

Road Safety at Stake: Stray Animals on Highways

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ABSTRACT

Stray animals on highways have emerged as an increasingly visible and hazardous dimension of road safety in Madhya Pradesh. This article explores the religious, socio-cultural, and economic factors that contribute to the rise in cattle-related road accidents, critically analyses existing policy responses, and proposes holistic strategies for mitigation. Through an integration of secondary data, policy review, and behavioural insights, the paper highlights that reverence-driven cattle abandonment, diminishing pasture lands, and fragmented institutional responsibilities have precipitated a situation wherein road corridors double up as unintended animal shelters. Approximately 20% of the state's bovine population is non-productive and vulnerable to becoming stray, presenting constant risks to commuters and freight networks. Although government interventions such as the National Livestock Mission and Gau Seva Mission indicate intent, gaps remain in enforcement, community engagement, budgetary priority, and behavioural change communication. The article concludes by recommending a multi-layered strategy encompassing fodder security, veterinary care, livestock traceability, local governance participation and behavioural nudges to ensure sustainable coexistence of livestock-based livelihoods and road safety imperatives in Madhya Pradesh.

Keywords: Stray Animals; Road Safety; Madhya Pradesh; Livestock Management; Policy Interventions; Behavioural Change.

INTRODUCTION

Stray cattle on highways present not merely a logistical hazard but also a cultural dilemma in Madhya Pradesh. Cows occupy a sacred position in the Hindu faith, symbolising prosperity and purity. Due to this religious ethos, slaughter or culling of aged or non-productive cattle is traditionally discouraged. Farmers, unable to bear the expenses of fodder and veterinary care for animals that no longer yield milk or draught services, often release them to wander freely. This has inadvertently turned road networks into grazing sites. According to the 20th Livestock Census (GoI, 2020), Madhya Pradesh hosts nearly 1.86 crore bovines, of which an estimated 18–20% are unproductive. These animals, especially bulls and old cows, compose the majority of roadside strays across districts such as Gwalior, Morena, Sehore and Seoni.

The intensification of agriculture and shrinking common lands have worsened fodder scarcity, pushing animals onto highways lined by irrigated crop fields. Such transition spaces at the peri-urban–rural interface are particularly vulnerable as they witness high-speed traffic and large cattle presence. The problem is compounded by migration of younger populations to cities, leaving elderly-headed farming households unable to control wandering livestock. The socio-cultural expectation to ‘respect’ cattle prevents local residents from reporting or relocating them, creating an unregulated dynamic on public roads.

Scholarly literature has primarily addressed stray animals from animal welfare or veterinary perspectives. This paper extends that discourse by situating stray animals as active agents within road safety risk frameworks and highlighting the behavioural, economic, and governance fault lines that intensify this interface in Madhya Pradesh.

Problem statement in local context

Stray cattle-related crashes account for a disproportionate share of road accidents in rural Madhya Pradesh. The Madhya Pradesh Traffic Police (2023) estimates that approximately 8–10% of all highway accidents involve collision or swerving to avoid animals. Such incidents frequently occur on State Highways (SH) 18, 19, 22 and National Highways 44, 46 and 52 passing through cattle-dense districts. Injuries range from broken limbs and brain trauma to fatalities, severely impacting low-income two-wheeler riders. Accidents spike post-harvest and during lean fodder months (April–June) when animals scavenge road margins.

Economically, animal-related crashes incur direct losses in vehicle damage, cargo wastage, treatment cost, and compensation payouts. Indirectly, delays in freight transport and tourism tarnish economic connectivity. Psychological distress among accident victims, riders, and drivers is seldom documented yet manifests as anxiety, post-traumatic stress, and fear-triggered risk behaviour on highways—an angle

underscored by reviewer concerns about mental health implications.

Slow-moving cattle blocks also create traffic bottlenecks, increasing fuel consumption and emissions. Night-time risks multiply due to insufficient streetlighting and lack of reflective tagging on animals. Rural customs of releasing ageing livestock combined with weak enforcement of the Prevention of Cruelty to Animals Act (1960) mean that local governance institutions like Gram Panchayats have minimal control over bovines encroaching on roads.

Thus, the stray animal issue in Madhya Pradesh is not merely of animal presence but a complex amalgam of declining fodder commons, socio-religious practices, behavioural inertia, limited veterinary support, and regulatory fatigue—creating a distinct road safety challenge that necessitates comprehensive and community-sensitive responses.

Planned initiatives of Government

Central Schemes:

The Union Government through the National Livestock Mission (NLM) and National Programme for Bovine Breeding & Dairy Development (NPBBDD) supports herd productivity, fodder cultivation and disease control. The National Programme for Dairy Development (NPDD) links farmers to milk collection networks, reducing incentives to abandon non-producing cows. Under the Bharatmala highway project, the Ministry of Road Transport and Highways (MoRTH) has incorporated animal crossing signage, fencing and cattle grids at identified hotspots.

State Initiatives:

Madhya Pradesh has adopted the Mukhyamantri Gau Seva Mission (2019), focusing on construction of cattle shelters (gaushalas), rescue of urban stray animals, and promoting community gau dhan management. It plans to develop 1,000+ gaushalas, but operationalisation has lagged due to land and funding challenges. GPS-tagging for animal identification was piloted in Indore and Bhopal to hold owners responsible under the Madhya Pradesh Cow Progeny Slaughter Act but enforcement remains weak due to low manpower in veterinary and revenue departments.

Local bodies receive limited budgetary support under the 15th Finance Commission grants for stray cattle management, yet utilisation remains below 35% (CAG, 2023) due to overlapping departmental responsibilities. MoRTH's directives on installing rumble strips and solar blinkers have been partially implemented across NH-46 and NH-44.

Critical Gaps:

- **Infrastructure:** Shelters are inadequate to house the growing number of abandoned animals.
- **Institutional Coordination:** Poor coordination between Rural Development, Animal Husbandry, and Transport departments causes fragmented implementation.
- **Community Buy-in:** Farmers resist animal tagging/ fines due to socio-religious sentiment.

- **Financial Priority:** Most schemes are capital heavy; fodder and operational support remain underfunded.
- **Behavioural Interventions:** Awareness campaigns barely address the mental load, fear, or behavioural change needed among road users or animal owners.

Consequently, despite notable policy intent, stray cattle continue to migrate onto highways—suggesting the need for deeper socio-economic incentives, user-centric communication, and robust enforcement mechanisms.

Way Out

Addressing stray animal-related road hazards demands an integrated strategy bridging behavioural science, infrastructure management, and rural livelihoods.

Rural Community-Based Measures

- Introduce Cattle Care Groups under Gram Panchayats to incentivise collective grazing management and monitor local livestock movement.
- Conduct continuous behavioural change communication on “responsible ownership”, linking abandonment to legal and social consequences.
- Facilitate school youth programmes and SHG-based volunteer systems to report animal congregation on highways through WhatsApp-enabled alert systems.

Fodder and Pasture Security

- Establish decentralised fodder banks, especially in drought-prone and peri-urban blocks, using convergence of MGNREGS and Rashtriya Krishi Vikas Yojana.
- Promote silage making, Azolla cultivation, and agroforestry models as sustainable fodder alternatives.
- Map degraded forest land for controlled grazing, reducing livestock drift into highway corridors.

Dairy & Livestock Management Innovation

- Expand veterinary mobile clinics with emergency response capacity along major highways.
- Implement livestock insurance with premium-sharing (government-SHG-farmer) to discourage abandonment and cover accident liability.
- Upscale AI-based GPS-tagging for traceability, integrating data with RTO and police networks.

Permissions, Regulations & Technology

- Increase fines for cattle abandonment under the Municipal and Panchayat Acts; empower Animal Welfare Officers to confiscate stray livestock and auction/rehome after due notice.
- Introduce reflective collars and RFID ear-tags for animals near highways to improve night visibility and owner accountability.
- Deploy geofencing, solar-powered cattle grids, and underpasses at high-incidence zones using MoRTH's road safety engineering funds.

Partnerships & Policy Convergence

- Foster PPP models for gaushala upkeep with CSR participation from dairy processors and highway concessionaires.
- Integrate stray animal mitigation into District Road Safety Action Plans and National Road Safety Policy reviews.
- Facilitate academic research on driver anxiety, post-collision trauma, and cost-benefit assessment of interventions to inform adaptive policy.

CONCLUSION

Stray animals on highways in Madhya Pradesh challenge not just road engineering but also entrenched socio-religious

beliefs, rural livelihood patterns, behavioural inertia, and fragmented institutions. The complexity of this issue demands disruptive, research-informed policy measures oriented towards behaviour, inclusion, and technology. While central and state schemes provide a preliminary architecture, it is the micro-level convergence, participatory rural action, and political leadership that will determine implementation outcomes. Leveraging local knowledge, engaging communities, and integrating behavioural nudges with regulatory actions can convert the road environment from an animal refuge into a safe and efficient corridor of mobility and development. With a balance of empathy and enforcement, Madhya Pradesh can lead in crafting a national model linking livestock welfare with modern highway safety.