

Background Note 1: Measuring the Scale and Distribution of Armed Violence

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The negative costs and consequences of armed violence for social, human and political development are now widely-recognized within and beyond the development community. Latin American and Caribbean states register amongst the highest levels of armed violence and victimisation, even in the near-total absence of major armed conflicts, with a regional homicide rate several times higher than the global average.¹ More importantly, awareness of the mounting human costs of armed violence is increasingly being translated into policy and practical violence prevention and reduction programmes, within the region and worldwide (Frühling, 2003).

This background note provides an overview of some of the key themes and issues related to armed violence and development in order to begin considering entry points, policies and programmes to reverse these trends. It provides a definition of and rationale for measuring armed violence, and a conceptual matrix to frame its direct and indirect costs. It also draws attention to issues of monitoring and measurement, including how to assess the scale and distribution of armed violence.

The background note then presents a descriptive overview – through several illustrative examples – of the scale and distribution of armed violence in a global context. It also offers examples of how one can assess the real and opportunity costs of armed violence, and its negative impacts on development. This background note does *not*, however, provide a comprehensive survey of the vast literature on crime and victimisation in Latin America and the Caribbean. Rather, it aims to provide an overview of trends, highlight the gaps in comparative analysis, and identify the possibilities for more robust assessments and evidence-based interventions.

Defining Armed Violence: Direct and Indirect Costs

Although there is no internationally-agreed definition of armed violence *per se*, the World Health Organization has developed a useful definition, which describes *violence* as:

The intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, that either results in or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation (WHO, 2002)

Key terms in this definition are “intentionality,” “threatened or actual,” and the consequences: “death, injury, psychological harm, maldevelopment and deprivation.”

¹ See Background Note 2, *Framing Contexts and Responses to Armed Violence: Perspectives in Latin America and the Caribbean*).

Armed violence implies the addition of an external vector (or instrument) in the act of intentionally threatening or physically contributing to death or injury. In this background paper, we focus primarily on “small arms and light weapons” as the vector in armed violence, though it is important to recall that it is not the only one. In some contexts, bladed weapons, blunt objects, explosives and a host of other vectors are responsible for all manner of death and injury. A focus on small arms is justified though, because worldwide small arms and light weapons are disproportionately used to commit violence. They are commonly reported in between 70-80 per cent of all fatal violence, and the costs associated with gun-related injuries (injury treatment, rehabilitation, loss of livelihood) are generally higher than for other times of injuries from violence (Small Arms Survey 2006; 2005). Similarly, when comparing rates of armed violence, the most commonly used indicator is *intentional homicides*, both because this crime is usually more systematically reported or recorded than other forms of armed violence, and because it serves reasonably well as a proxy for other forms of armed violence.²

It is also important to recognise that armed violence takes many forms that vary according to the context, power asymmetry and identity of the actors involved. These can be summarized as:

- *Inter-personal* (domestic or community/social)
- *Collective* (social or political violence, pre or post-conflict)
- *Criminal* (individual or collective economic violence)
- *Conflict* (intense political violence)
- *Institutional* (state violence)

Subsumed in this broad understanding are a wide range of different specific forms of inter-personal, social, political, economic and institutional violence. These forms of violence can manifest themselves at the individual or collective level, and be organized or “unorganized” in nature.³ Moreover, these different forms of violence are unevenly distributed – spatially between and within states, communities and neighbourhoods, temporally between conflict and criminal situations, and socially among different socio-economic strata in society.

Rationale for Measuring the Scale and Distribution of Armed Violence

Starting from the principle that evidence-based approaches to policy and programming are crucial for effective prioritisation and diagnosis, there are several reasons to enhance capacities to monitor and measure armed violence:

- *To identify the scope and extent of armed violence* (to generate awareness and sensitise stakeholders);

² Although it is perhaps does not well capture the entire range of gender-based violence concerns. See Morrison, Ellsberg and Bott, (2004), and Heise et al (1999).

³ The WHO defines collective violence broadly as ‘the instrumental use of [armed] violence by people who identify themselves as members of a group — whether this group is transitory or has a more permanent identity — against another group or set of individuals, in order to achieve political, economic or social objectives’ (Krug et al 2002: 215).

- *To map patterns of armed violence* (to determine geographic and thematic priorities and entry-points for programmatic intervention);
- *To highlight high risk groups for armed violence* (to target programmes effectively);
- *To assess the socio-economic/developmental impacts of armed violence on states, economies and societies* (to highlight the benefits of prevention and reduction);
- *To evaluate the effectiveness of armed violence prevention and reduction programmes* (to weigh the costs and benefits of different interventions)

Framing and measuring the direct and indirect costs of armed violence

There are many ways of conceptualizing the magnitude and impact of armed violence on individuals, households and societies. These range from a minimalist approach focusing on a few *a priori* indicators (e.g. intentional death and non-fatal injuries, etc.) to others that are much more subjective and participatory, and that determine the indicators that “matter” from below (e.g. access to educational facilities, perceived risk of harassment, domestic spending and investment, etc).

Table I: Framing Direct and Indirect Costs of Armed Violence

	Human	Social, economic, and development costs
Direct	Death and injury	Paid: Hospital care/Funeral/Credit Life insurance pay-out Lost: Lost productivity/income Interrupted commerce Impaired tax collection Capital flight Damage to private property Damage to infrastructure Damage to agriculture
Indirect (excess)	Death and sickness from treatable disease Death and sickness from malnutrition Death and injury from risk-taking	Paid: Care providing (family) Out-patient care Increased policing Incarceration Higher insurance rates Higher commodity prices Legal services Lost: Lost quality of life Migration/emigration Long term productivity/income losses Reduced GDP

It is possible to disaggregate violence into their direct and indirect costs. As Table I above makes clear, direct *individual* costs include death, injury and psychosocial trauma due to external causes. Indirect *individual* costs relate to the ripple effects of armed violence such as preventable mortality/morbidity from disease, malnutrition and increased risk-taking behaviour (so-called “excess mortality”). Both direct and indirect costs have a broad array of social, economic and developmental consequences as the chart demonstrates, ranging from health care expenditures and insurance premiums to lost productivity, increased public spending on security, incarceration rates, and an overall deterioration in the quality of life.

Almost all of these costs can be quantified, and there are a variety of approaches and models used to capture the scale, intensity and costs of armed violence. Table II below provides an overview of a host of methods and approaches that range from national surveillance of death/injuries (through existing national reporting structures such as health, police, forensics, morgue and other systems) to incident reporting, focus groups, small sample surveys and large-scale (or epidemiological) panel surveys focusing on real/perceived armed violence.

Table II: Monitoring and measuring armed violence

Category	Indicators and Data Needs	Data Source and Methodology
Surveillance	Fatal injuries (gender, age, location, injury type, cause, time) – both numerator and denominator	Morgue, health department, forensic, police, news reports, churches, NGOs (MSF/ICRC/WHO, etc.)
Surveillance	Non-fatal injuries (gender, age, location, injury type, cause, type, perpetrator) – both numerator and denominator	Referral Hospitals, clinics and health posts, sentinel surveillance, NGOs
Incident Reporting	Victimisation, kidnapping, disappearance, detention, etc (by gender, age, location, type, perpetrator)	Human rights/gender monitoring mechanisms, international and national reports, police registration data, media reports. Administer weekly or monthly
Focus Groups	Causes and patterns of locally-defined victimisation, types of weapons in use, mobility, (nocturnal, geographic), impact on social capital (women's associations)	Small representative samples (women, men, youth, gang members, community leaders, etc). Administer on a weekly or monthly basis
Cohorts and small-n surveys	Behavioural, income, consumption, social mobility, victimisation, social capital, access to markets, services	Small cluster surveys of a defined population group in specified areas. Also similar surveys in control areas to establish comparability
Stratified/Cross-sectional/Panel/Cluster surveys	Socio-economic profile, expenditure and consumption habits, perceptions, victimisation rates, access to public services, etc	Large-scale simple random household impact and perception surveys. Epidemiological team could be developed to support the process and carry out pre/post surveys in urban and rural centres

Table II also shows that there are a number of indicators that are potentially available to assess levels of armed violence, many of which follow from, or are related to, intentional death and injury. However, the availability of data from these different sources varies from context to context, and they also vary tremendously in terms of their accuracy and reliability. Criminal justice, police and national health statistics surveillance systems are not equally reliable worldwide, or within Latin America and the Caribbean, and data collection on armed violence is often politically sensitive. One result, as will be revealed below, is that the accuracy of the data in some cases can be questioned, especially when compared to other sources.

Finally, the cost of collecting data also varies tremendously, depending on whether one is looking for ongoing comprehensive national surveillance data, occasional comprehensive national samples, or representative or regionally-based surveys that may or may not be generalisable over time or to the population as a whole. They may also display inconsistent and non-comparable indices and variables thereby reducing their comparability. Thus although many different sources of data currently exist, they cannot always be used to build a tight and comprehensive picture.

Beyond general data on the incidence and impact of armed violence, effective policy and programme development also requires assessment of the relationships between armed violence and other potential risk factors (either for perpetrators or for victimization). Although there is no general model that can capture the multiple “causes” of armed violence, a number of studies have pointed to the importance of factors such as (low/inaccessible) education and (unequally distributed) income levels, gender, age, organized criminal activity (include drug and other trafficking), geography (urban-rural differences, spatial distributions within cities), sharp economic shocks, and so on (Fajnzylber et al, 2000, 2002; Neumayer, 2005). Although so-called ecological models can attempt to capture the inter-relationships between armed violence and specific indicators, most analysts agree that there is an important contextual, country-specific or circumstantial component to armed violence that makes general models and the search for root causes elusive.

A key message, however, is that there is a wide range of tools and methods available, both to quantify the direct and indirect impacts of armed violence worldwide, and to measure these impacts in specific states and regions.

Notwithstanding the tremendous methodological caveats and the limited availability of robust data, we can make some tentative observations concerning the global distribution of armed violence. Table III contains information from 56 countries where national surveillance data was reliable enough to be able to infer rates for two specific indicators of armed violence –firearm homicide and firearm suicide. The key finding here is that Latin America (and the Caribbean) registers three times more reported homicide than any other region – whether Africa, North America, Eastern Europe, the Middle East, etc – and five times the global average. This confirms that armed violence is a major social and economic challenge for the region, although it should be noted that those countries where armed violence (especially conflict-related) is especially acute – including Sudan, Somalia, Iraq, Afghanistan and elsewhere – are not necessarily included, and this would likely close the gap between Latin America and the Caribbean and other regions.

Table III: Homicide rates Worldwide: Direct Individual Impacts

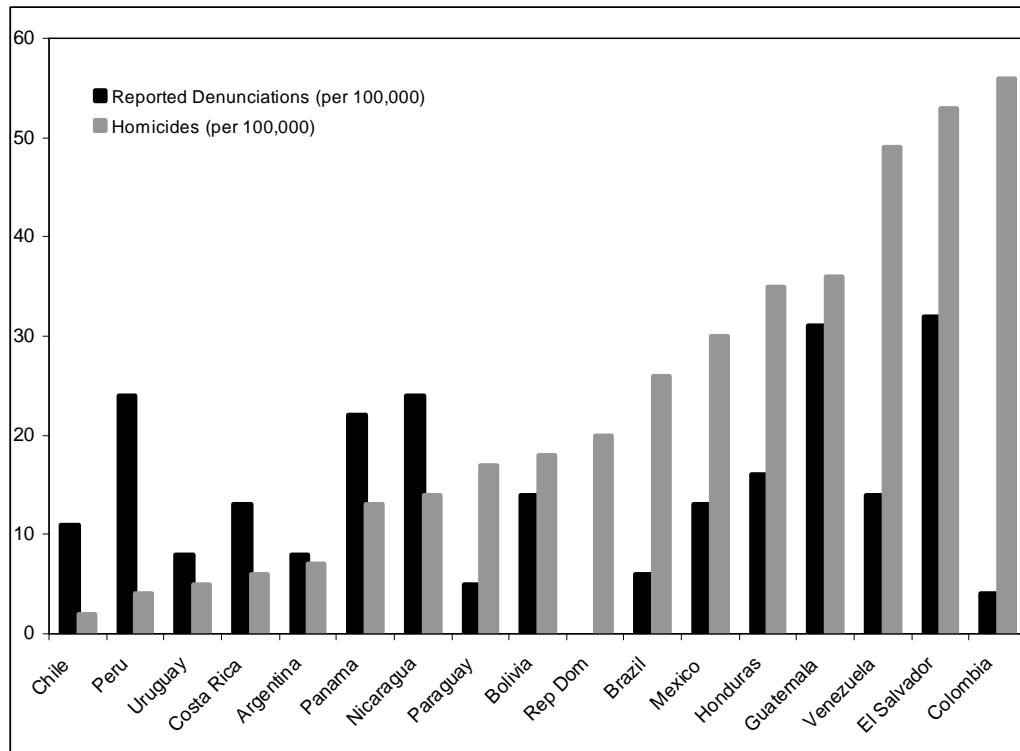
	Firearm Homicide	Firearm Suicide
Latin America	15.5	1.0
Africa	5.9	0.6
North America	3.5	5.5
E Europe	3.1	0.4
W Europe	0.4	1.7
Middle East	1.8	0.1
Southeast Asia	1.5	0.1
Asia Pacific	0.5	0.4
Global	3.1	0.8

Source: Small Arms Survey 2005

If we break these trends down, we can see that high levels of armed violence are concentrated in specific countries in Latin America. Table IV provides comparative data from a combination of national sources (ministry of interior, national statistics departments, police intelligence, etc) showing homicide rates and “denunciations” in 17 countries. What it tells us is that Colombia, El Salvador, Venezuela, Guatemala, Honduras and Brazil account for the bulk of overall armed violence in the region - if their, and others’ statistics are accurate. For comparisons sake, Appendix I provides consolidated and more comprehensive information from the Pan-American Health Organization on homicide rates for almost all countries in Latin America and the Caribbean, and although there are overall similarities in the rank order (Colombia, El Salvador, Venezuela, Brazil and El Salvador all rank in the top 10), there are also some surprising data gaps, which should encourage more comprehensive reporting on violence.

Table III also reveals another important limitation. Next to homicides (in black) are denunciations. You will see that the highest rates of reported denunciations are El Salvador, Guatemala, Nicaragua, Peru, Panama and Honduras. By contrast, Colombia, and Brazil report amongst the lowest. This raises a fundamental question about whether this is because there is less armed violence, or better reporting mechanisms, more confidence amongst prospective reporters in national institutions, or other reasons. This highlights the dangers of relying on single indicators and on national surveillance.

Table IV: The distribution of homicide and denunciations (per 100,000): 2003(or nearest year)



Source: Alvarez and Instituto Latinoamericano de Seguridad y Democracia (ILSED), 2007, drawing on various national police, judicial, public health and related records.

Key (and Recent) Sources

Note: this list is not comprehensive, and does not include the vast array of country or local studies, and only includes key “overview” contributions. It also does not include many Spanish or Portuguese-language sources, although there are many that deal with armed violence issues.

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