

LEGAL STUDY ON POLICIES OF INDIAN RAILWAYS MITIGATING CATTLE RUN OVER AFFECTING PASSENGERS

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ABSTRACT

Presently Indian Railways is endeavoring its reach across nation with major developments and immense overhaul in the existing Railway ecosystem. Whether it's in the area of developing new rail-lines or changing the existing rail-line with for suitable to high or semi-high-speed railways; or it may be the passenger friendly services or scraping the stereotype monotonic management system to adapt the leaps and bound which are taken to develop the world-class Railway system in India. The much-awaited Udhampur-Srinagar-Baramulla Rail-Link Project and the railway projects in the North-Eastern states of India are at the verge of delivery and the separate dedicated freight railway lines are soon to be functional; there is a grey area in the maintenance of railway punctuality and which really affects the passenger travelling and sometimes endangering precious lives of the passengers on board and certainly sacrificing the precious cattle and wildlife of the nation. The cattle-run-over (cattle being dashed with running train) cases are the menace to punctuality for smooth running of Railways in India. Presently, the much envisaged 'Vande Bharat Train' has been in news and discussions due to multiple such cattle-run-over cases across India, which also damages the engine of the train resulting much delay. Being the fifth largest economy of the world, it is the need of the hour to weed out such issue and eradicate any cattle run over further. As the saying is Time is Money and punctuality loss not only loses one's time but also opportunity and future. The paper is a sincere effort to

study the cattle-run-over cases occurred in Vadodara Division of Western Railway Zone in Indian Railways and the policies of Indian Railways to handle the issue.

Keywords:-Indian Railways, Cattle Run Over, Passengers, Punctuality, Vande Bharat Train, High Speed Train

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1. INTRODUCTION

Indian Railways, with one of the world's most extensive railway systems, faces significant challenges in ensuring punctuality and safety. Cattle run-over incidents have emerged as a major concern, leading to delays, disruption of rail traffic, and even accidents. The railway system's punctuality performance has also fallen short of the ideal targets set by the Railway Board. The recent cases of India's fastest semi-high speed train sets, Vande Bharat trains, meeting with accidents involving cattle run over have raised the eye-brows and have become the issue of discussion, whether Indian Railways can handle the high-speed network and safety of its passengers. Since June 2022 till 14th December, 2022 total 68¹ cattle run over cases with the said Vande Bharat trains alone had occurred, which has posed serious question on the safety measures and vulnerability.

The issue of cattle run over cases in Indian Railways has had a significant impact on punctuality loss and train operations. The average number of trains delayed per day due to cattle run over has increased compared to the previous financial year, with a total of 2,115² trains impacted by these incidents between April 2021 and March 2022. The

¹Amit Mishra, "68 Cases Of Cattle-Hit On Vande Bharat Trains Since June 2022" *Swarajya*, 14 December 2022.

²"Cattle runovers' delaying 11 trains a day," *Times of India*.

majority of cattle run over incidents occur in the Northern and Northern Central zones of India, where fencing of railway tracks is still incomplete, allowing cattle to freely roam on the tracks³. The presence of stray cattle on rail tracks is mainly attributed to the lack of operational cow shelters, leading to delays in train schedules and affecting both passenger and freight services⁴. These incidents not only result in punctuality loss but also pose a risk to rail safety, increasing the likelihood of accidents such as derailments^{5,6}. To address the issue, Indian Railways has taken several measures, including visiting nearby villages, contacting sarpanches (village heads), and counseling villagers about the repercussions of cattle run overs⁷. They have also identified vulnerable locations and are making efforts to reduce the occurrence of cattle run overs through site visits and analysis of background information⁸. However, despite these efforts, the impact of cattle run overs on punctuality loss in Indian Railways remains significant, with over 4,000 trains affected so far this year alone⁹. The need for further solutions and preventive measures is evident in order to ensure the safety of passengers and minimize disruption to rail traffic and property¹⁰.

Importance of Punctuality and Safety

Punctuality¹¹ is crucial for the smooth functioning of the railway system as it affects the travel experience of passengers and the overall efficiency of the network. Moreover, safety is paramount to prevent accidents and protect the lives of passengers and railway personnel.

³*Ibid.*

⁴*Ibid.*

⁵*Ibid.*

⁶“How Indian Railways plan to stop cattle runover incidents involving Vande Bharat Express,” *Mint* available at: <https://www.livemint.com/news/india/indian-railways-plan-to-stop-cattle-runover-incidents-involving-vande-bharat-express-11667123655893.html> (last visited July 30, 2023).

⁷*Ibid.*

⁸*Ibid.*

⁹*Ibid.*

¹⁰*Ibid.*

¹¹Birre Nyström, “Aspects of improving punctuality : from data to decision in railway maintenance.”

Indian Railways has adopted various measures¹² to reduce the number of cattle run-overs. One of the main policies is to increase the number of fencing and animal crossings along rail lines, as well as increasing awareness campaigns for local communities in areas with high run-over incidents. They have also invested in technology¹³ such as drones and thermal imaging cameras to detect animals near rail lines. All of these measures are aimed at reducing the chance of animals being hit by trains. These include fencing of tracks, construction of underpasses and overbridges, and deployment of animal control squads. Such measures have been successful in reducing the number of accidents, thereby protecting both humans and animals. In addition, educational campaigns have been conducted to educate the local population about the dangers of crossing railway lines, and to raise awareness about the importance of protecting wildlife. Efforts have also been made to provide alternative sources of food and water for the animals, to prevent them from straying onto the tracks. Railways have also invested in building fences and other barriers to keep the animals away from the tracks. They have also installed special alarms and warning systems to alert the local population to approaching trains.

Increasing Number of Incidents

The number of cattle run-over incidents on Indian Railways has been on the rise in recent years. According to recent data¹⁴, thousands of incidents have been reported annually, causing significant disruptions¹⁵ and punctuality¹⁶ loss. The issue of increasing numbers of cattle run-over incidents¹⁷ on Indian Railways has been a longstanding problem with serious consequences. It presents challenges to both the safety of train

¹²Ashish Verma, Vajjarapu Harsha and Gayathri Harihara Subramanian, "Evolution of Urban Transportation Policies in India: A Review and Analysis," *7 Transportation in Developing Economies* 1–15 (2021).

¹³*Ibid.*

¹⁴"Rising cases of cattle run over by trains, maximum in Hindi heartland," *Times of India*, 24 February 2022.

¹⁵"Cattle runovers' delaying 11 trains a day," *Times of India*.

¹⁶"Rising cases of cattle run over by trains, maximum in Hindi heartland," *Times of India*, 24 February 2022.

¹⁷*Ibid.*

passengers and the welfare of the animals involved. Some of the key issues and factors contributing to these incidents include:

Open grazing and encroachments: Many areas along railway tracks in India are characterized¹⁸ by open grazing lands. As a result, cattle and other domestic animals tend to stray onto the tracks in search of food. Additionally, encroachments near tracks limit the available space for cattle to move, increasing the likelihood of accidents.

Lack of fencing: Proper fencing¹⁹ along railway tracks can act as a physical barrier, preventing animals from straying onto the tracks. However, most of the sections of the Indian Railways network lack adequate fencing, which impairs the problem.

Inadequate warning systems: In some cases, warning systems²⁰ such as horns or sirens on trains may not be effective enough in alerting animals grazing near the tracks, leading to collisions and run-overs.

Lack of education and awareness: Many cattle owners and communities²¹ living near railway tracks may not fully understand the dangers posed to their animals or the potential consequences of allowing them to graze near active tracks.

Insufficient animal protection measures: In India, while there are statutes²², guidelines and regulations in place for animal protection, their

¹⁸Luís Borda-de-Água et al., *Railway Ecology*, in L. Borda-de-Água, R. Barrientos, et al. (eds.), *Railway Ecology* (Springer International Publishing, Cham, 2017).

¹⁹Ashish Verma, Vajjarapu Harsha and Gayathri Harihara Subramanian, "Evolution of Urban Transportation Policies in India: A Review and Analysis," *7 Transportation in Developing Economies* 1–15 (2021).

²⁰*Ibid.*

²¹Anne Silla and Juha Luoma, "Opinions on railway trespassing of people living close to a railway line," *50 Safety Science* 62–7 (2012).

²²Taruni Kavuri, "Overview of Animal Laws in India" *Animal Legal & Historical Center, Michigan State University College of Law*, 2020 available at: <https://www.animallaw.info/article/overview-animal-laws-india> (last visited July 31, 2023).

implementation²³ and enforcement²⁴ may be inconsistent, especially in remote areas.

High-speed trains: The introduction of high-speed²⁵ trains in some parts of India can exacerbate the problem, as cattle might not be able to move out of the way in time due to the higher train speeds.

Challenges in relocation: Stray cattle²⁶ often pose a problem to local communities as well, but relocating them is not always a straightforward solution. Many communities²⁷ might resist efforts to remove the animals from the area.

2. CATTLE RUN OVER A MENACE AND THREAT TO INDIAN RAILWAYS AND PASSENGERS

Impact on Punctuality and Safety

Cattle run-over incidents have a direct impact on the punctuality of trains and such delays caused by these incidents lead to the loss of precious minutes, which accumulate to a substantial amount over time. Moreover, these incidents pose risks to the safety of passengers and can result in accidents and derailments.

Cattle run over incidents on Indian Railways have significant impacts on punctuality and safety. India is a country with a large population of cattle, and unfortunately, the issue of cattle wandering

²³Bhavya Singh, "Gujarat High Court Pulls Up State Govt, Ahmedabad Municipal Corporation For Inaction On Stray Cattle 'Menace', Orders State To Frame Policy" *Live Law*, 2023 available at: <https://www.livelaw.in/high-court/gujarat-high-court/gujarat-high-court-cattle-menace-policy-failure-ahmedabad-municipal-corporation-232516> (last visited July 31, 2023).

²⁴*Ibid.*

²⁵"How Indian Railways plan to stop cattle runover incidents involving Vande Bharat Express," *Mint* available at: <https://www.livemint.com/news/india/indian-railways-plan-to-stop-cattle-runover-incident-involving-vande-bharat-express-11667123655893.html> (last visited April 20, 2023).

²⁶*THE CATTLE-TRESPASS ACT, 1871*, (India, 1871).

²⁷Siddhartha Misra and Deepak Sharma, "Community policing-ensuring crime control through public participation in India," 11 *VIDHIGYA: The Journal of Legal Awareness* (2016).

onto railway tracks is not uncommon. The most of the part of the Indian Railways is open area and easy access to any cattle for trespassing, especially when there is grazing green grass nearby the railway track is accessible to such cattle which attracts them. The careless owners do not take care of their animal nor for the safety of the passengers and let their cattle come nearby the railway tracks.

Punctuality Impact:

1. Train Delays²⁸: When a train collides with cattle on the tracks, it can lead to derailments, damages to the train, or the tracks being blocked. This results in delays for the affected train, as well as subsequent trains on the same route, leading to a cascading²⁹ effect on the entire railway network.
2. Schedule³⁰ Disruptions: The need to clear the tracks, assess damages, and provide clearance for the railway line can take significant time. It can disrupt the entire schedule of trains operating on that route, affecting hundreds or even thousands of passengers.

Safety Impact:

1. Passengers' Safety: When a train collides with cattle, it can lead to sudden braking, jolts, or derailments, posing a threat to the safety of passengers onboard. Passengers may get injured due to the impact or the train's emergency maneuvers.
2. Crew and Staff Safety: The railway staff, including drivers, guards, and maintenance workers, are also at risk during such incidents. They might suffer injuries while trying to control the train or clearing the tracks.
3. Cattle and Public Safety: The cattle themselves can be severely injured or killed during collisions, posing a safety hazard for people

²⁸“Cattle runovers’ delaying 11 trains a day,” *Times of India*.

²⁹Ashish Verma, Vajjarapu Harsha and Gayathri Harihara Subramanian, “Evolution of Urban Transportation Policies in India: A Review and Analysis,” *7 Transportation in Developing Economies* 1–15 (2021).

³⁰Saptarshi Ghosh et al., “Run-time delays in Indian Railways” *Proceedings of the 3rd ACM Symposium on Computing for Development* 1–2 (ACM, New York, NY, USA, 2013).

living nearby or those who may try to retrieve their livestock from the tracks.

Financial Losses Incurred by Indian Railways

Calculation of Lost Minutes

The punctuality loss due to cattle run-over incidents³¹ has resulted in a significant³² financial burden on Indian Railways. In 2022-23 alone, over 1.10 crore³³ lost minutes were recorded, leading to a substantial loss in revenue³⁴.

Burden on Railway Budget

The financial impact³⁵ of punctuality loss extends beyond the direct losses³⁶ caused by delayed trains. The need to refund passengers under the TDR policy and the overall impact on the railway budget add to the financial strain experienced by Indian Railways.

3. EXISTING POLICIES OF INDIAN RAILWAYS MITIGATING CATTLE RUN OVER CASES

Cattle Guards on Locomotives

Cattle run-over incidents have been a longstanding issue for Indian Railways, particularly in rural and semi-rural areas where tracks often pass-through grazing lands. These incidents pose a risk to both the cattle and the safety of the train passengers and crew. Various measures have been taken to address this problem, including awareness

³¹Press Information Bureau, "Various measures by Indian railways to prevent Cattle Run Over incidents," 2023 available at: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1896099> (last visited April 12, 2023).

³²Rajesh Kumar Thakur, "Railways suffer from lack of punctuality, monetary losses due to stray cattle accidents" *The New Indian Express* (New Delhi, 27 February 2023).

³³MAITRI PORECHA, "Passenger trains lost over 1 crore minutes in delays in 2022-23, RTI reply states" *The Hindu* (New Delhi, 30 June 2023).

³⁴*Ibid.*

³⁵*Report of the Comptroller and Auditor General of India for the Year Ended March 2021 - Union Government (Railways)*, (New Delhi, 2021).

³⁶Rajesh Kumar Thakur, "Railways suffer from lack of punctuality, monetary losses due to stray cattle accidents" *The New Indian Express* (New Delhi, 27 February 2023).

campaigns, fencing of tracks in vulnerable areas, and cautionary measures for train drivers.

Indian Railways has been working on improving track-side fencing and implementing measures to prevent cattle from straying onto the tracks. However, the vast and diverse network of railways across India presents logistical challenges in implementing consistent preventive measures everywhere.

Cattle guards, also known as "cattle grids" or "vehicle pass," are typically used on roads to prevent animals, including cattle, from crossing to the other side while allowing vehicles to pass over them easily. These may not be as common on locomotives, as train tracks themselves are already considered a barrier to most animals. Nevertheless, locomotives might have other measures to mitigate the impact of collisions with large animals.

Construction of Boundary Walls and Fencing

Indian Railways has undertaken the construction of boundary walls and fencing along the railway tracks to prevent cattle from entering the tracks. These physical barriers help minimize the risk of cattle run-over incidents.

Awareness Campaigns and Counselling

Indian Railways has conducted frequent awareness campaigns at vulnerable locations to sensitize people about the dangers of cattle run-over incidents. Meetings with local village leaders have also been held to counsel cattle owners and graze about the importance of keeping their livestock away from railway tracks.

Discouraging Food Waste Dumping

Dumping of food waste along railway tracks attracts cattle, increasing the likelihood of run-over incidents. Indian Railways has

advised people to avoid dumping food waste near the tracks to prevent unnecessary congregation of animals.

Legal Actions against Cattle Owners

Indian Railways has taken legal action against cattle owners whose animals are found grazing along railway tracks. Cases have been lodged, and arrests have been made to deter such practices.

Indian Railways has started taking stringent action against the violators, whose cattle is found moving or grazing in the railway land/area. As per the provisions of the Railways Act³⁷ 1989, owners of such cattle moving nearby railway-tracks are liable to be punished under Section 154 (Endangering safety of persons travelling by railway by willful act or omission, punishable with imprisonment for 1 year, or with fine or both) and under Section 147 (Trespass and refusal to desist from trespass, punishable with imprisonment for 6 months, or fine Rs. 1000/- or both).

4. LEGAL PROVISIONS RELATED TO STRAY CATTLE AND THEIR OWNERS IN INDIA

In India, legal and policy-based provisions³⁸ for safeguarding and protecting the animals and wild life within India are clearly established. The seventh schedule³⁹ of the Constitution of India⁴⁰ emphasizes the state for better protection of the animals and the state and center for protecting the wild life, there is also provision for the prevention of cattle trespass, which is the duty of the state. The statutes like, wildlife⁴¹ protection act, prevention of cruelties to animal⁴² act and

³⁷The Railways Act - 1989, (Act 24 of 1989).

³⁸Taruni Kavuri, "Overview of Animal Laws in India" *Animal Legal & Historical Center, Michigan State University College of Law*, 2020 available at: <https://www.animallaw.info/article/overview-animal-laws-india> (last visited July 31, 2023).

³⁹Seventh Schedule (Article 246): *The Constitution of India*, 1949.

⁴⁰*The Constitution of India*, (India, 1949).

⁴¹*The Wild Life (Protection) Act, 1972*, ((Act 53 of 1973)).

cattle-trespass⁴³ act - are enacted for the protection and care of the animals as well as the public property in accordance to damage by such animal.

Looking at the provisions of the cattle-trespass⁴⁴ act in the present era, it seems outdated and toothless tool for prevention of the cattle-trespass and safeguarding the public property and safety. The cattle-trespass⁴⁵ act need a complete overhaul in accordance to the current situation and the increasing menace to public at large.

Acknowledging the menace of the stray cattle and keeping the public safety at large in mind the state government of Gujarat had introduced a bill⁴⁶ in the year 2022, which emphasized for stringent actions against owners of such cattle causing damage to the public property and the safety of public as well. However, due to protests against the bill and public outrage by the cattle owner communities across the state of Gujarat the said bill was withdrawn⁴⁷ before enactment.

Thus, there is an immediate need for the enactment of a statue related to stray cattle and their owners for safe-guarding the public property and the public safety at large.

5. PREVENTIVE MEASURES FOR CATTLE RUN OVER CASES: SUGGESTIONS

Strategic survey of Cattle Run Over affected spots / areas

⁴²THE PREVENTION OF CRUELTY TO ANIMALS ACT - 1960, (Act 59 of 1960).

⁴³The Cattle-Trespass Act , 1871, (Act 1 of 1871).

⁴⁴Ibid.

⁴⁵Ibid.

⁴⁶The Gujarat Cattle Control (Keeping and Moving) in Urban Areas Bill, 2022,.

⁴⁷“Gujarat government withdraws urban stray cattle bill,” *The Times of India* (Ahmedabad, September 2022).

The first, foremost and most important work for taking preventive step as to mitigate and reduce the Cattle Run Over cases is to survey the affected spots / areas and strategically initiate the awareness drives and the mass-campaign for removal of the cattle nearby Railway areas and to educate people living aside the Railways. Implementing upon the basic security and safety arrangements for smooth working of the Railways, the Indian Railways urgently needs access control to such vulnerable and black spots where cattle are attracted to graze. No sooner the grass is grown up nearby the railway-track, than the same should be immediately removed by the concerned department without undue delay.

Legislative framework / penal provision

As the Indian Railways network is enormous and the vast area of the same is open and access-free furthermore, the fencing and cordoning such vast area is not only very big task but also time consuming. The existing penal provisions are not enough to levy proportionate fine / punishment to the threat such cases do pose. The stringent law / penal provisions are the need of hour, keeping the safety, security and punctuality of the trains in mind. The bill⁴⁸ which was introduced in the Gujarat assembly but later withdrawn was meeting such stringency, but due to political influence and agitation of the interested took it down. Whilst the Gujarat High Court in 2017 had issued directions⁴⁹ to form the policy for curbing the menace of stray cattle over the urban areas. Thus, such policy or legal provision for mitigating the menace of such cattle run over cases is the urgent need of the hour.

Coordination with City Administration and Police

Indian Railways works closely with city administrations and local police to address safety concerns and prevent the movement of stray cattle near railway tracks. This collaborative approach aims to create a safer environment for both passengers and railway

⁴⁸*The Gujarat Cattle Control (Keeping and Moving) in Urban Areas Bill, 2022.*

⁴⁹*“Form policy to curb stray cattle menace: Gujarat HC,” The Times of India (Ahmedabad, 12 July 2023).*

operations. Keeping in view of the public safety, at such vulnerable areas and at such hours the additional manning of personnel could meet the urgent requirement in curbing the cattle run over cases for public safety at large.

Need for Continued Efforts

Mitigating cattle run-over incidents and improving punctuality is an ongoing challenge for Indian Railways. Continued efforts, including preventive measures, infrastructure improvements, and stakeholder collaboration, are necessary to ensure safe and punctual railway operations. The sincere efforts made would yield better results achieving the punctuality and safety of the Railways.

Achieving a Balance between Punctuality and Safety

Indian Railways must strike a balance between punctuality and safety to provide an efficient and reliable railway system. By implementing targeted measures, enhancing infrastructure, and addressing external factors, Indian Railways can improve both punctuality and safety for the benefit of passengers and the nation's transportation network.

Table - A

Cattle Run Over Cases / Incidents ⁵⁰		
Year	Total Incidents	Awareness Drives
2021	278 ⁵¹	471
2022	291	634
2023(Up to July)	150	503

Table - B

CRO(Affected Sections) ⁵²			
Affected section	2021	2022	2023(Up to July)
URN – KSB	17	16	12
KSB – AKV	21	9	7
BH – MYG	13	15	7

⁵⁰Data Accumulated from Western Railway, Vadodara Division

⁵¹The Passenger train services were partially resumed due to Covid19 out-break in India.

⁵²Data Accumulated from Western Railway, Vadodara Division

MYG – BRC	20	16	3
BJW – VDA	44	51	17
VDA – ANND	12	14	12
ANND – ND	20	16	12
ND – GER	45	65	26
GDA – SMLA	13	16	4

Table - C

CRO Awareness Drives in (Affected Sections) ⁵³			
Affected section	2021	2022	2023(Up to July)
URN – KSB	15	13	12
KSB – AKV	57	15	8
BH – MYG	22	25	12
MYG – BRC	34	26	10
BJW – VDA	46	40	20
VDA – ANND	21	16	10
ANND – ND	27	20	12
ND – GER	52	135	54
GDA – SMLA	23	14	6

Table - D

Newly Built Fencing w.r.t. CRO Affected Areas	
VDA – ANND	415/93 to 431/40
ND – GER	449/76 to 483/0

6. CONCLUSION

The issue of cattle run-over incidents poses a significant challenge to the punctuality and safety of Indian Railways. The rising number of such incidents has prompted the implementation of preventive measures, legal actions, and initiatives to improve punctuality and safety. However, addressing this issue requires a comprehensive approach that takes into account factors such as infrastructure development, traffic management, and community engagement. By prioritizing the safety of both passengers and animals, Indian Railways can ensure a smoother and more punctual travel experience for all.

⁵³Data Accumulated from Western Railway, Vadodara Division

Furthermore, the Government must invest a handful revenue in research and technology to develop better animal detection systems and deterrents that can be deployed on the trains or railway-tracks. Addressing the issue of increasing cattle run-over incidents requires a multi-faceted approach involving various stakeholders, including the Indian Railways, local communities, animal welfare organizations, and the government. By working together, it is possible to mitigate the problem and improve the safety of both train passengers and animals.