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Geographic Concentration of Organized Crime Related Firearm Violence: Evidence from T-56 Rifle Shootings in Sri Lanka

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Abstract

Firearm violence involving military-grade weapons poses significant challenges to public security, particularly in post-conflict societies. This study examines provincial variations in organized crime–related shooting incidents involving T-56 rifles in Sri Lanka between 2022 and July 2025.Secondary data were obtained from the Crime Record Division (CRD) and analysed using descriptive statistics, including frequency distributions and provincial comparisons. A total of 99 incidents were recorded during the study period, with substantial geographic clustering. The Western Province accounted for 52.5% of incidents and the Southern Province accounted for 39.4%, together representing 91.9% of all recorded T-56 shooting cases. Incidents peaked in 2023 and declined thereafter. The observed concentration is discussed using Routine Activity Theory and Social Disorganization Theory, highlighting

the role of criminogenic environments, opportunity structures, and weakening of social controls in enabling organized firearm violence.

Findings suggest the need for hotspot-oriented policing, strengthened intelligence-led enforcement, and targeted firearm control measures focused on high-risk provinces and districts.

Keywords: Gun violence, Hotspot concentration, Organized crime, Public safety, T-56 rifle

1. Introduction

Firearm violence remains a major public safety and criminological concern worldwide, particularly where organized criminal actors operate through coercion, retaliation, and territorial competition. The presence of firearms increases the lethality of violence and strengthens the capacity of criminal groups to enforce control over illicit markets.

A key feature of gun violence in many settings is its unequal geographic distribution: serious violence often concentrates in particular regions or "hotspots," reflecting local opportunity structures, governance limitations, and socio-economic vulnerabilities. Therefore, understanding where firearm violence concentrates and why it differs across geographic areas is essential for evidence-based crime prevention and policing strategies.

In Sri Lanka, gun violence has increasingly been associated with organized crime groups engaged in drug trafficking, illegal arms circulation, and gang rivalries. Recent years have witnessed repeated shootings reported through police records and media coverage, including targeted killings and intimidation attacks linked to criminal

disputes. A particularly concerning dimension of this trend is the emergence of military-grade weapons in organized violence, including the T-56 rifle, which is a high-lethality assault weapon historically associated with wartime contexts. The use of such a firearm significantly increases the capacity for rapid and deadly violence, thereby intensifying fear and insecurity within communities and presenting a direct threat to national security and public order.

Figure 1: T 56 Rifle

International research on firearm violence emphasizes that the availability and diffusion of small arms increase insecurity and facilitates organized violence, particularly in contexts marked by weak enforcement or political instability (Banerjee & Muggah, 2002; Squires, 2014). Public health and criminological research further demonstrate that firearm violence follows observable patterns that vary by weapon

type, intent, and geographic context, strengthening the argument for disaggregated analysis (Wintemute, 2015).

Comparative research also suggests that national firearm mortality trends depend on local conditions such as regulation, weapon access, and broader socio-economic structures (Junuzovic et al., 2019).

These studies collectively highlight that firearm violence must be analysed in context, and that local-level analysis provides deeper insights than aggregated national reporting. Sri Lanka offers a unique context due to post-war transitions and the persistence of armed networks. Post-conflict settings can enable the continued circulation of war-era weaponry and practices, which may later contribute to organized criminal violence.

Jayasundara-Smits (2018) argues that war economy networks can persist into peacetime and facilitate illicit activities, including arms circulation. Keethaponcalan (2019) similarly highlights governance dilemmas and fragile rule of law in post-war contexts that can expand the operational space for organized crime. These arguments support the plausibility that weapons such as the T-56 rifle may remain present in illicit markets due to their durability, high firing capacity, and battlefield reliability. The T-56 rifle, originally designed as a military assault weapon, is capable of automatic fire and is relatively easy to maintain, making it particularly attractive for organized criminal groups. Its continued presence in Sri Lanka is often linked to residual circulation from the civil conflict period. Organized crime groups may utilize such

weapons to carry out shootings that significantly harm communities and undermine national security.

However, the way these violent incidents vary across different provinces of Sri Lanka is not well understood. This lack of clear information makes it hard for authorities to design effective strategies to reduce gun violence and control illegal arms. Despite the growing policy urgency of firearm violence in Sri Lanka, empirical research remains limited, particularly in relation to spatial and weapon-specific analysis. Existing work has often focused on broad trends or single-province patterns. For instance, Alwis et al. (2023) provided forensic evidence on firearm-related deaths in the Western Province; however, systematic weapon-specific spatial analyses across provinces remain scarce. As a result, it remains unclear whether T-56 rifle shootings represent a nationwide issue or are concentrated within specific geographic areas. This lack of spatially disaggregated evidence constrains the ability of law enforcement agencies to design targeted intervention strategies.

The present study addresses this gap by analysing province-level variation and temporal trends of organized crime–related shooting incidents involving T-56 rifles between 2022 and July 2025. The study is guided by two criminological theories. First, Routine Activity Theory suggests that shootings occur where motivated offenders find suitable targets in the absence of effective guardianship, and that such conditions may be more prominent in specific urban or economically active provinces.

Second, Social Disorganization Theory suggests that structural disadvantage, weak informal social control, and community instability may create environments where organized crime flourishes and firearm violence becomes normalized. By combining a province-level descriptive analysis with theoretical interpretation, the study aims to contribute both to academic understanding and to practical policy development in gun violence prevention and organized crime control.

Accordingly, this study examines the extent of geographic concentration of T-56 rifle shootings, identifies temporal trends, interprets provincial variations using criminological theories, and evaluates the implications of these patterns for law enforcement resource allocation and firearm control policy.

The significance of this study lies in its contribution to understanding how organized crime related firearm violence varies across Sri Lanka's provinces. By identifying geographic concentrations and temporal patterns, the study provides valuable insights for law enforcement agencies, policymakers, and community stakeholders to design targeted interventions for controlling illegal firearms, particularly high-risk weapons such as the T-56 rifle. Furthermore, it supports the development of evidence-based, location-specific strategies rather than uniform national approaches.

2. Methodology

2.1Study Design

A quantitative descriptive research design was employed to examine the distribution of organized crime–related T-56 shooting incidents across provinces and years in Sri Lanka. This design was appropriate as the study aimed to identify spatial concentration patterns and temporal trends using recorded incident data, rather than to establish causal relationships or offender motivations.

2.2 Data Source

Secondary data were obtained from the Crime Record Division (CRD). The dataset comprised police-recorded incidents involving T-56 rifle shootings, including province- and district-level incident locations and year of occurrence. Where available, incidents were classified as organized crime–related based on administrative records.

2.3 Study Period and Area

The study covered the period from 2022 to July 2025 and included all provinces in Sri Lanka for which T-56 shooting incidents were recorded during this timeframe.

2.4 Data Analysis

Data were cleaned, entered, and analysed using Microsoft Excel. The analysis employed **descriptive statistical methods**, including frequency distributions to determine incident counts, calculation of

proportions and percentages by province, and year-wise comparisons of incidents to identify temporal trends. Descriptive interpretation was used to examine patterns of geographic concentration and variation over time. The findings were presented using tabular summaries and graphical visualization to illustrate spatial clustering and annual fluctuations.

2.5 Limitations

The findings are dependent on the completeness and accuracy of police-recorded data, and variations in reporting or underreporting may exist. The study focuses exclusively on T-56 rifle incidents and therefore does not represent the full spectrum of firearm-related violence. In addition, the descriptive design identifies distributional patterns but does not establish causal relationships.

3. Result

The analysis reveals both temporal variation and a strong geographic concentration of organized crime–related T-56 shooting incidents across Sri Lanka.

Table 1. Total T-56 Shooting Incidents by Year and Province (2022–July 2025)

Province	**2022**	**2023**	**2024**	**2025 (Jan–Jul)**	**Total**	**% of Total**
Western Province	10	14	17	11	52	52.5%
Southern Province	11	14	9	5	39	39.4%
North Central Province	0	1	1	0	2	2.0%
Eastern Province	0	0	1	0	1	1.0%
North Western Province	0	0	1	0	1	1.0%
Northern Province	0	0	1	0	1	1.0%
Sabaragamuwa Province	0	3	0	0	3	3.0%
Central Province	0	0	0	0	0	0.0%
Uva Province	0	0	0	0	0	0.0%
Total	21	32	30	16	99	100%

Source: (Crime Record Division Data 2025)

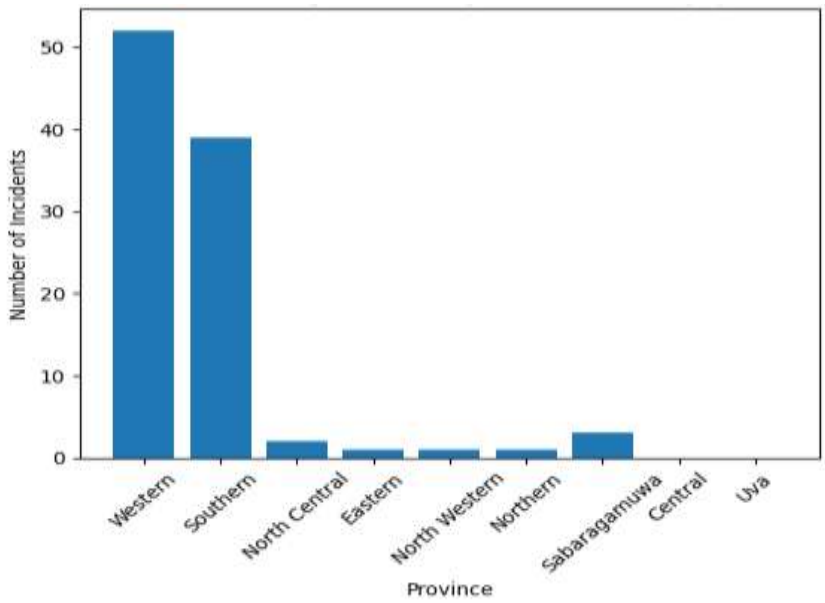
A total of 99 organized crime–related shooting incidents involving T-56 rifles were recorded in Sri Lanka between January 2022 and July 2025. The temporal distribution demonstrates measurable fluctuation across the study period. In 2022, 21 incidents were reported, representing 21.2% of the total dataset.

This figure increased substantially to 32 incidents in 2023 (32.3%), reflecting a 52.4% year-on-year increase. In 2024, incidents declined slightly to 30 (30.3%), representing a 6.3% reduction from the previous year. For the first seven months of 2025, 16 incidents were recorded, accounting for 16.2% of the total. While the 2025 figure cannot be directly compared with full-year totals, preliminary patterns suggest a continued downward trajectory.

The mean annual number of incidents across the three complete years (2022–2024) was approximately 27.7 incidents per year, indicating moderate variability rather than extreme volatility. The sharp escalation in 2023 followed by gradual stabilization suggests that organized crime–related firearm violence may be responsive to enforcement, market dynamics, or network-level disruptions rather than following a purely linear upward trend.

Provincial distribution reveals a highly concentrated pattern. The Western Province accounted for 52 incidents, representing 52.5% of the total, while the Southern Province recorded 39 incidents, representing 39.4%. Collectively, these two provinces accounted for 91.9% of all recorded T-56-related shootings during the study period. In contrast, the remaining provinces combined accounted for only 8.1% of incidents, and two provinces recorded no T-56-related shootings at all.

This distribution demonstrates extreme geographic clustering. If firearm violence were proportionally distributed relative to provincial population or geographic size, a more even pattern would be expected. Instead, the overwhelming concentration within two provinces indicates structural and contextual factors influencing organized crime–related firearm use. The disproportionality observed exceeds typical violent crime concentration patterns documented in international literature,



suggesting that military-grade firearm violence may exhibit even sharper clustering than general violent crime categories.

Figure 2: Total Shooting Incidents by Year and Province

The concentration pattern remained stable across the study period. Although overall incident numbers fluctuated annually, the relative dominance of the Western and Southern Provinces persisted.

Provinces with minimal incidents did not exhibit sustained increases, indicating that T-56-related violence did not diffuse geographically during the study period.

This stability reinforces the conclusion that organized crime–related T-56 shootings are geographically embedded rather than randomly dispersed across the national territory.

4. Discussion

The findings provide strong empirical support for crime concentration theory, which posits that a small number of geographic areas account for a disproportionate share of criminal activity. The concentration of over 90% of T-56-related shootings within two provinces demonstrates a clear clustering effect, indicating that such violence is not randomly distributed but embedded within specific geographic contexts.

In simple terms, firearm violence appears to occur more frequently in areas where opportunities for organized crime are greater. Routine Activity Theory explains this pattern by suggesting that crime occurs when motivated offenders encounter suitable targets in the absence of effective guardianship. Provinces characterized by dense economic activity, transportation networks, and urban interactions such as the Western Province provide environments where such conditions are more likely to converge.

Similarly, the persistent concentration observed in the Southern Province suggests the presence of localized criminal networks capable

of sustaining repeated violent incidents. These patterns indicate that organized firearm violence is influenced by place-specific opportunity structures rather than random occurrence.

Social Disorganization Theory further explains why certain provinces experience sustained firearm violence while others do not. Structural conditions such as rapid urbanization, socio-economic inequality, weakened informal social controls, and the presence of illicit markets can create environments conducive to organized crime. The absence or near absence of incidents in several provinces suggests that these criminogenic conditions are unevenly distributed across Sri Lanka.

The temporal spike observed in 2023 likely reflects escalation within organized criminal networks, possibly driven by competition, retaliation, or leadership conflicts. The subsequent decline in 2024 and early 2025 may indicate the impact of law enforcement interventions, including intelligence-led operations and targeted arrests. However, caution must be exercised, as descriptive data alone cannot establish causality.

From an international perspective, the findings are consistent with existing literature (Wintemute, 2015; Squires, 2014; Gius, 2016), which indicates that organized firearm violence tends to exhibit strong geographic concentration. However, the level of concentration observed in this study is particularly pronounced, suggesting that post-conflict contexts may intensify localized patterns of armed violence.

Overall, the findings demonstrate that T-56-related firearm violence in Sri Lanka is spatially concentrated, structurally embedded, and influenced by both environmental and organizational factors.

5. Conclusion

This study examined provincial variations in organized crime–related shooting incidents involving T-56 rifles in Sri Lanka between 2022 and July 2025. The findings demonstrate a pronounced geographic concentration, with the overwhelming majority of incidents occurring in two provinces. Such clustering confirms that military-grade firearm violence in Sri Lanka is not randomly distributed but structurally embedded within specific organized crime environments. Temporal analysis revealed a significant escalation in 2023 followed by moderate stabilization, suggesting dynamic interactions between criminal networks and law enforcement interventions. The results align with crime concentration, routine activity, and social disorganization theories, reinforcing the explanatory value of spatial criminological frameworks in post-conflict settings.

Overall, the evidence indicates that targeted, intelligence-led strategies are more appropriate than uniform nationwide responses. By providing provincial-level empirical analysis, this study contributes to the understanding of firearm violence patterns in Sri Lanka and offers a foundation for geographically informed policy development and enforcement planning.

6. Recommendations

Based on the findings, the following recommendations are proposed:

- Implement hotspot-based policing strategies: Law enforcement agencies should establish dedicated operational units focusing on high-incidence districts within the Western and Southern Provinces. This can be implemented through targeted patrol deployment, surveillance systems, and continuous crime mapping.
- Develop a centralized ballistic intelligence system: A national-level ballistic database should be established to trace T-56 firearms across incidents. Integration with forensic laboratories and police databases would enhance the ability to identify weapon circulation networks.
- Strengthen intelligence-led policing: Enforcement strategies should prioritize the identification and disruption of organized criminal networks rather than focusing solely on individual offenders. This includes monitoring financial transactions, communication networks, and supply chains.
- Introduce predictive crime monitoring systems: Historical data should be used to develop predictive models capable of identifying emerging hotspots and potential escalation patterns. This would enable proactive deployment of law enforcement resources.

- Enhance multi-agency collaboration: Coordination between police, customs, intelligence agencies, and financial investigation units should be strengthened to disrupt arms trafficking and organized crime networks.
- Improve control of military-grade weapons: Regular audits, monitoring, and verification of weapon stockpiles should be conducted to prevent leakage into illicit markets.
- Promote community-based prevention strategies: Long-term interventions should include youth engagement programs, employment initiatives, and community policing in high-risk urban areas to address underlying criminogenic conditions.

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