than we think

India has the largest livestock population in the world. The last completed census counted 536.76 million animals, an increase of 4.8 per cent over 2012 [5]. Nearly all of them live in villages: 514.11 million animals, or 95.78 per cent of the total, were counted in rural areas [4]. Most belong to small and marginal farmers and live a few steps from the kitchen.

Here is a fact that surprises many readers. Livestock is no longer a side business to farming. In 2023–24 the sector added Rs 15,05,615 crore to the economy, which is 30.87 per cent of agriculture and allied GVA and 5.49 per cent of India's entire GVA. Its value added nearly tripled between 2014–15 and 2023–24, growing at 12.77 per cent a year [8]. India now ranks first in the world in milk production, second in eggs and fourth in meat [7]. The Economic Survey 2025–26 reports that farm growth in FY26 was driven mainly by livestock and fisheries rather than crops [15].

So, when disease strikes animals, it strikes the fastest-growing part of the rural economy.

What disease quietly takes away

Some losses make headlines. Lumpy skin disease did. In 2022–23, it infected 35.61 lakh cattle and killed 2.08 lakh. Rajasthan alone recorded over 76,000 deaths among 15.67 lakh infected animals [20].

Other losses never make the news. Take brucellosis, a disease most city readers have never heard of. Brucellosis in Indian livestock causes a median annual loss of US$3.4 billion, and cattle and buffalo account for 95.6 per cent of it [18]. That is a single disease, and it also infects the farmers, inseminators and veterinarians who handle these animals.

Then there is rabies. For two decades, India was believed to lose about 20,000 people a year to rabies. A nationwide ICMR

survey of nearly 79,000 households now estimates 5,726 human rabies deaths each year [19]. That is real progress. But government records confirmed only 54 rabies deaths in a recent year [21]. Thousands of deaths, and only dozens on record. That gap tells us less about rabies and more about how blind our reporting systems still are.

India has quietly built a strong foundation

The good news is that India has changed the way it fights animal disease. The old pattern was simple: an outbreak came, a vaccination drive followed, and then everything went quiet until the next crisis.

The National Animal Disease Control Programme began to break that cycle with nationwide vaccination against foot-and-mouth disease and brucellosis. The Livestock Health and Disease Control Programme went further, adding Mobile Veterinary Units, better cold chains and digital records for each animal on the Bharat Pashudhan Portal [6]. The World Bank-supported AHSSOH programme is building safer labs and state-level One Health committees in five pilot states, and training Pashu Sakhis, women para-veterinarians who carry disease information from the household to the department [25]. The Animal Pandemic Preparedness Initiative, under the National One Health Mission, adds genomic surveillance, joint rapid response teams and models that read animal, human and climate signals together [10]. The National Institute of One Health in Nagpur gives doctors, veterinarians and environmental scientists a common table for the first time [2].

On paper, the plan is sound. So why does it still feel unfinished on the ground?

What the framework cannot see from a distance

- **The problem is not the design:** It is the distance between a well-written plan and the last-mile field unit at the end of a village road. From the field, five gaps stand out.
- **Too few hands:** A report to Parliament in December 2022 showed 28,328 field veterinarians in the public sector against 36,623 sanctioned posts, while DAHD has put the national requirement at 65,000 veterinarians [23]. When one officer must vaccinate, treat, inseminate, report and enter data, prevention is the first thing to slip.
- **Slow answers:** Some states now confirm diseases quickly in modern labs. Others still send samples long distances and wait [13]. In an outbreak, a week's delay can decide whether a disease stays in one village or reaches ten.
- **Data that does not talk:** The Bharat Pashudhan Portal and NADRS are real progress. Anyone who has cleaned village-level ear-tag records know how much work goes into making them reliable. But animal data still rarely meets the human health data in IHIP [17]. The rabies gap above shows what that costs.
- **The invisible worker:** India's National Livestock Policy of 2013 states that around 70 per cent of the labour in the livestock sector comes from women [3]. Yet official surveys barely see them. Using national Time Use Survey data, IFPRI researchers found that women's recorded participation in livestock work rose only from 11 per cent in 2019 to 15 per cent in 2024 [12]. They also warn of a "double burden", where market-oriented livestock work adds to women's duties instead of being shared within the household. If the person who first notices a sick cow is missing from our statistics, she is also missing from our early warning system.
- **The ground is shifting:** Changing rainfall and heat are moving the zones where ticks and mosquitoes thrive [14]. At the same time, antibiotic misuse is building resistance. India ranks as the fourth-largest consumer of antibiotics in food animal production worldwide [22], and its antimicrobial use intensity in food animals was estimated at 43 per cent above the global average in 2020 [16]. There is a hopeful sign: in July 2025, India banned 37 antimicrobial drugs, including 18 antibiotics, for use in livestock production [9]. But a ban works only if someone in the village is there to enforce it.

What will actually make the difference

- **Strengthen the states:** Every vaccination is given and every outbreak is confirmed at state and district level. Filling sanctioned veterinary posts would do more than any new scheme.
- **Connect the data:** Animal, human and environmental surveillance need common standards, so a cluster of sick animals can alert a public health officer in the same week.
- **Count and train women:** Pashu Sakhis and women livestock keepers should be recognised, trained and equipped as the first detectors of disease [24].

- **Prepare for a changing climate:** Surveillance and antibiotic stewardship must follow the new disease seasons and vector zones [1].
- **Fund preparedness in calm times:** Being ready only works if the money keeps flowing between crises.

Where one health will be won

One Health will not be won in Delhi or Nagpur alone. It will be won in the cattle shed, the village dispensary and the district laboratory, by people who are trained, connected and trusted.

The next time you see a woman milking a buffalo in the morning light, remember this. She may be the first person in the country to notice that something is wrong. The framework is ready. The real test is whether our systems can hear her in time.

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