

SAFETY RISKS ASSOCIATED WITH TRANSPORTING PASSENGERS IN LIVESTOCK LOADED TRUCKS: AN ANALYSIS OF ACCIDENTS AND LIFE-THREATENING CONSEQUENCES — A CASE STUDY OF CHARANCHI CATTLE MARKET, KATSINA

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Abstract

The transportation of passengers in livestock-loaded trailer trucks is a prevalent practice in many cattle markets across northern Nigeria, posing serious safety risks. This study explores the dangers associated with this practice, with a specific focus on the Charanchi Cattle Market in Katsina State. The research adopts a mixed-methods approach involving field observations, interviews with stakeholders (drivers, traders, victims), and analysis of accident records. Findings reveal that overloading, poor vehicle maintenance, and lack of safety regulations contribute significantly to the frequency of accidents and fatalities. The study also uncovers a general lack of awareness among market participants regarding the risks involved. It concludes that transporting passengers in livestock-loaded vehicles is not only unsafe but also contributes to preventable loss of lives. The paper recommends that policymakers and transport authorities urgently intervene by enforcing transport regulations, providing safer alternatives, and raising public awareness through community engagement and education.

Keywords: livestock transportation, passenger safety, road accidents, Charanchi Market, cattle trucks, rural transport risks.

1. Introduction

Transportation systems serve as the backbone of socio-economic development, facilitating the movement of people, goods, and services across different geographic regions. In Nigeria, particularly in the northern regions, livestock markets such as the Charanchi Cattle Market in Katsina State play a central role in rural commerce and livelihoods. These

markets attract traders, herders, and transporters from across the country, forming a crucial part of the agricultural and food supply chain. However, alongside their economic significance, these markets also reveal deeply rooted challenges in transport safety, infrastructure, and regulation.

One of the most alarming practices observed in these trading hubs is the simultaneous transportation of livestock and human passengers within the same vehicle typically open trailer trucks not designed for passenger safety. In such arrangements, cattle are loaded into the trucks in large numbers, while human passengers either sit atop or squeeze in alongside the animals, often without any form of restraint or protective barrier. This practice, while economically expedient to the passenger introduces serious safety risks for all involved. Passengers are vulnerable to physical harm from sudden animal movements, suffocation, heat exhaustion, and severe injury or death in the event of vehicular accidents or mechanical failure.

Despite recurring incidents and occasional public warnings issued by regulatory agencies such as the Federal Road Safety Corps (FRSC), the practice remains widespread and under-addressed. Weak enforcement mechanisms, poor awareness of safety standards, and a lack of affordable transport alternatives have allowed this dangerous norm to persist. In the event of accidents, casualties tend to be high and resources for emergency response are often inadequate, especially in rural or per urban areas where these incidents are most prevalent.

The situation in Charanchi Cattle Market presents a representative case study of this phenomenon. As one of the largest livestock markets in Nigeria's northwest, it operates weekly with significant volumes of both livestock and human traffic. Observations and preliminary reports indicate that mixed-transport incidents involving cattle and human passengers have led to fatal consequences, underscoring a dire need for evidence-based policy and intervention.

This work therefore investigated the public safety risks associated with this mode of transport. Specifically, it aims to analyze the frequency, nature, and outcomes of accidents involving livestock-loaded trucks carrying human passengers. Through this case study approach, the research will contribute to a better understanding of the structural, economic, and behavioral factors that perpetuate unsafe transport practices, and offer recommendations for improving transport safety and policy in livestock trade corridors

2. Literature Review

Transport safety remains a pressing concern in Nigeria, especially within informal and under-regulated transport systems. While substantial literature has addressed general road safety challenges in the country, relatively limited scholarly attention has been

directed towards the specific practice of transporting both livestock and human passengers in the same vehicles: a common phenomenon in rural and urban livestock markets such as Charanchi in Katsina State. This oversight is particularly troubling considering the significant safety risks this practice poses, not only to human passengers but also to the animals being transported.

Oyeyemi (2020) argues that the high incidence of vehicular accidents in Nigeria is closely linked to the prevalence of overloaded and mechanically deficient vehicles, often operating without regard for safety standards. These vehicles, frequently employed for both commercial passenger transport and livestock movement, are typically unregulated, poorly maintained, and unsuited for dual-purpose use. Adetunji and Musa (2019) reinforce this concern, highlighting that vehicle overloading especially where humans and animals are transported together substantially increases the likelihood of fatal accidents due to imbalances in load distribution, limited ventilation, and the unpredictability of animal behavior during transit.

Road transportation of livestock has been widely documented as a major source of physiological and behavioral stress, often resulting in impaired homeostatic balance

and reduced animal welfare. Adenkola and Ayo (2010) noted that such stress responses, if not properly managed, can lead to significant economic losses for livestock owners. Similarly, age related differences in stress response have been identified in transported cattle. Eicher (2001) reported that adult cattle tend to remain standing during transport and only lie down during recovery, while young calves show fewer immediate physiological stress indicators but experience higher post transport mortality. His review further emphasized that journey duration exerts a greater influence on welfare outcomes than distance travelled, as most animals urgently drink and lie down after long trips. Collectively, these findings underscore the substantial welfare risks associated with livestock movement risks that may be further compounded in mixed human livestock transport systems, such as those observed in Charanchi Cattle Market, where passengers share space with animals under unsafe and stressful conditions.

Although the Federal Road Safety Corps (FRSC) has periodically issued directives and warnings against the practice of mixing livestock with passengers in transit, enforcement remains inconsistent and largely ineffective, particularly in remote regions where law enforcement resources are limited

FRSC (2021). The weak regulatory oversight allows unsafe practices to persist, driven by economic pressures and a lack of viable alternatives. This reflects a broader challenge in Nigeria's transport safety landscape, where policy formulation often outpaces practical implementation.

International literature further contextualizes these challenges, especially in other developing countries facing similar socio-economic and infrastructural constraints. For instance, studies in South Asia and parts of East Africa reveal that economic hardship, poor road networks, and weak enforcement mechanisms contribute to dangerous transport practices, including the co-transportation of animals and people in poorly adapted vehicles Chowdhury & Mahmud (2018); Mwangi & Ochieng (2020). These studies demonstrate a pattern of risk-taking behaviors among economically disadvantaged populations, who often prioritize immediate economic gains over safety concerns, largely due to the absence of safer affordable alternatives. In Nigeria, livestock are transported often without considering the welfare of the animals, and in vehicles meant for transportation of goods and not specifically for transportation of

livestock such as open trailers, trucks, pick-ups and even buses together with passengers Minka and Ayo (2007).

Taken together, these studies underscore the urgent need for focused research and policy intervention in contexts like Charanchi Cattle Market. The lack of empirical data on the consequences of mixed livestock-human transport in Nigeria represents a critical gap, which this study aims to fill. By analyzing accident reports and associated human and livestock casualties, this work will contribute valuable insights into an underexplored yet high risk transport phenomenon.

3.0 Study Area

This study was conducted in Charanchi Local Government Area (LGA), specifically focusing on the Charanchi Cattle Market, which is one of the largest and most active livestock trading hubs in Katsina State, Nigeria. Strategically located in the northern part of the state, Charanchi LGA serves as a central point for livestock commerce, attracting cattle traders, herders, transporters, and buyers from within Katsina and neighboring states. The market is particularly renowned for its high-volume weekly cattle trade, making it a critical node in the regional livestock supply chain.

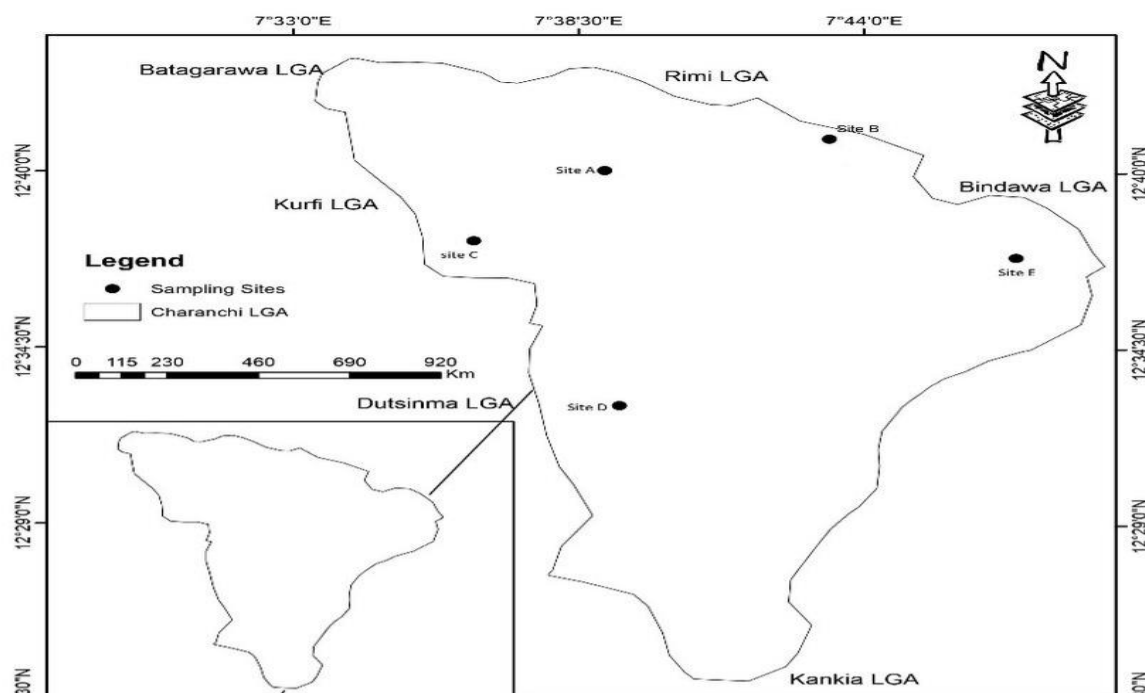


Fig 3.0: Map of Charanchi LGA Showing Sampling Sites

Geographically, Charanchi LGA is bordered by several other local government areas, including Batagarawa, Rimi, Kurfi, Dutsin-Ma, Bindawa, and Kankia LGAs. The area lies approximately between latitude 12°42'N to 12°56'N and longitude 7°30'E to 7°44'E, as indicated in Figure 3. The climate is typically semi-arid, characterized by distinct dry and rainy seasons, which influence both agricultural and pastoral activities in the region.

The above map highlights selected sampling site (site A-F) distributed across different points within Charanchi LGA, chosen for their proximity to livestock loading zones and road corridors where incidents of mixed transport are commonly reported. These

locations were strategically selected based on the preliminary observations and reports from local authorities and stakeholders in the cattle transport value chain.

The map also provides broader geographic context, showing Charanchi LGA's location within Katsina State, and situating Katsina within the national boundaries of Nigeria. This visualization aids in understanding the market's connectivity activities in the region. Charanchi economic reliance on livestock trade, coupled with its position as a transport corridor, underscores the relevance of the area as a case study for examining the safety risks associated with transporting passengers alongside livestock in trucks. The absence of formalized loading infrastructure and the

prevalent use of large trailer trucks for dual human-animal transport make it an ideal context for studying the associated hazards and life-threatening consequences.

4.0 Methodology

This study employed a mixed-methods approach that integrates both qualitative and quantitative research techniques in order to obtain a comprehensive and contextualized understanding of the safety risks associated with transporting human passengers in livestock loaded trucks. The rationale behind using a mixed-methods design is to triangulate findings from different sources and methods, thereby enhancing the validity and reliability of the research outcomes.

4.1 Field Observation

Systematic field observations were carried out within and around Charanchi Cattle Market, with particular focus on designated loading zones and transit corridors. The objective was to record real time vehicle conditions, loading patterns, and the physical interactions between human passengers and livestock during transport. Observations included the types of vehicles used (typically trailer trucks), their mechanical condition, the number and placement of cattle and passengers, use (or lack) of safety barriers, and adherence to road safety protocols. Observational data were recorded using field

notes and photographs where permitted. This provided valuable firsthand evidence of prevailing transport practices and associated risks.

4.2 Key Informant Interviews

Semi structured interviews were conducted with a purposive of 20 sample of key stakeholders directly involved in the transportation process. These included:

- i. Ten (10) truck drivers, to understand operational practices, economic pressures, risk perceptions, and experiences with road safety enforcement.
- ii. Five (5) Cattle traders, to gain insights into logistics decisions, motivations for mixed transport, and interactions with transport unions.
- iii. Five (5) Accident survivors, who provided detailed accounts of incidents involving cattle trucks, including the causes, consequences, and aftermath of such accidents.

The interviews were conducted in Hausa and later translated into English for analysis. A flexible interview guide was used, allowing respondents to elaborate on relevant experiences while ensuring consistency across interviews. These narratives offered nuanced perspectives on both structural and

behavioral factors contributing to unsafe transport.

4.3 Document Analysis

Relevant documents were reviewed to complement primary data. These included records from the FRSC, Cattle Transport Union, accident logs, and informal registers maintained by market authorities. The document analysis aimed to trace incident patterns, frequency of accidents, recorded casualties, and documented interventions or resolutions. Where quantitative data were available, they were compiled and analyzed to identify trends and corroborate field findings.

Data Integration and Analysis

Data from all sources were systematically analyzed. Qualitative data from interviews and observations were thematically coded using a grounded approach to identify recurring patterns, themes, and relationships. Quantitative data from union records and field logs were subjected to basic descriptive statistical analysis to illustrate trends in accidents and injuries over time. The integration of both data types allowed for a holistic interpretation of the complex realities surrounding mixed livestock human transport in Charanchi.

Overall, the methodology was designed to uncover both the immediate safety concerns

and the underlying structural conditions that sustain this dangerous practice. The combination of empirical observation, personal testimony, and institutional documentation ensured that findings were not only grounded in lived experience but also supported by verifiable evidence

5.0 Result and Discussion

This section presents and interprets the findings of the study based on data collected through field observation, key informant interviews, and document analysis. The aim is to offer a comprehensive understanding of the safety risks inherent in the practice of transporting human passengers alongside livestock, particularly in large trailer trucks operating in and around Charanchi Cattle Market.

The results are organized thematically, drawing attention to key aspects such as vehicle condition and loading patterns, stakeholder perceptions and experiences, accident records, and the broader structural and economic drivers of this transport behavior. The integration of both qualitative and quantitative data enables a multidimensional analysis that not only highlights the frequency and nature of accidents but also contextualizes them within the lived experiences of drivers, traders, and accident survivors.

Through this discussion, the study interrogates the intersection between economic necessity,

regulatory gaps, and transport informality that perpetuates hazardous practices in rural trading environments. Comparisons with findings from relevant literature help situate the Charanchi case within the broader discourse on transport safety in developing countries. The analysis also reflects on the implications of continued neglect in this area for public health, road safety, and sustainable development.

By systematically linking the empirical findings with the research questions and objectives, this section lays the groundwork for evidence-based recommendations to inform policy, enforcement, and community level interventions aimed at mitigating the identified risks.

Quantitative Overview

To complement the qualitative insights gathered through field interviews, a quantitative analysis

was conducted to examine the extent and patterns of human livestock co-transport in trailer trucks originating from Charanchi Cattle Market. The purpose of this analysis is to provide empirical support for the identified safety risks and socio economic drivers behind this practice. Structured observation and data collection were carried out across key routes and destinations, focusing on transport volume, passenger behavior, trip frequency, and the underlying motivation. The inclusion of tabulated and graphical data helps to illustrate the prevalence of the phenomenon, the distribution of passenger and livestock loads, and the critical factors influencing the individuals' decision to engage in such unsafe transport modes.

Table 5.1 Distribution of Cattle and Human Passengers in Trucks by Destination

Destination	No. of Cattle in Truck	No. of Passengers in Truck
Abuja	50	40
Lagos	45	65
Porthacourt	45	55
Akwa Ibom	45	35
Abia	50	30

Source: Field Survey 2025

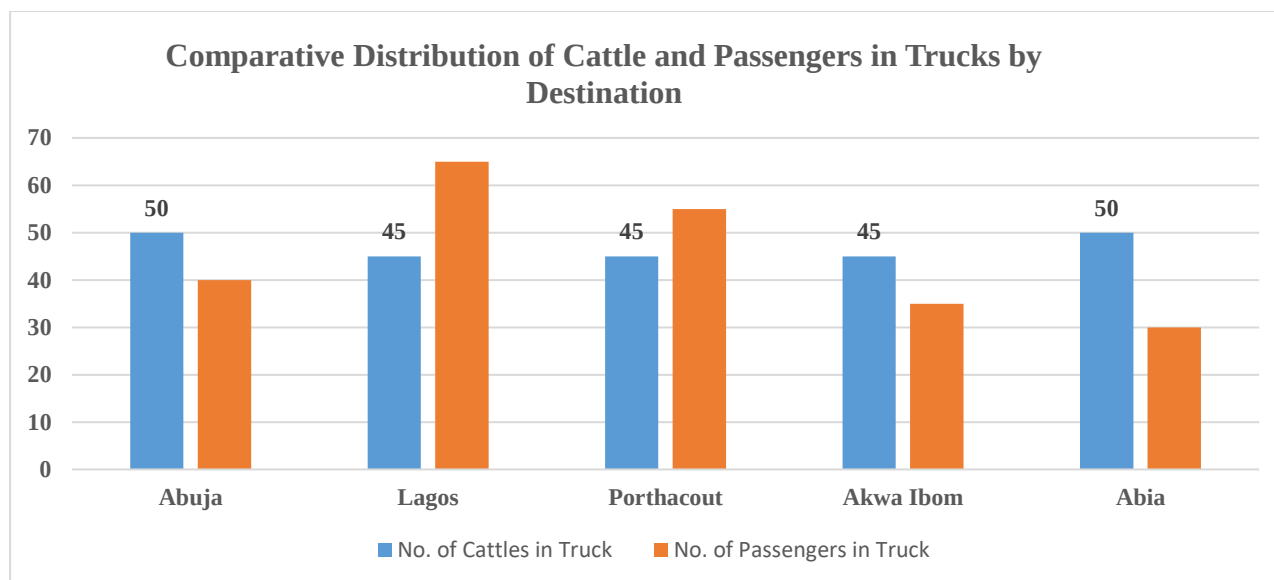


Fig. 5.1 Comparative Distribution of Cattle and Passengers in Trucks by Destination

The above table and corresponding chart reveal significant overcrowding in trucks transporting both livestock and human passengers. Lagos-bound trucks record the highest number of passengers (65), surpassing the number of cattle (45), and indicating high passenger load pressure likely driven by economic migration to commercial hubs. Porthacourt follows closely with 55 passengers. Abuja and Akwa Ibom show

relatively balanced cattle-passenger ratios, whereas Abia, despite having 50 cattle, records the lowest number of passengers (30). The data strongly suggest that overloading is a prevalent risk factor, particularly on longer or economically significant routes, and supports the claim of systematic violation of safe transport norms.

Table 5.2 Main Factors Influencing Passengers Choice of Mixed Human Livestock Transport

Reason	Frequency	Percentage (%)
Low cost	10	50
Lack of Alternative Transport	5	25
Speed of Travel	2	10
Familiarity or Convenience	3	15
Total	20	100

Source: Field Survey 2025

Half (50%) of the respondents cited low cost as the primary reason for choosing this unsafe mode of travel, while 25% reported the lack of alternative transportation. These findings validate earlier qualitative evidence and thematic analysis showing that poverty and poor

transport infrastructure are major drivers of risk-taking behaviour. Only a small fraction of passengers prioritizes speed (10%) or familiarity (15%), reinforcing the conclusion that economic constraints outweigh other considerations in transport decisions.

Table 5.3: Distribution of Respondents by Frequency of Mixed Transport Usage

Nature	Frequency	Percentage (%)
Weekly	3	15
Monthly	5	25
Rarely	10	50
Yearly	2	10
Total	20	100

Source: Field Survey 2025

Half of the respondents (50%) reported that they rarely engage in this form of travel, while only 15% use it weekly and 25% monthly. The data suggest that although most respondents are not habitual users, many resort to this transport mode intermittently out of necessity rather than preference. The occasional nature of use, combined with high passenger numbers per trip (as shown in Table 5.1), implies episodic surges in unsafe travel, especially during market days, festivals, or migration periods.

5.1 Qualitative Insights from Field Interviews

The qualitative data collected through semi structured interviews with travelers, truck drivers, and union officials in Charanchi Cattle Market revealed critical insights into the lived realities, motivations, and perceptions that underpin the hazardous practice of transporting human passengers alongside livestock.

5.1.1 Passengers Experience:

Many of the passengers interviewed described the experience as both dangerous and dehumanizing, yet economically unavoidable. A recurring theme was the trade-off between

affordability and safety. One respondent recounted.

“I paid ₦2,000 to travel from Charanchi to Kaduna atop cattle grain sacks. A seat in a regular vehicle costs ₦7,000. I simply can’t afford that”

Such testimony highlights the severe economic pressures that force individuals to make high-risk transport choices. Another passenger who had traveled from Charanchi to Lagos vividly described the instability and danger involved:

“Each time the truck navigated sharp turns, it felt like we would fall off. One man dozed off and nearly fell. We grabbed him just in time.”

Although most respondents acknowledged the risks, they framed their decisions within the broader context of poverty and survival. A commonly shared sentiment among passengers was encapsulated by one interviewee’s statement:

“We just pray for safety. Even small cars crash, so why worry?”

Additionally, passengers some of whom included women and children reported being exposed to harsh weather conditions, particularly during overnight journeys. Accounts of shivering through freezing night temperatures in open air trucks alongside

cattle were not uncommon, underscoring the public health implications of such practices.

5.1.2 Driver and Union Perspectives

Truck drivers, while fully aware of the dangers, often justified the practice on economic grounds. According to one driver:

“People can’t pay ₦60,000.00 to travel in a bus to Lagos. We charge ₦8,000.00 – ₦10,000.00. That’s why they join us.”

This statement reflects how transport pricing structures largely determined by socioeconomic disparities dictate behavioral choices. The drivers view themselves less as rule-breakers and more as service providers to an underserved population.

Discussions with members of the local transport union leadership at Charanchi Market provided further institutional context. Union officials acknowledged the problem and reported that internal guidelines had been developed to discourage the practice of carrying excess passengers or allowing rooftop travel. However, enforcement remains limited and inconsistent. As one union official noted:

“Drivers pick up people at illegal junctions. We fine them, even suspend some. But the passengers themselves often insist on going.”

Union leaders pointed to specific hotspots such as Koda Junction and Gidan Mutum Daya as informal loading points where unsafe boarding frequently occurs. They recommended stricter monitoring and the establishment of regulated transport terminals to help curb illegal pick up activities.

5.2 Analysis of Accident Reports and Fatal Incidents

A critical review of accident reports involving livestock-loaded trucks reveals alarming trends of loss of life and property. The table presented below (Table 5.4) summarizes major incidents recorded in different locations across Nigeria.

Table 5.4: Accident Reports and Fatal Incidents

Accident Location	No. of Cattles	No. Cattle Injured	No. of Cattle Died	No. of People (Passengers)	No. of People Injured	No. of People Died
Gora, Malumfashi	45	15	30	25	15	10
Bida-Agaie, Niger	50	0	50	55	7	48
Rijana, Kaduna	40	9	11	20	16	4
Gada Biyo, Lokoja	45	34	11	20	14	6
Lagos-Ibadan Highway	45	20	25	60	47	13

Source: FRSC 2025

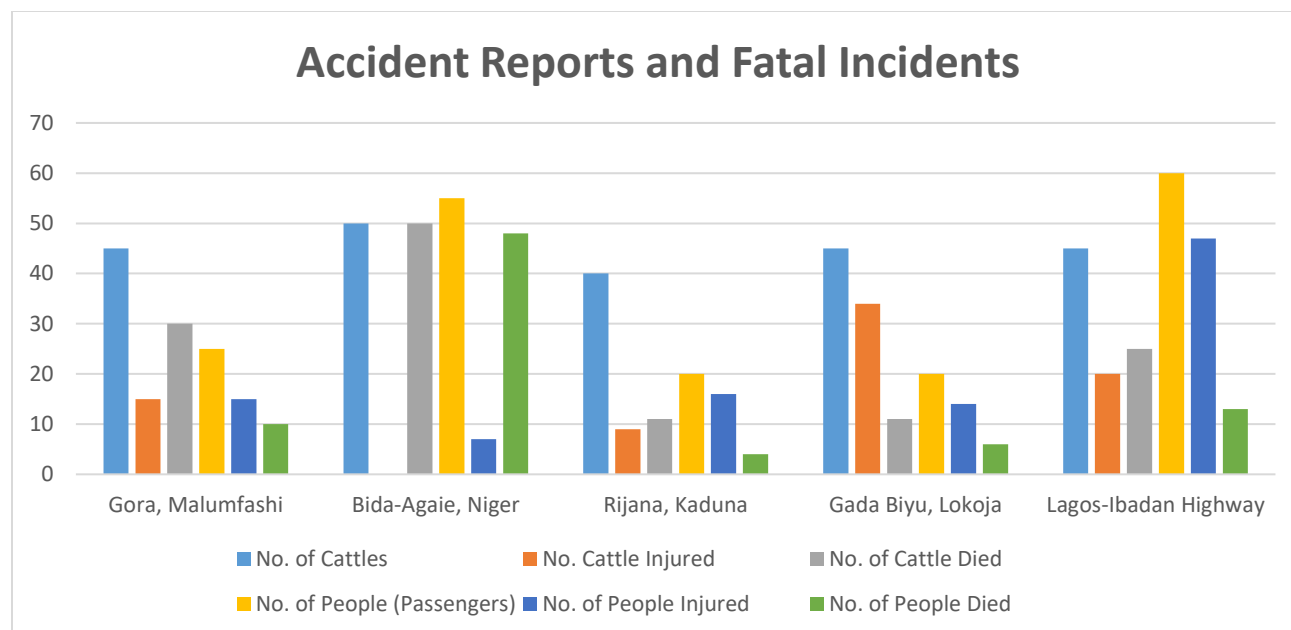


Fig. 5.2 Graphical Representation of the Reported Accidents and Fatal Incidents.

The most devastating incident occurred in Bida-Agaie (Niger State), where 48 out of 55 passengers died an 87% fatality rate suggesting catastrophic failure likely due to a collision with a fuel tanker. On the Lagos-Ibadan Expressway, while the number of passengers was the highest (60), 13 people died and 47 were injured, revealing the risks associated with overcrowding on major highways.

High casualty rates were not limited to humans; livestock losses were also significant. In multiple cases, such as in Bida-Agaie and Malumfashi, dozens of cattle perished alongside human passengers. This dual casualty trend highlights the complete lack of protective infrastructure for both

humans and animals transported in such trailers.

Additionally, the discrepancy in injury and fatality numbers across locations implies that some crashes may have occurred at higher speeds or under more hazardous conditions. For instance, in Rijana (Kaduna), although 16 people were injured, only 4 deaths were recorded possibly due to quicker emergency response or less severe impact.

6.0 Recommendations and Conclusion

1. **Enhanced Regulatory Enforcement:**
There is a critical need to strengthen the enforcement capacity of the Federal Road Safety Corps (FRSC), particularly during night-time operations when many of these mixed transport activities occur.

Routine patrols and checkpoints should be strategically positioned along key livestock transport routes. Existing road transport regulations prohibiting the co-transportation of animals and passengers should be rigorously enforced, with penalties for violations clearly publicized and consistently applied.

2. **Provision of Safe and Affordable Alternatives:** To reduce dependency on unsafe transport methods, the government at both state and federal levels should explore subsidized or community-owned transport systems. These should target rural markets with high travel demands, offering safe and cost-effective options for long distance travel, especially for low-income traders and herders who cannot afford conventional transport fares.
3. **Community Based Public Education:** Awareness campaigns must be developed and delivered at the grassroots level, utilizing local languages and media platforms. These campaigns should communicate the specific health and safety risks of mixed livestock human transport and encourage community support for safer practices. Collaboration with religious leaders, traditional

authorities, and market unions will enhance the reach and credibility of such initiatives.

4. **Establishment of Designated Transport Terminals:** Government and market management authorities should invest in the construction and regulation of formal motor parks near cattle markets. These terminals should be equipped with designated loading bays, safety monitoring personnel, and licensed operators trained in ethical and secure transport procedures. Monitoring efforts should focus on known illegal pickup points such as Koda Junction and Gidan Mutum Daya to prevent unregulated boarding.

6.1 Conclusion

The practice of transporting passengers in livestock loaded trailer trucks, as observed in Charanchi Cattle Market, reflects the intersection of economic desperation, inadequate infrastructure, and weak regulatory enforcement. This study has demonstrated that despite awareness of the inherent dangers, many individuals engage in this transport mode due to financial limitations and lack of viable alternatives. Through field observations, stakeholder interviews, and union record analysis, the

study highlights the physical, psychological, and public health risks associated with this practice.

Importantly, the issue is not merely one of individual behavior but of systemic neglect underscoring the need for an integrated response involving government agencies, market unions, and community actors. Addressing this issue is essential not only for safeguarding human lives but also for promoting dignified and equitable transport solutions in rural economies.

By providing empirical evidence and contextual analysis, this research contributes to the body of knowledge on informal transport safety in Nigeria and advocates for urgent policy attention. With sustained commitment, multi-sector collaboration, and evidence based interventions, the cycle of preventable accidents and fatalities can be disrupted paving the way for safer, more humane transport practices in cattle markets and beyond.

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