Popular Article

Indian Veterinary Magazine
a monthly Magazine
of the people, by the people, for the people

Vol 2 Issue 5 May 2026, 432-434 ISSN:3108-1398

# The Cost of Negligence: Vaccine Failure and Farm Losses in India

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doi.org/10.5281/IndianveterinaryMagazine.20343992

India has one of the world's largest livestock and poultry populations, yet disease outbreaks continue to devastate farms despite regular vaccination campaigns. In 2025 alone, several outbreaks of Foot-and-Mouth Disease (FMD), avian influenza and Newcastle Disease raised serious questions about vaccine effectiveness and farm-level compliance. While vaccines are often blamed first, the real causes of vaccine failure are frequently hidden in poor management, negligence, improper handling and lack of scientific compliance.

**It's Easy to Blame the Vaccine Itself**

A vaccine can fail even when the product itself is effective. In many Indian farms, the problem begins long before the vaccine reaches the animal. Improper cold chain maintenance, missed booster doses, overcrowding, poor farm hygiene and incorrect vaccination timing can drastically reduce immunity. In poultry, maternal antibodies may neutralize vaccines if chicks are vaccinated too early. In dairy farms, stress, malnutrition and parasitic infections weaken immune responses.

Another major issue is strain mismatch. In Newcastle Disease, many poultry farms still rely on traditional vaccine strains while newer circulating variants continue evolving. This creates partial protection instead of complete immunity.

**Some Recent Reports of Vaccination Failure**

In Bijnor, Uttar Pradesh, an FMD outbreak caused the death of pregnant cows and a sharp decline in milk production, with farmers blaming delayed vaccination drives and poor preventive action by authorities. The district, which houses more than seven lakh animals, suffered major economic losses due to reduced milk yield and rising treatment expenses.

Similarly, in Ludhiana, Punjab, FMD outbreaks led to calf deaths and infection among multiple cattle despite vaccination efforts, while veterinary officials pointed to delayed immunity development and refusal of vaccination by some farmers as contributing factors to

disease spread.

In Maharashtra's Navapur poultry belt, repeated avian influenza outbreaks forced large-scale culling operations in which nearly 3.9 lakh birds and more than 21 lakh eggs were destroyed during containment measures, causing severe financial losses to poultry farmers.

Another avian influenza outbreak in Odisha's Puri district resulted in the culling of thousands of birds to control H5N1 transmission, once again highlighting how weak biosecurity and inadequate preventive measures can devastate poultry livelihoods.

**Greed And Non-Compliance**

One of the least discussed causes of vaccine failure in India is intentional non-compliance. Many farms skip booster doses to reduce operational costs. Some avoid vaccination entirely because of misinformation, fear of temporary production drops or reluctance to spend money on preventive healthcare. In poultry sectors with narrow profit margins, some operators vaccinate only a portion of the flock while claiming complete coverage.

Improper vaccine storage is another hidden issue. Vaccines often lose potency when exposed to heat during transportation or farm-level storage. Yet expired or poorly stored vaccines may still be used to avoid financial loss. In some cases, farms continue selling eggs, milk or birds during outbreaks instead of reporting disease early, allowing silent spread between villages and commercial units. Small outbreaks caused by partial vaccine failure often go unreported because farmers fear quarantine, trade restrictions or economic stigma. These silent failures rarely appear in official records but collectively contribute to recurring outbreaks across the country.

**The Economic Impact of Vaccine Failure**

Affected farms face reduced milk production, poor weight gain, decline in egg production, fertility problems, increased treatment expenses, trade and movement restrictions, higher feed conversion costs, forced culling and disposal losses.

In dairy farms, even temporary FMD infection can reduce productivity for months. In poultry farms, ND or avian influenza outbreaks can wipe out years of investment within days. The Punjab government itself acknowledged that FMD causes annual losses of nearly ₹20,000 crore nationally, which explains why repeated outbreaks remain a major economic threat.

**How To Reduce Vaccination Failure**

Preventing vaccine failure requires more than distributing vaccines. It demands scientific compliance at every level.

**1. Maintain Proper Cold Chain:** Vaccines must be stored and transported at recommended

temperatures from manufacturer to farm. Even a few hours of heat exposure can reduce efficacy.

**2. Follow Correct Vaccination Schedules:** Missed boosters and improper timing weaken herd immunity. Farms should maintain documented vaccination calendars.

**3. Improve Biosecurity:** Vaccination cannot compensate for poor hygiene. Isolation of sick animals, controlled farm entry, disinfection and quarantine of new animals are essential.

**4. Use Strain-Matched Vaccines:** Continuous surveillance is necessary to identify emerging viral variants, especially in Newcastle Disease and avian influenza.

**5. Increase Farmer Awareness:** Farmers need education about vaccine handling, disease reporting and the long-term economic benefits of preventive healthcare.

**6. Strengthen Monitoring and Accountability:** Authorities must verify whether vaccination campaigns are actually completed rather than relying only on paperwork.

**Conclusion**

India's animal health sector has made major progress in vaccination coverage yet recurring outbreaks in 2025 show that vaccines alone are not enough. The hidden causes of vaccine failure poor compliance, weak biosecurity, improper handling, delayed reporting and economic shortcuts continue to undermine disease control efforts. Unless vaccination is treated as a complete scientific process rather than a one-time formality, outbreaks will continue to cause avoidable losses for farmers, poultry operators and livestock economy.

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