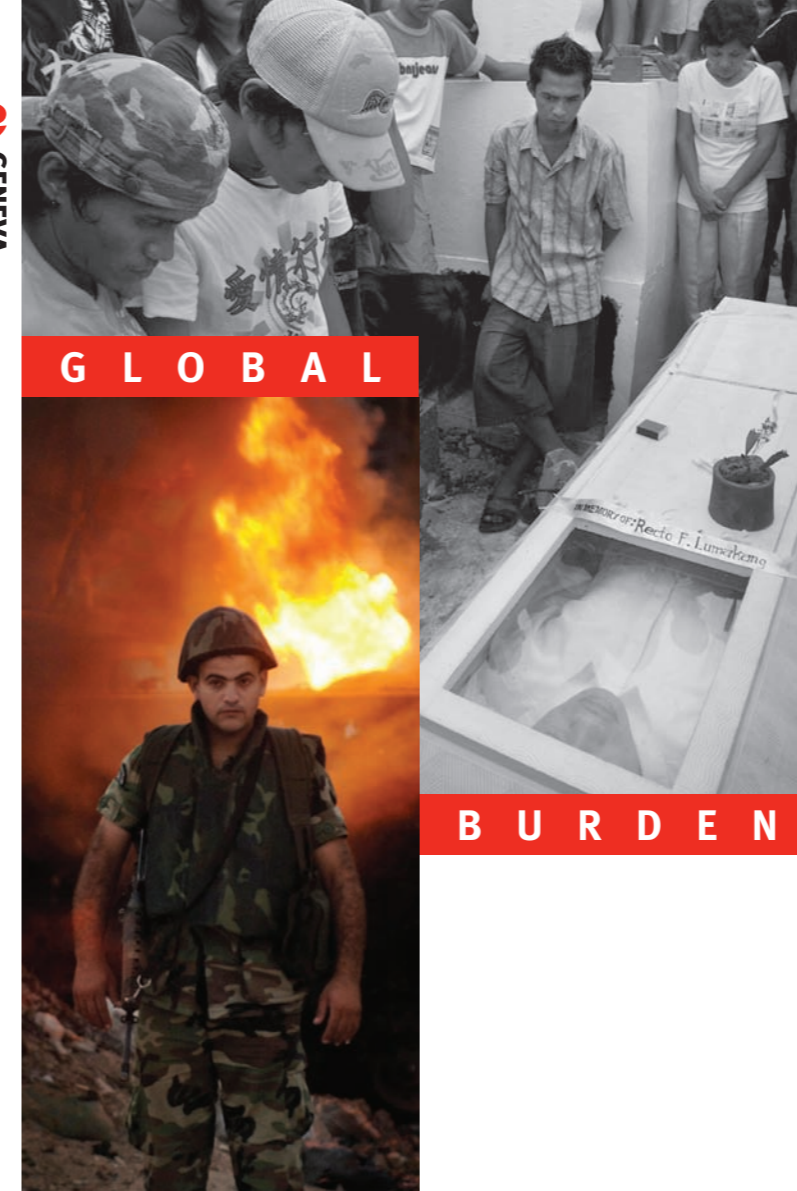


The *Global Burden of Armed Violence* report is the first comprehensive assessment of the scope of human tragedy resulting from violence around the world. More than 740,000 people die each year as a result of conflict-related and homicidal violence—a figure that should capture the attention of decision-makers and activists worldwide.

The report brings into focus the wide-ranging costs of war and crime on development and provides a solid evidence base to shape effective policy, programming, and advocacy to prevent and reduce armed violence. Drawing from diverse sources and approaches, chapters focus on conflict-related, post-conflict, and criminal armed violence, and on the enormous economic costs of armed violence. The report also highlights some of the less visible forms of armed violence, including sexual and gender-based violence, extrajudicial killings, kidnappings, and forced disappearances.

PHOTOS

- TOP LEFT:** Mourners at the funeral of a former gang member in Davao, the Philippines.
© Lucian Read/Small Arms Survey
- CENTRE LEFT:** A Lebanese soldier by a burning vehicle.
© Jeroen Oerlemans/Panos Pictures
- BOTTOM RIGHT:** Rwandan refugees at a camp in Tanzania, 1994.
© Karsten Thielker/AP Photo
- CENTRE RIGHT:** An Afghan woman photographed in her village near Kandahar, 2002.
© Danielle Bernier/DGPA/J5PA Combat Camera



of **ARMED**



G L O B A L

B U R D E N

o f A R M E D

V I O L E N C E



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Foreword

ARMED VIOLENCE AFFECTS all societies to different degrees, whether they are at war, in a post-conflict situation, or suffering from everyday forms of criminal or political violence. Armed violence stunts human, social, and economic development and erodes the social capital of communities.

The evidence assembled in the *Global Burden of Armed Violence* report, written by a team of experts coordinated by the Small Arms Survey for the Geneva Declaration on Armed Violence and Development, provides an overview of the incidence, severity, and distribution of different types of armed violence—in both conflict and non-conflict situations, from both large and small-scale violence, in criminally and politically motivated contexts. The report is an important step towards a better understanding of—and more effective responses to—the negative impact of armed violence.

The human toll of armed violence across various contexts is severe. In the recent past, at least 740,000 people have died directly or indirectly each year from armed violence. Armed violence also has a ripple effect throughout society, creating a climate of fear, distorting investment, disrupting markets, and closing schools, clinics, and roads.

This report also highlights the tremendous economic impact of armed violence. The cost of lost productivity from non-conflict or criminal violence alone is about USD 95 billion and may reach as

high as USD 163 billion per year. War-related violence decreases the annual growth of an average economy by around two per cent for many years.


These human and economic costs make armed violence a development issue and explain why the development community is increasingly motivated to promote its prevention and reduction. Together with members of the core group of the Geneva Declaration on Armed Violence and Development, signed on 7 June 2006 in Geneva, Switzerland recognizes that effective prevention and reduction of armed violence requires strong political commitment to enhance national and local data collection, develop evidence-based programmes, invest in personnel, and learn from good practice.

In moving in this direction the Geneva Declaration calls on all signatories to strengthen efforts to integrate strategies for armed violence reduction and conflict prevention into national, regional, and multilateral development plans and programmes. Such instruments commit countries to make good on their promises and to back these commitments with adequate resources and leadership.

Endorsed by more than 90 states, the Declaration argues that ‘living free from the threat of armed violence is a basic human need’ and sets out to make ‘measurable reductions in the global burden of armed violence’ by 2015. Signatories to the Geneva Declaration—including the Swiss Confederation—have accepted the responsibility

to make a serious and sustained effort to improving the safety and security of people and communities through armed violence prevention and reduction initiatives.

Achieving this goal will not be easy, but by working together as governments, local authorities, and civil society partners, we can reduce the global burden of armed violence. The *Global Burden*

of Armed Violence report provides important signposts that can help decision-makers and researchers move in the right direction. 



—**MICHELINE CALMY-REY**

Head of the Swiss Federal Department of Foreign Affairs



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NOTE TO READER: Cross-references to other chapters are indicated in capital letters in parentheses. For example, 'The number of battle deaths estimated in the preceding chapter for the DRC in the period 2004–07 is about 9,300 (DIRECT CONFLICT DEATH).'



About the Geneva Declaration

THE GENEVA DECLARATION on Armed Violence and Development, endorsed by more than 90 states, commits signatories to supporting initiatives to measure the human, social, and economic costs of armed violence, to assess risks and vulnerabilities, to evaluate the effectiveness of armed violence reduction programmes, and to disseminate knowledge of best practices. The Declaration calls upon states to achieve measurable reductions in the global burden of armed violence and tangible improvements in human

security by 2015. Core group members of the Geneva Declaration include Brazil, Guatemala, Finland, Indonesia, Kenya, Morocco, the Netherlands, Norway, the Philippines, Spain, Switzerland, Thailand, and the United Kingdom with support from the United Nations Development Programme (UNDP).

For more information about the Geneva Declaration, related activities, and publications, please visit www.genevadeclaration.org. 



Acknowledgements

MORE THAN 30 specialists from a dozen research institutes around the world contributed to the *Global Burden of Armed Violence* report (report, hereafter), making it a truly collective undertaking. The Secretariat of the Geneva Declaration on Armed Violence and Development was responsible for conceiving, researching, commissioning, and editing the report. The primary editors of the report are Keith Krause, Robert Muggah, and Achim Wennmann, all with the Small Arms Survey. They were supported by Katherine Aguirre Tobón, Jasna Lazarevic, and Ilona Szabó de Carvalho.

The report reflects the contributions of a wide range of institutional partners. Beginning in 2007, a series of consultations and workshops were held in Geneva to identify key indicators of armed violence, knowledge gaps, and methodological approaches. Important input was provided by Andrew Mack, Peter Batchelor, Theodore Leggett, Steven Malby, Irene Pavesi, Jennifer Milliken, and David Taglani. Critical feedback was also provided by Jean-François Cuénod, Paul Eavis, and David Atwood, as well as from core group members of the Geneva Declaration. Preliminary outputs were presented by the editors during the regional summits of the Geneva Declaration for Latin America in Guatemala, for Africa in Kenya, and for the Asia-Pacific region in Thailand. The editors are grateful for the valuable feedback gathered on these occasions.

Tania Inowlocki, the Small Arms Survey's publications manager, coordinated the production of the *Global Burden of Armed Violence*. Katherine Aguirre Tobón, Sarah Hoban, Jasna Lazarevic, and Tanya Rodriguez fact-checked the report; Alex Potter and Michael James served as copy-editors; Jillie Luff designed the maps; Alessandra Allen assisted with photo research; Richard Jones conceived of the design and provided the layout; and Donald Strachan proofread the book. Carole Touraine managed the finances for the project, and other staff of the Small Arms Survey provided various forms of support.

While the report represents a collective effort, the editors wish to recognize the following experts and institutions. We apologize to anyone who may have inadvertently been omitted.

Direct conflict deaths

Much has been written on the extent of direct conflict deaths, though uncertainty about its overall magnitude remains. Jorge Restrepo and Katherine Aguirre Tobón—and their collaborators, Juliana Márquez Zúñiga and Héctor Galindo, at the Centro de Recursos para el Análisis de Conflictos (CERAC) in Bogotá—made significant contributions in this area of research. They were commissioned to assess a combination of datasets in order to generate an estimate of the scale and distribution

of direct conflict deaths in selected countries, as well as a meta-review of direct conflict deaths. Feedback on preliminary chapter drafts was also provided by Richard Garfield from the World Health Organization (WHO) and Robin Coupland in his personal capacity.

Indirect conflict deaths

Recent surveys have stimulated debate and awareness on the way indirect deaths almost always exceed direct deaths in war zones. For this report, research on indirect conflict deaths was led by Debarati Guha-Sapir, Olivier Degomme, Chiara Altare, and Ruwan Ratnayake, all members of a team of epidemiologists at the Centre for Research on the Epidemiology of Disasters (CRED) in Brussels. On the basis of a systematic review of dozens of population-based surveys undertaken in conflict-affected countries, these experts established a series of estimates of the indirect costs of armed conflict. Their work was supported with case studies on mortality in Sierra Leone and South Sudan compiled by, among others, Catrien Bijleveld, Lotte Hoex, and Shanna Mehlbaum of the VU University Amsterdam. Jorge Restrepo and Olivier Degomme carried out critical research for the box on armed violence in Iraq. The editors thank Richard Garfield, Colin Mathers, and Alex Butchart at WHO, who also provided input into the estimates produced in this report.

Armed violence after war

Public health experts and humanitarian workers have long recognized that armed violence can actually escalate in the aftermath of war. Astri Suhrke and Torunn Wimpelmann Chaudhary from the Chr. Michelsen Institute in Norway provided

a critical contribution that formed the basis for the chapter on post-war armed violence. Astri Suhrke and Ingrid Samset also issued a critique of predictive models of war onset, while Simon Reich from the Ford Institute for Human Security at the University of Pittsburgh supplied evidence relating to the forms of armed violence faced by refugees and internally displaced persons. Richard Cincotta from the Long Range Analysis Unit of the National Intelligence Council in Washington, D.C., provided insight into the ‘youth bulge’ and the way patterns of demography can affect future trends in armed violence. Finally, Frances Stewart and Rachael Diprose from the Centre for Research on Inequality, Human Security and Ethnicity at Queen Elizabeth House, University of Oxford, offered insight into the relationships between horizontal inequality and armed violence.

Non-conflict armed violence

Although homicidal violence is one of the better indicators of the extent and global distribution of armed violence, disaggregated data and analysis are strikingly limited. The editors based this chapter on data from and the publications of the United Nations Office on Drugs and Crime, as well as other publicly available sources. This evidence base allowed for regional and subregional comparisons of homicide rates. Additional inputs were provided by CERAC and colleagues from WHO.

Economic costs of armed violence

The debate on the economic costs of armed violence tends to focus narrowly on war. Much less common are econometric assessments of homicidal or other forms of armed violence. Nevertheless, in either case, large-scale datasets tend to be

analysed to model the relationships between armed violence and gross domestic product (GDP) losses over time. The chapter on the economic costs of armed violence seeks to widen the lens and account for the multi-dimensional impacts. Carlos Bozzoli, Tilman Brück, Thorsten Drautzburg, and Simon Sottas at the Deutsches Institut für Wirtschaftsforschung in Berlin provided an overview of approaches to measuring the economic costs of armed violence. Likewise, James Putzel from the Crisis States Research Centre at the London School of Economics and Francisco Gutiérrez Sanín of the Instituto de Estudios Políticos y Relaciones Internacionales in Bogotá provided a background paper on the efficiency and distribution effects of armed violence. Jorge Restrepo, Brodie Ferguson, Juliana Márquez Zúñiga, Adriana Villamarín, Katherine Aguirre Tobón, and Andrés Mesa of CERAC established a robust estimate of the economic burden of conflict and criminal violence.

Armed violence against women

As a first step to generating a more nuanced understanding of what is and is not known about the gendered impacts of armed violence—particularly the implications for women and girls—Megan Bastick and Karin Grimm from the Centre for the Democratic Control of Armed Forces and Jasna Lazarevic from the Small Arms Survey were tasked with reviewing the state of the art on the issue. Rahel Kunz from the University of Lucerne helped integrate the various contributions into the chapter and ensured that the gender dimensions of armed violence were underscored throughout the report.

Other forms of armed violence

The chapter on other forms of armed violence combines a number of disparate strands. Thanks

are extended to Dennis Rodgers from Manchester University, together with Chris Stevenson and Robert Muggah from the Small Arms Survey for contributing with their work on gangs. The section on extrajudicial killings and enforced disappearances is based on a background study prepared by Sabine Saliba. Eric Mongelard of the Special Procedures Branch of the Office of the High Commissioner for Human Rights (OHCHR), as well as Claudia de la Fuente of the OHCHR's Working Group on Enforced or Involuntary Disappearances, provided valuable comments. David Cingranelli of Binghamton University and David L. Richards from the University of Memphis kindly facilitated the use of material from the Cingranelli-Richards Human Rights Data Project. Control Risks, a private risk consultancy firm, provided generous insight into their data on kidnap for ransom cases and we thank Lara Symons for facilitating this contribution. Finally, Larissa Fast from the Kroc Institute for International Peace Studies at the University of Notre Dame and Elizabeth Rowley of Johns Hopkins Bloomberg School of Public Health in Baltimore contributed new findings on global trends in aid worker victimization.

Finally, thanks must be extended to the participants in the Geneva Declaration core group. Under the guidance of its chair, Ambassador Thomas Greminger from the Swiss Federal Department of Foreign Affairs, the core group provided strategic guidance for the report. Together with Anna Ifkovits-Horner, Elisabeth Gilgen, and Ronald Dreyer, the contribution of Switzerland in particular must be specially recognized. It should be recalled that the report is an independent contribution to the Geneva Declaration on Armed Violence and Development and does not necessarily reflect the views of the Government of Switzerland or the states signatories of the Geneva Declaration. While the report is a collective effort, the editors are responsible for any errors and omissions of fact or judgment. 



Executive Summary

ARMED VIOLENCE IMPOSES a tremendous human and economic burden on individuals, families, and communities. More than 740,000 people die each year as a result of the violence associated with armed conflicts and large- and small-scale criminality. The majority of these deaths—as many as 490,000—occur outside war zones. This figure shows that war is only one of many forms of armed violence, and in most regions not the most important one.

Armed violence is spread across age groups but affects certain groups and regions disproportionately. It is the fourth leading cause of death for persons between the ages of 15 and 44 worldwide. In more than 40 countries, it is one of the top ten causes of death. In Latin America and Africa, armed violence is the seventh and ninth leading cause of death, respectively (Peden, McGee, and Krug, 2002; WHO, 2008b).¹ Yet certain demographic groups (especially young men) and geographic regions are much more affected than others. The full dimensions of armed violence are often invisible unless they are closely monitored and analysed.

Beyond the chilling calculus of deaths, armed violence imposes huge human, social, and economic costs on states and societies. An untold number of people each year are injured—often suffering permanent disabilities—and many live with profound psychological as well as physical scars.² The damaging effects of armed violence include such things as physical and mental disabili-

ties, brain and internal organ injuries, bruises and scalds, chronic pain syndrome, and a range of sexual and reproductive health problems (WHO, 2008a).

Armed violence also corrodes the social fabric of communities, sows fear and insecurity, destroys human and social capital, and undermines development investments and aid effectiveness. The death and destruction of war—which ebbs and flows from year to year and is concentrated in a few countries—reduces gross domestic product (GDP) growth by more than two per cent annually, with effects lingering many years after the fighting ends. The economic cost—in terms of lost productivity—of non-conflict armed violence (large- and small-scale criminal and political violence) is USD 95 billion and could reach up to USD 163 billion annually worldwide.

Undertaking research and gathering data on armed violence is difficult and often controversial. Violence has political implications (even when the violence itself may not be politicized) and is seldom random. Different groups often have an interest in understating or concealing the scope of lethal armed violence, making the collection of reliable data and impartial analysis particularly challenging.

The promotion of effective and practical measures to reduce armed violence nevertheless depends on the development of reliable information and analysis of its causes and consequences. The *Global Burden of Armed Violence* report draws on a wide variety of sources and datasets to provide

a comprehensive picture of the worldwide scope, scale, and effects of armed violence. It contributes to the generation of a broader evidence base on the links between armed violence and development and is part of the process of implementing the Geneva Declaration on Armed Violence and Development.

Dimensions of armed violence

For the purposes of this report, armed violence is

the intentional use of illegitimate force (actual or threatened) with arms or explosives, against a person, group, community, or state, that undermines people-centred security and/or sustainable development.

This definition covers many acts, ranging from the large-scale violence associated with conflict and war to inter-communal and collective violence, organized criminal and economically motivated violence, political violence by different actors or groups competing for power, and inter-personal and gender-based violence.³

This report provides cross-regional and international comparisons of some of the most dramatic consequences of armed violence: direct conflict deaths, indirect conflict deaths, post-conflict mortality, and non-conflict deaths such as homicide, disappearances, kidnappings, and aid worker killings. These forms of armed violence are usually the best documented, and as leading indicators can provide a good basis for understanding the scope and distribution of armed violence around the world and for exploring other, less prominent dimensions of armed violence.

The report also explores in a separate chapter the less-visible forms of violence against women, and where possible considers the gendered

dimension of the most prominent forms of armed violence. While the overwhelming majority of victims (and perpetrators) of armed violence are men, there are gender-specific forms of violence that warrant greater analysis and that are poorly documented.

Key findings of the report are that:

- more than 740,000 people have died directly or indirectly from armed violence—both conflict and criminal violence—every year in recent years.
- more than 540,000 of these deaths are violent, with the vast majority occurring in non-conflict settings.
- at least 200,000 people—and perhaps many thousands more—have died each year in conflict zones from non-violent causes (such as malnutrition, dysentery, or other easily preventable diseases) that resulted from the effects of war on populations.
- between 2004 and 2007, at least 208,300 violent deaths were recorded in armed conflicts—an average of 52,000 people killed per year. This is a conservative estimate including only *recorded* deaths: the real total may be much higher.
- the annual economic cost of armed violence in non-conflict settings, in terms of lost productivity due to violent deaths, is USD 95 billion and could reach as high as USD 163 billion—0.14 per cent of the annual global GDP.

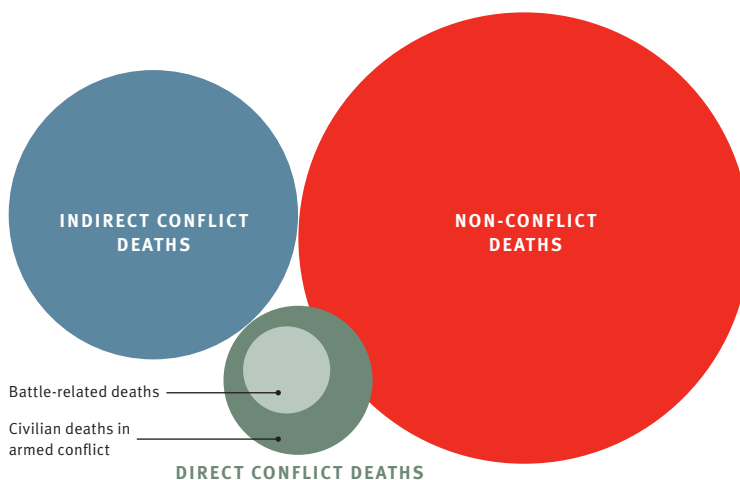
These figures, which are explained in detail in different chapters in this report, underscore that violent deaths in non-conflict settings and indirect deaths in armed conflicts comprise a much larger proportion of the global burden of armed violence than the number of people dying violently in contemporary wars.

Figure 1 captures graphically the distribution of the different categories of deaths within the global burden of armed violence. The small green circles illustrate the direct burden of *violent* death in conflict, including both civilians and combatants. It represents roughly seven per cent of the total global burden. The larger blue circle represents the *indirect deaths* from violent conflict—some 27 per cent of the total. And violent deaths in *non-conflict* settings—490,000 per year—represent two-thirds (66 per cent) of the total.⁴ Beyond this lie the untold number of physically injured or psychologically harmed people who also bear part of the global burden of armed violence.

Traditionally, these various manifestations of armed violence have been treated separately, as if their underlying causes and dynamics were fundamentally different. Yet the changing nature of armed violence—including the rise of economically motivated wars, the blurring of the line between political and non-political violence, the growth of trans-national criminal gangs, the expansion of non-state armed groups, and persistently high levels of insecurity in most post-conflict situations—makes drawing clear distinctions between different forms of armed violence practically and analytically impossible.

Continuing to treat these different forms of armed violence separately also impedes the development of coherent and comprehensive violence prevention and reduction policies at the international and local level. Since one goal of the *Global Burden of Armed Violence* report is to promote a better understanding of the negative impact of armed violence on human, social, and economic development, it is critical to adopt the broader lens of *armed violence* rather than focusing on only one of its many manifestations.

FIGURE 1 Categories of deaths



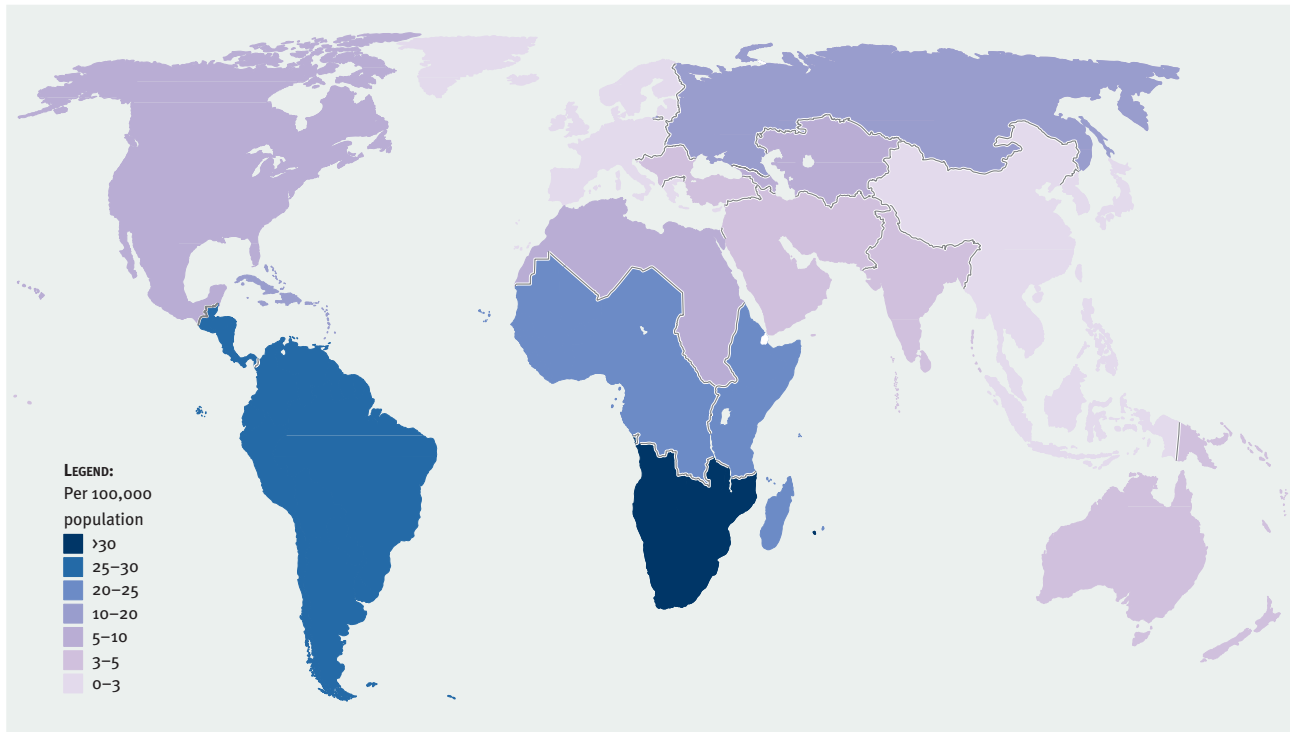
The report also presents the geographic distribution and concentration of different forms of armed violence. Conflict-related deaths, which appear to have increased since 2005, are highly concentrated: three-quarters of all reported direct conflict deaths took place in just ten countries. Ending the armed conflicts in Afghanistan, Iraq, Pakistan, Somalia, and Sri Lanka in 2007 would have reduced the total number of direct conflict deaths by more than two-thirds. And within countries, armed violence is usually concentrated in certain municipalities or regions, while other areas may be relatively untouched.

Most international attention focuses on the numbers of recorded violent deaths in conflicts. While such data potentially helps decision-makers and analysts assess the intensity of a war and its evolution over time, these relatively low figures (in the tens of thousands) obscure the larger burden of mortality arising from indirect deaths in

armed conflicts. A *minimum* estimate is that an average of 200,000 people have died annually in recent years as indirect victims during and immediately following recent wars. Most of these people, including women, children, and the infirm, died of largely preventable illnesses and communicable diseases. Yet they are every bit as much victims of armed violence as those who die violently, and an adequate accounting of the victims of war has to include these indirect deaths. The scale of indirect deaths depends in part on the duration and intensity of the war, relative access to basic care and services, and the effectiveness of humanitarian relief efforts.

The ratio of people killed in war to those dying indirectly because of a conflict is explored in the chapter on indirect deaths (INDIRECT CONFLICT DEATHS). Studies show that between three and 15 times as many people die indirectly for every person who dies violently. In the most dramatic cases, such as the Democratic Republic of the Congo, up to 400,000 excess deaths *per year* have been estimated since 2002, many of which resulted indirectly from war. Consequently, this report's estimate of a global average of 200,000 indirect conflict deaths per year should be taken as a conservative figure.

MAP 4.1 Homicide rates per 100,000 population, by subregion, 2004



NOTE: The boundaries and designations used on this map do not imply endorsement or acceptance.

SOURCE: UN Office on Drugs and Crime (UNODC) estimates

This report also finds that the aftermath of war does not necessarily bring a dramatic reduction in armed violence (ARMED VIOLENCE AFTER WAR). In certain circumstances, post-conflict societies have experienced rates of armed violence that exceed those of the conflicts that preceded them. They also exhibit a 20–25 per cent risk of relapsing into war. So long as such countries must contend with high youth bulges (exceeding 60 per cent of the total population), soaring rates of unemployment, and protracted displacement, the risks of renewed armed conflict remain high.

The majority of violent deaths occur in non-war situations, as the result of small or large-scale criminally or politically motivated armed violence (NON-CONFLICT ARMED VIOLENCE). More than 490,000 homicides occurred in 2004 alone. This represents twice the total number of people who die directly and indirectly in armed conflicts. As violent as wars can be, more people die in ‘everyday’—and sometimes intense—armed violence around the world than in armed conflicts. Map 4.1 (presented in Chapter 4) illustrates the distribution of conflict and non-conflict armed violence, expressed as the number of homicides per 100,000 persons.

The geographic and demographic dimensions of non-conflict armed violence are significant. Sub-Saharan Africa and Central and South America are the most seriously affected by armed violence, experiencing homicide rates of more than 20 per 100,000 per year, compared to the global average of 7.6 per 100,000 population. Countries in Southern Africa, Central America, and South America—including Colombia, El Salvador, Guatemala, Jamaica, South Africa, and Venezuela—report among the highest recorded rates of violent death in the world, ranging from 37 (Venezuela) to 59 (El Salvador) per 100,000 in 2005, as reported by official police statistics.⁵



The weapon matters. As much as 60 per cent of all homicides are committed with firearms—ranging from a high of 77 per cent in Central America to a low of 19 per cent in Western Europe. And there is a gendered component to armed violence: although most victims are men, the killing of women varies by region: in ‘high-violence’ countries, women generally account for about 10 per cent of the victims, while they represent up to 30 per cent in ‘low-violence’ countries. This suggests that intimate partner violence does not necessarily rise and fall with other forms of armed violence, and may not decline as other forms of armed violence are reduced.

PHOTO ▲ A policeman carries a child away during a gun battle in Tijuana, Mexico, 2008.
© Jorge Duenes/Reuters

There are a host of other forms of armed violence that, while largely invisible, undermine the real and perceived security of people around the world. In some regions, the state (or state agents) commit or are implicated in acts of armed violence. At least 30 states register more than 50 reported extrajudicial killings per year. Forced disappearances occur ‘frequently’ in more than a dozen countries and ‘occasionally’ in 20 others. And kidnap-for-ransom is a growing phenomenon with approximately 1,425 cases reported in 2007 in Latin America, Asia, Africa, and the Middle East.

Armed violence embodies literally thousands of inter-connected events that generate negative consequences across societies and at multiple levels. It can result in the destruction of human and physical capital and opportunity costs, and its economic consequences are often felt hardest by the poorest and most vulnerable. The economic costs of armed violence in both conflict and non-conflict settings, and the negative impact on

development, are considerable. Using contingency valuation approaches, the global cost of insecurity generated by armed violence every year amounts to roughly USD 70 per person, or a global annual burden of USD 400 billion.

Preventing and reducing armed violence

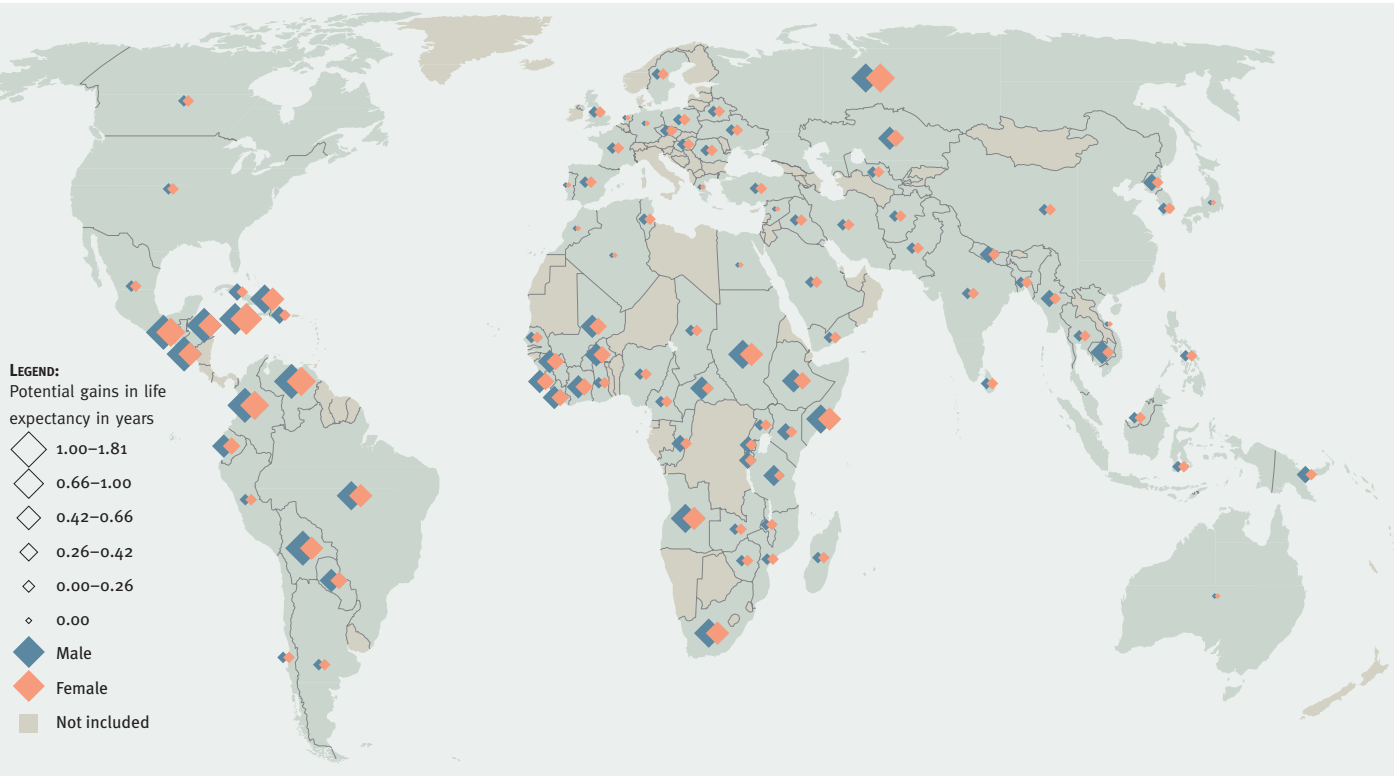
Armed violence is preventable. Moreover, early interventions to save lives can significantly reduce the overall burden of armed violence. Map 5.1 (presented in Chapter 5) reveals the significant gains in life expectancy that could be realized—more than one year for men in many Central and South American countries. Although this report does not focus on concrete strategies to reduce armed violence, it points towards a number of entry-points for promoting armed violence prevention and reduction (WHO, 2008a). Grounded in up-to-date data and research, it also documents how a failure to address armed violence can impede development and economic growth. At a minimum, the report should help international aid donors and practitioners, government officials, and civil society actors recognize that promoting safety and security is central to human, social, and economic development.

At a practical level, it is critical that relevant national and international agencies enhance their regular and routine monitoring of armed violence trends. This entails making serious investments in mechanisms to measure real and perceived risks and impacts of armed violence, and drawing on social science and public health methods to quantify the effectiveness of armed violence prevention and reduction programmes. Reinforcing international, national, and local data collection and surveillance is an essential first step to planning effective interventions,

PHOTO ▼ People stand at the scene of a car bomb in the Campsara district of Baghdad, 2008.
© Moises Saman/Panos Pictures



MAP 5.1 Potential gains in life expectancy in years in the absence of non-conflict armed violence, by country, 2004




SOURCE: CERAC

identifying priorities, evaluating activities, and saving lives.

Investing in armed violence prevention and reduction will also mean supporting and reinforcing the capacity of public and private actors to design, execute, and monitor interventions. It requires developing a sophisticated understanding of local conditions and concerns through surveys and other participatory research methods. It demands recognizing that armed violence has multiple and often interacting causes, and does not ebb and flow in a simple linear fashion. Finally, it requires protecting the safety and security of humanitarian

and development personnel—many of whom are killed in the line of duty. As this report observes, the violent death rate for aid workers is roughly 60 per 100,000, a disturbing reminder of the acute risks facing humanitarian workers around the world.

This *Global Burden of Armed Violence* report is only the first step towards the implementation of an international armed violence prevention and reduction agenda. This report highlights the importance of developing and enhancing the evidence base—identifying who is vulnerable, from what forms of armed violence, committed by whom,

and under what circumstances—as a critical step towards achieving measurable reductions in the global burden of armed violence and tangible improvements in human security worldwide. 

Endnotes

- 1 The figures are from the WHO Global Burden of Death database and are calculated by adding the categories of inter-personal violence and deaths from war injuries. Armed violence is overall the 18th leading cause of death worldwide.
- 2 According to the World Health Organization (WHO), approximately ten times more people are injured than killed by violence (WHO, 2008a, p. 4).
- 3 This definition does *not* include self-directed violence (suicide). The WHO estimates that self-directed violence accounts for even more deaths than conflict or homicidal violence (WHO, 2008a, p. 1). Its estimate of 1.6 million deaths from violence includes suicide (54 per cent of the total), and is thus broadly consistent with the figures presented here. The definition also is meant to focus on the physical use of violence, and to exclude such concepts as structural, cultural, and psychological violence.
- 4 Overlap between the red and green circles represents the possibility of double-counting some conflict deaths in homicide statistics (NON-CONFLICT ARMED VIOLENCE).
- 5 Figures are from national police sources. See: http://www.derechos.org.ve/publicaciones/infannual/2005_06/pdf/seguridadciudadana.pdf (Venezuela); <http://www.fgr.gob.sv/estadisticas/homicidios2005.pdf> (El Salvador); www.saps.gov.za/statistics/reports/crimestats/2007/_pdf/category/murder.pdf (South Africa); <http://www.undp.org.gt/data/publicacion/Informe%20Estad%C3%ADstico%20de%20la%20Violencia%20en%20Guatemala%20final.pdf> (Guatemala); CNP (n.d.).



ARMED CONFLICT DESTROYS lives and livelihoods. Notwithstanding the appalling human costs of protracted conflict-related violence in countries such as Iraq, Afghanistan, or Sudan, however, the total number of people dying violently during conflict is relatively low in comparison to those dying indirectly from armed conflict. The rate at which people experience violent deaths in war is also low compared to violent death rates in many countries that are not affected by armed conflict. The average annual number of direct conflict deaths in recent years is likely between 10 and 20 per cent of those violently killed in ostensibly non-conflict environments.

Establishing credible estimates of direct conflict deaths is central to effective strategic and public health planning. It is also crucial for promoting meaningful reconciliation of war-torn societies and for reparations and other forms of transitional justice. In spite of considerable efforts devoted to understanding the global, regional, and national distribution of direct conflict deaths, there are still fundamental disagreements over basic estimates, trends, and methods used to count the dead. In order to build awareness of the scope and scale of direct conflict deaths, it is critical to understand how such figures are determined and assessed.

This chapter provides a unique comparative analysis of several global and national conflict datasets. Most comparative national datasets are based on what is called ‘incident reporting’,

i.e. the monitoring of authoritative media, governmental, and non-governmental reports in order to document the numbers of combatants reported to have died in battle. This approach often yields reasonably good, but incomplete, information on conflict dynamics and patterns of victimization. It is limited because incident reporting seldom captures all violent conflict deaths, especially in places where access for journalists and humanitarian workers is restricted. One way of circumventing incomplete reporting is to integrate several datasets and consolidate estimates in order to issue a more complete figure.

Direct conflict deaths are highly concentrated, with the top ten deadliest conflicts accounting for more than three-quarters of the global burden of violent mortality in war.¹ The chapter derives its estimates on the basis of a review of more than 19 comparative and national datasets and reports. Specifically, the chapter finds the following:

- At least 52,000 direct conflict deaths were recorded on average every year between 2004 and 2007, although the real direct conflict death toll is likely much higher.
- While the overall figures are low in historical terms, direct conflict deaths increased from 42,500 to 63,900 between 2005 and 2007, due principally to wars in Iraq, Afghanistan, Somalia, Sri Lanka, and Sudan.
- The conflicts in Afghanistan, Iraq, Pakistan, Somalia, and Sri Lanka accounted for two-

thirds of the global burden of direct conflict death in 2007.

- The direct conflict death rate in war-affected countries is approximately 2.0 per 100,000 population, while the worldwide homicide rate is 7.6 per 100,000 population.²
- In 2007 the risk of dying violently from warfare was highest in Iraq (78.5 per 100,000 population) and Somalia (74.2 per 100,000 population).
- More people were violently killed as a result of international and internationalized conflict³ than due to intrastate conflict in 2006 and

PHOTO ▼ A crowd looks at the body of a Taliban soldier in Kunduz, northern Afghanistan, 2001. © Dusan Vranic/AP Photo



2007.⁴ This is principally due to the wars in Iraq and Afghanistan.

- Fewer than two per cent of all direct conflict deaths can be attributed to international terrorism for 2004–07.

This chapter first reviews the evolution of policy and academic research on armed conflict and the estimation of combatant and civilian violent deaths. Drawing on eight specific conflict mortality datasets, the next section presents conflict death estimates at the global, regional, and national levels. The third section reviews the associated risks of dying violently during armed conflict. The conclusion highlights a selection of next steps for research and policy on preventing and reducing conflict deaths. A discussion of the methodology is provided in an online methodological appendix.⁵

A short history of estimates of direct conflict deaths

Policy-makers and military planners have long been preoccupied with understanding the effects of armed conflict on military personnel and civilians. With the expanding reach of international humanitarian and human rights law in the late 19th and 20th centuries, war makers sought to minimize so-called ‘collateral damage’ by adjusting tactics, techniques, and reporting on armed conflict. Attempts to quantify the human costs of war expanded in breadth and sophistication in the latter decades of the 20th century.

At least four distinct approaches to documenting the incidence of conflict deaths are now widely in use (detailed in Box 1.1). At the outset, an emphasis was placed on so-called documentation-based

approaches that featured cross-national datasets drawing on ‘event data’ or ‘incident reporting’ of specific conflict events. Information was typically gathered from historical accounts and news reports. The assumption was that by analysing the main correlates of armed conflict, it might be possible to predict their onset and intervene to prevent or reduce them (Richardson and Wright, 1960). From the 1960s onwards, increasingly sophisticated computer software packages capable of selecting events from large collections of media information began to emerge. But it was not until the 1970s and 1980s that systematic datasets emerged that could be readily subjected to analysis. For example, the Correlates of War (COW) project at the University of Michigan was one of the first of its kind to systematically collect and analyse data on armed conflict (Sarkees, 2000; Singer, 1979; Vasquez, 1987).

There are many international conflict datasets that feature different numbers of countries and

varying methodological approaches to gathering data. A small number of these databases offer country- and conflict-specific information that can be used to calculate annual figures on direct conflict deaths. The most prominent of these include the Uppsala Conflict Data Programme (UCDP) and databases of the International Peace Research Institute in Oslo (PRIO), the Political Instability Task Force database of the Center for Systemic Peace of the University of Maryland, and the International Institute for Strategic Studies (IISS) conflict dataset in London. In recent years, the public health and humanitarian communities have also started to measure direct conflict deaths on the basis of population health surveys (WHO, forthcoming; 2004).

Reconciling different datasets and methodological approaches is difficult, but feasible. There are still serious debates over the definition of ‘conflict’ and different rules for counting events and casualties. For example, the original COW threshold

Box 1.1 Methods to estimate direct conflict deaths

The most common form of estimating direct conflict deaths is incident reporting. The effectiveness of this approach—of which the Iraq Body Count is arguably the most prominent example today⁶—depends significantly on the quality of available documentation. The robustness of the data is therefore a function of the effectiveness of media coverage and official and NGO reporting.⁷

Other approaches such as victimization or epidemiological surveys rely on statistical techniques to assess the true level of direct (and indirect) conflict deaths. Likewise, demographic methods are also used to assess the size of populations ‘lost’ during war. Multiple systems estimation techniques seek to estimate the true number of people affected, based on several overlapping and incomplete data sources (Small Arms Survey, 2005, pp. 240–41).

Incident reporting tabulates conflict-related events selected from news and NGO data, but also other information derived from morgues and hospitals. These are then coded and entered into

databases in order to track temporal and spatial trends. The relatively recent availability of global news databases, such as Factiva or LexisNexis, facilitates the capture of incidents and associated deaths in a wide number of war zones. Moreover, the sophistication of incident reporting has increased in concert with so-called ‘parsing programmes’ that permit the electronic selection of news stories and events. Incident reporting provides estimates based on traceable events, useful for monitoring purposes and for building legal cases to prosecute perpetrators of war crimes (Small Arms Survey, 2005, pp. 233–39).

Incident reporting suffers from intrinsic limitations and frequently undercounts the true magnitude of conflict deaths. The phenomenon of armed violence makes data collection risky and contributes to the deterioration or destruction of population surveillance and monitoring systems. Since high rates of war-related mortality tend to occur in dangerous areas where eyewitnesses are less likely to be present, under-reporting is common. In some contexts, the level of coverage is sparse or data is censored. **Factions taking part ▶▶**

in an armed conflict are also likely to apply political pressure to distort information and encourage under-reporting in order to minimize the scale of fighting and human suffering. In Peru, for example, more than half of the 69,000 conflict deaths between 1980 and 2000 were *not* recorded in the press or other accounts.

Victimization surveys can also measure the magnitude and distribution of particular forms of conflict mortality. They tend to involve so-called ‘verbal autopsies’ in which a random or semi-random sample of the population is interviewed about experiences of violence. Estimates are generated on the basis of probabilistic sampling and are usually adjusted using different weighting systems that account for gaps in coverage and reporting biases.

Victimization surveys have the advantage of providing a rapid estimate of the overall level and distribution of real and perceived armed violence at a relatively low cost. But they are frequently difficult to administer due to safety concerns and logistical challenges. Also, respondents frequently give varying accounts of death and victimization that, if not properly accounted for, can unintentionally undermine the quality of the data.

Multiple systems estimations (MSEs) are widely used in the natural sciences to estimate the magnitude and changes of wildlife populations. Also described as ‘capture-recapture’, they were pioneered by Patrick Ball to estimate the level of human rights violations in a given war zone, particularly in situations where information is highly dispersed and coverage is partial (Ball et al., 2003; Small Arms Survey, 2005, p. 240). MSEs have been attempted in Guatemala, Timor-Leste, Bosnia and Herzegovina, Colombia, and Peru, among other places. Taken together, they suggest that documentation-based approaches to reporting often greatly underestimate direct conflict deaths. But MSEs are also difficult to undertake: not only

must they be extremely sensitive to the victims and their families, but they require a minimum of two sources of data with properly matched names in order to estimate an overall burden of direct conflict deaths.

Epidemiological surveys were originally developed to gauge the real incidence and likely direction of disease in a specific population. More recently, epidemiological surveys have been employed in armed conflicts in order to estimate the number of deaths arising from both direct and indirect conflict-related causes (INDIRECT CONFLICT DEATHS). As with victimization surveys, epidemiological surveys are difficult to administer in areas that lack detailed demographic information. Without so-called denominator data, it is extremely difficult to make reliable projections from a small sample of the population to the national level. Equally, the quality of the resulting estimate depends on how carefully the sample is drawn from the population, the questionnaire and research methods used, and how surveyors or enumerators are trained and conduct the survey.

Policy-makers and practitioners are often confused by the bewildering range of estimates of conflict deaths in war zones around the world. Indeed, even a cursory review of the literature indicates that MSE approaches and victimization or epidemiological surveys regularly record higher levels of conflict deaths than incident reporting. For example, depending on the database and methodologies used, estimates of direct conflict deaths arising during the 1999 conflict in Kosovo range from 2,000 to 12,000 (Small Arms Survey, 2005, pp. 241–42). Such discrepancies have led to serious and sometimes acrimonious debates between policy-makers and researchers, and even within academia. This chapter shows that different estimation techniques can and should be regarded as complementary, so long as their limitations and strengths are clearly understood.

for ‘war’ (and therefore for direct conflict deaths) included those situations in which at least 1,000 battle deaths occurred per year. Over time, the threshold was lowered to 25 battle deaths per year for the UCDP dataset to account for lower intensity, but no less important, ‘armed conflicts’ (Eriksson et al., 2002, p. 617).⁸ In one sense, these debates mirror the changing nature of armed disputes from classic interstate ‘warfare’ between states to the broader category of ‘armed conflict’. This latter category accounts for intrastate con-

licts of varying intensities between a state and non-state actors or among competing armed groups.

Likewise, restrictive rules that count only ‘state-related battle deaths’ can reduce estimates of the overall burden of direct conflict deaths. As the situations in Colombia, Iraq, Sri Lanka, and Afghanistan suggest, paramilitary and militia forces are often aligned with the state and can be among the most potent perpetrators of armed violence. Equally, as many intrastate wars in Africa remind

us, non-state and intercommunal armed violence in wartime are often significant contributors to the overall burden of direct conflict deaths.

While disagreements persist, there appears to be a consensus that the level of direct conflict deaths in contemporary armed conflicts is relatively low when compared to the estimated 5.4–10 million battle-related deaths occurring between 1955 and 2002 (Obermeyer et al., 2008; PITF, 2008). According to researchers Nils Petter Gleditsch and Bethany Lacina, for example, more than half of these violent deaths occurred in Vietnam, Korea, the Chinese civil war, the Iran–Iraq war, and Afghanistan (Gleditsch and Lacina, 2005, pp. 154–55).⁹ Another estimate holds that 18–25 million civilians died in civil, international, and colonial wars between 1945 and 2000 (Huth and Valentino, 2008, p. 79).

The logistical challenges in selecting and coding data on low-intensity events in a large number of countries with different languages, uneven press coverage, and variable reporting rates are formidable. Nevertheless, the expansion of data generation and analysis over the past decade has enhanced the evidence base on which an understanding of the magnitude and distribution of direct conflict deaths may be based. As the next section demonstrates, a composite analysis of multiple datasets can generate a more reliable and consolidated estimate.

Measuring the global burden of direct conflict deaths

This section proposes an estimate of direct conflict deaths for 2004–07 based on a new meta-database established for the *Global Burden of Armed Violence* (GBAV) report.¹⁰ The estimate draws on a combination of conflict databases, national datasets, and studies that capture direct

Box 1.2 Using population surveys to estimate direct conflict deaths

There are a wide number of competing estimates of the global burden of violent war deaths since the 1950s. A recent article in the *British Medical Journal* disputes the claim, advanced by the Human Security Report Project (Human Security Centre, 2006, p. 8), that direct conflict deaths have steadily declined to an average annual figure of 15,000–20,000 since the Second World War (Obermeyer et al., 2008). By offering alternative methods— notably, population-based surveys focusing on sibling mortality and administered by the World Health Organization—Obermeyer et al. estimate that at least twice as many people are directly killed as a result of war than reported in the *Human Security Report 2005*.

Overall, population-based surveys routinely estimate many times more violent deaths than do incident-reporting techniques. For example, Obermeyer et al. find that an estimated 5.4 million people (3–8.7 million with a 95 per cent confidence interval) were killed in just 13 countries from 1955 to 2002. The spread between countries was large, with the cumulative direct death toll ranging from 7,000 in the Republic of the Congo to 3.8 million in Vietnam. The average between 1995 and 2002 was 36,000 deaths per year—a decline on the previous two decades, but nevertheless rising in the last few years (Obermeyer et al., 2008).¹³

Household population surveys routinely offer a more reliable estimate of direct conflict deaths than other methods, including incident reporting, rapid epidemiological surveys, and demographic assessments. Few researchers dispute the claim that robust population-based surveys are the best route to determining the scale and distribution of conflict deaths.

Undertaking high-quality population surveys in conflict zones is extremely difficult. As a result, there may not be enough high-quality surveys on which to base global estimates. The analysis presented by Obermeyer et al. (2008) generalizes global trends from a modest sample of just 13 studies¹⁴ and also features extremely wide confidence intervals. It should be recalled that undercounting varies greatly between and within conflicts, and that certain countries register excessively high numbers of ‘war dead’ (Garfield, 2008). Greater investment in surveys and surveillance in war zones is therefore especially critical.

conflict death using incident-reporting methods. A comparative analysis of multiple datasets and the establishment of ranges for direct conflict deaths potentially provide a more complete picture of direct conflict deaths than a narrower focus on a single dataset.

The GBAV database on direct conflict death analysed 19 cross-country databases¹¹ capturing information on 141 conflict-affected countries since 2000. Eight of these databases include sufficient information from the period 2004–07 and were used in generating a global estimate. These include:

- IISS, *Armed Conflict Database*, for data covering the period 2004–07 (IISS, 2008);
- *UCDP Battle-Deaths Dataset, v.4.1*, covering 2004–05 (UCDP, 2006b);¹²
- *UCDP Non-State Conflict Dataset, v.1.1*, covering 2004–05 (UCDP, 2006a);

PHOTO ▼ An Iraqi boy runs past a car, just as it explodes in front of al-Nahdha High School, Baghdad, 2005.
© Ali Jasim/Reuters



- *UCDP One-Sided Violence Dataset, v.1.2*, covering 2004–05 (UCDP, 2006c);¹⁵
- *SIPRI Yearbook 2007*, covering 2006 (SIPRI, 2007);
- Political Instability Task Force database, covering 2004–06 (PITF, 2006);
- Project Ploughshares, *Armed Conflicts Report*, covering 2004–07 (Project Ploughshares, 2007); and
- PRIO, *Battle-Deaths Data, v.2.0*, covering 2004–05 (PRIO, 2008).

In 22 cases, data from country-specific databases was used to complement figures from cross-country datasets. While these datasets have somewhat different definitions and methodologies, it is possible to compare and integrate them into a homogeneous measure centred on the threat to human life arising from conflict-related violence. The differences in the figures reported by different databases are linked to different methods and definitions, but careful comparison allows a wider range of estimates to be used.¹⁶

The analysis covered conflicts between 2004 and 2007, revealing that 41 armed conflicts accounted for some 98 per cent of all direct conflict deaths.¹⁷ Cases selected for the meta-database conformed to the following three criteria:

- the conflict-affected country appeared in at least 7 of the 19 databases;¹⁸
- at least one of the eight databases reported more than 100 deaths in one year; and
- the conflict was ongoing, and at least one death occurred in 2007.¹⁹

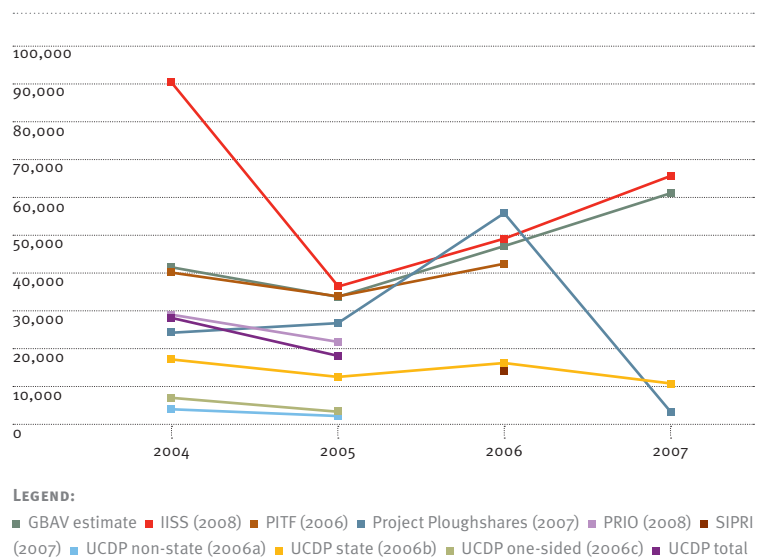
A comparative analysis of direct conflict deaths allows for the identification of differences across databases that are due to varying capturing tech-

niques and inclusion requirements (see Figure 1.1). In most cases, the differences between datasets are related to the over- or non-counting of a particular conflict. The (unusually) high direct death toll reported by IISS in 2004, for example, is due to an estimate of 50,000 conflict deaths in Darfur, which are not reported by other databases. The high figure reported by Project Ploughshares in 2006 is determined by an Iraq estimate that is higher in comparison to other databases. In 2007 Ploughshares records a massive decrease in direct conflict deaths, however, because it does not capture estimates for several large conflicts (Iraq and Colombia). These examples illustrate how a comparative analysis of datasets allows for cross-checking and the identification of outliers that may over- and undercount direct conflict deaths.²⁰

A comparative analysis also allows for the verification of direct conflict death trends over time. The similarity in trends across databases is striking for 2004 and 2005, although it is possible to observe differences in levels across the databases (see Figure 1.1). The similarities, however, do not apply to the period 2005–07, where large differences are observable among databases. These are mainly due to outliers or omissions of major conflicts; nevertheless, a comparative analysis calls into question the declines in conflict deaths reported in certain sources that typically rely on a single database (Human Security Report Project, 2008, pp. 6, 33–34).

Another advantage is that the creation of point estimates provides a more comprehensive understanding of the magnitude of armed conflict deaths. Due to its comparative nature, the GBAV estimate does not rely on the data from a single database, but establishes the average of various databases.²¹ Nevertheless, as with all databases focusing on conflict deaths, the GBAV estimates are equally subject to undercounting.

FIGURE 1.1 Total direct conflict deaths by database, main armed conflicts, 2004–07



Global and regional estimates and trends

Approximately 52,000 direct conflict deaths occurred every year between 2004 and 2007. In the combined four-year period, at least 208,300 people died directly as a result of armed conflict.²² This figure is higher than the annual estimate provided by others, including Obermayer et al. (2008) and the *Human Security Brief 2007* (Human Security Report Project, 2008, p. 34). Such estimates highlight that direct deaths from armed conflict are far from negligible, even though they are remarkably low in comparison to historical levels.

Reducing the incidence of armed conflict could reduce the global burden of armed violence by a maximum of ten per cent. However, the impact of the reduction of conflict violence is possibly much higher due to the simultaneous reduction of the disruptive indirect consequences of warfare (INDIRECT CONFLICT DEATHS).

TABLE 1.1 Direct conflict deaths by region and subregion, and as percentage of total direct conflict deaths, 2004–07

Year	Subregion	Direct conflict deaths by region and subregion						Annual percentage of total direct conflict deaths				
		2004	2005	2006	2007	2004–07	Average	2004	2005	2006	2007	2004–07
Africa	East Africa	4,188	2,459	2,399	9,078	18,124	4,531	9%	6%	4%	14%	9%
	North Africa	7,783	1,603	2,793	2,154	14,332	3,583	17%	4%	5%	3%	7%
	Southern Africa	38	21	10	–	69	23	0%	0%	0%	0%	0%
	West and Central Africa	5,642	4,882	2,793	3,156	16,472	4,118	12%	11%	5%	5%	8%
	Africa total	17,651	8,965	7,995	14,388	48,997	12,255	38%	21%	14%	23%	24%
Americas	Caribbean	315	150	61	4	530	133	1%	0%	0%	0%	0%
	Central America	28	54	–	–	82	41	0%	0%	0%	0%	0%
	North America	38	180	65	–	283	94	0%	0%	0%	0%	0%
	South America	3,047	3,142	2,162	3,648	11,999	3,000	7%	8%	4%	6%	6%
	America total	3,428	3,526	2,288	3,652	12,894	3,268	7%	8%	4%	6%	6%
Asia	Central Asia and Transcaucasia	101	250	60	29	440	110	0%	1%	0%	0%	0%
	East and South-east Asia	1,556	1,574	1,037	1,244	5,410	1,353	3%	4%	2%	2%	3%
	Near and Middle East/ South-west Asia	13,096	18,380	35,369	34,863	101,708	25,427	28%	43%	63%	55%	49%
	South Asia	7,729	7,444	7,718	7,252	30,143	7,536	17%	18%	14%	11%	14%
	Asia total	22,482	27,648	44,184	43,388	137,701	34,426	49%	65%	79%	68%	66%
Europe	Eastern Europe	1,641	1,079	405	267	3,391	848	4%	3%	1%	0%	2%
	South-east Europe	223	612	256	418	1,508	377	0%	1%	0%	1%	1%
	Western and Central Europe	211	–	7	4	222	74	0%	0%	0%	0%	0%
	Europe total	2,075	1,691	668	689	5,121	1,299	5%	4%	1%	1%	2%
International terrorism	435	660	743	1,793	3,631	908	1%	2%	1%	3%	2%	
Total	46,071	42,490	55,878	63,910	208,344	52,156	100%	100%	100%	100%	100%	

NOTE: dashes indicate that values are either zero or that no information is available.

SOURCE: GBAV estimates

FIGURE 1.2 Estimates of the regional distribution of direct conflict deaths, 2004–07



TABLE 1.2 Estimates of the regional distribution of direct conflict deaths, 2004–07

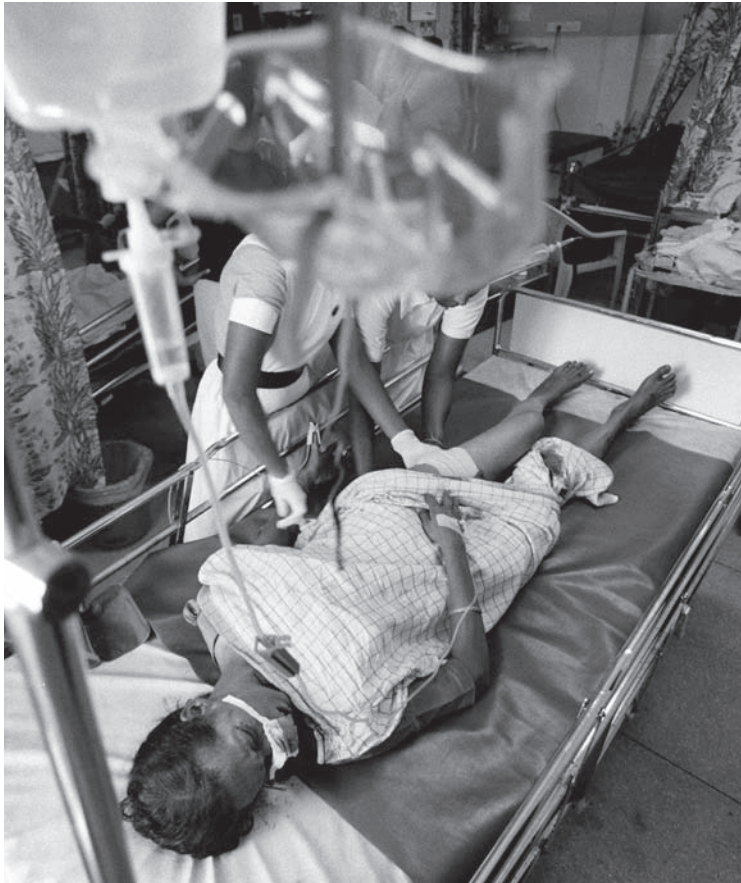
	Conflict	2004	2005	2006	2007	2004–07	
Asia	<i>Central Asia and Transcaucasia</i>						
	Uzbekistan ²⁵	43	180	20	8	251	
	Armenia–Azerbaijan	10	58	15	13	96	
	Georgia	39	12	25	8	84	
	<i>East and South-east Asia</i>						
	Thailand	600	535	246	452	1,833	
	Philippines	326	385	388	451	1,550	
	Myanmar	38	463	262	268	1,031	
	Indonesia	583	192	90	22	887	
	<i>Near and Middle East/South-west Asia</i>						
	Iraq	9,803	15,788	26,910	23,765	76,266	
	Afghanistan	917	1,000	4,000	6,500	12,417	
	Pakistan	863	648	1,471	3,599	6,581	
	Israel (and Palestinian Territories)	899	226	673	449	2,247	
	Lebanon–Syria	5	36	1,708	478	2,227	
	Iran	–	70	57	72	199	
	<i>South Asia</i>						
	Sri Lanka	109	330	4,126	4,500	9,065	
	India	2,642	2,519	1,559	1,713	8,433	
	Nepal	3,407	2,950	792	137	7,286	
	India–Pakistan (Kashmir)	1,511	1,552	1,116	777	4,956	
	India (Nagaland)	60	54	90	108	312	
	Asia main armed conflicts (18)	21,855	26,998	43,548	43,320	135,717	
	Asia all countries (26)	22,482	27,648	44,184	43,388	137,701	
	Africa	<i>East Africa</i>					
		Somalia	760	285	879	6,500	8,424
Ethiopia		824	825	1,091	2,418	5,158	
Uganda		1,649	859	196	111	2,815	
Burundi		820	269	108	49	1,246	
Kenya		40	124	125	–	289	
Rwanda		75	92	–	–	167	

	<i>North Africa</i>					
	Sudan	7,284	1,098	2,603	1,734	12,719
	Algeria	465	381	190	420	1,456
	<i>Southern Africa</i>					
	Angola	38	21	10	–	69
	<i>West and Central Africa</i>					
	DRC	3,500	3,750	746	1,351	9,347
	Nigeria	1,686	298	305	535	2,824
	Chad	80	105	1,325	1,044	2,554
	Central African Republic	–	550	128	160	838
	Côte d'Ivoire	341	168	184	24	717
	Senegal	10	–	106	–	116
	Sierra Leone	–	–	–	4	4
	Africa main armed conflicts (16)	17,572	8,825	7,996	14,350	48,739
	Africa all countries (21)	17,651	8,965	7,995	14,388	48,997
Americas	<i>South America</i>					
	Colombia	2,988	3,092	2,141	3,612	11,832
	<i>Caribbean</i>					
	Haiti	315	150	61	4	530
	Americas main armed conflicts (2)	3,303	3,242	2,202	3,616	12,362
	Americas all countries (7)	3,428	3,526	2,288	3,652	12,894
Europe	<i>Eastern Europe</i>					
	Russian Federation	1,641	1,079	405	267	3,391
	<i>South-east Europe</i>					
	Turkey	183	603	247	398	1,430
	Former Yugoslav Republic of Macedonia (FYROM)	0	0	6	12	18
	<i>Western and Central Europe</i>					
	Spain	191	–	2	2	195
	Europe main armed conflicts (4)	2,015	1,682	660	679	5,034
Europe all countries (7)	2,075	1,691	668	689	5,121	
International terrorism	435	660	743	1,793	3,631	
Total main armed conflicts (41)	45,180	41,407	55,149	63,758	205,483	
Total all countries (62)	46,071	42,490	55,878	63,910	208,344	

NOTES: The total figure of 208,344 includes all information on direct conflict deaths available for 62 conflicts. The figure 205,483 captures the information available for the 41 main armed conflicts between 2004 and 2007. Dashes indicate that values are either zero or that no information is available.

SOURCE: GBAV estimates

PHOTO ▼ A Tamil woman receives medical treatment after being wounded by a Claymore blast in Batticaloa district, Sri Lanka, 2007. © Will Baxter/WPN



While the total annual number of direct conflict deaths decreased between 2004 and 2005 from 46,100 to 42,500, they subsequently increased to 63,900 in 2007 (see Table 1.1).²³ This increase is due primarily to armed violence in Iraq, Afghanistan, Sri Lanka, and Somalia (see Table 1.2). Significantly reducing armed violence in Iraq, Afghanistan, Sri Lanka, and Somalia in 2005 would have reduced the global level of direct conflict deaths by 30 per cent in 2006 and 64 per cent in 2007.²⁴

The regional distribution of direct conflict deaths warrants closer inspection. Approximately two-

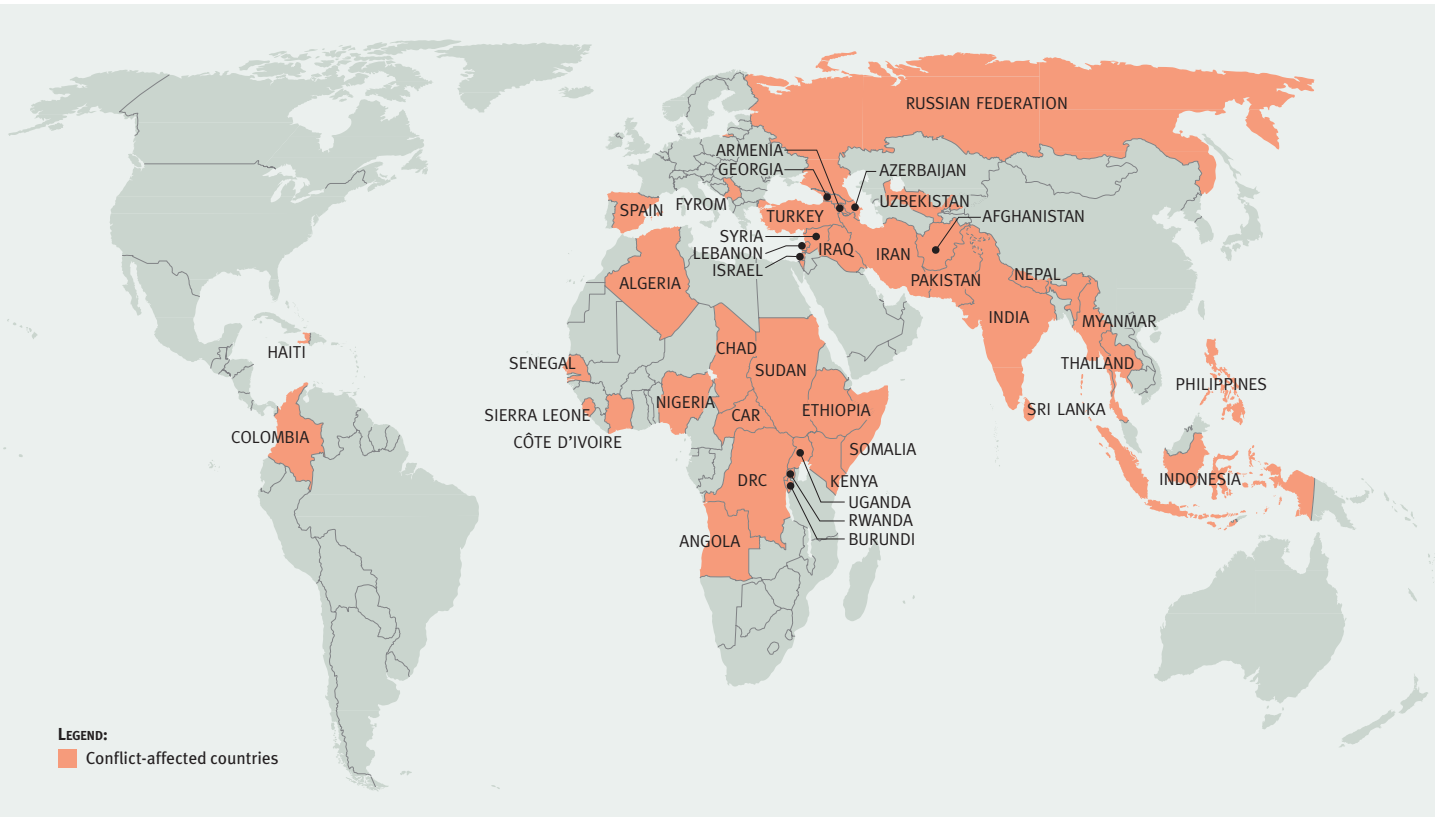
thirds (66 per cent) of all direct conflict deaths between 2004 and 2007 occurred in Asia, almost one-quarter (24 per cent) in Africa, 6 per cent in the Americas, and 2 per cent in Europe. Two per cent of all direct conflict deaths can be attributed to international terrorism (see Table 1.1).

However, there are significant differences concerning the subregional distribution of direct conflict deaths (see Figure 1.2). In Asia, for example, it can be seen that direct conflict deaths in the Near and Middle East/South-west Asia increased about threefold between 2004 and 2007 (see Table 1.1). This was mainly due to the wars in Iraq, Afghanistan, and Pakistan. In South Asia, the stable levels of direct deaths are a reflection of fewer direct conflict deaths in Nepal and increases in Sri Lanka. East and South-east Asia, as well as Central Asia and Transcaucasia have relatively low levels of direct conflict deaths (see Table 1.2).

In Africa, direct conflict deaths decreased in 2005 and 2006, but increased in 2007. This is mainly due to increasing numbers of direct conflict deaths in East Africa (Somalia and Ethiopia). In North Africa in this period, direct conflict deaths decreased due to the lower figures for Sudan (see Table 1.2). The slight decrease in West and Central Africa direct conflict deaths was mainly due to declining levels of direct conflict deaths in the Democratic Republic of the Congo (DRC) and Nigeria, even though there was a slight increase in 2007 (see Table 1.2).²⁶

In the Americas and Europe, direct conflict deaths stayed at relatively low levels. In the Americas, the level of direct conflict deaths is mainly defined by the conflict in Colombia (see Table 1.2).

Direct deaths from international terrorism increased in the period 2004–07 but remained at low levels (see Table 1.2).²⁷



Direct conflict deaths in individual countries

As the previous section observes, direct conflict deaths tend to be highly concentrated in a limited number of countries. Table 1.3 lists the ten countries with the highest level of direct conflict deaths for the period 2004–07. It is led by Iraq, with a total of around 51,400 direct conflict deaths, followed by Sudan with 12,700, Afghanistan with 12,400, Colombia with 11,800, and the DRC with 9,300. These five conflicts account for around half of all direct conflict deaths between 2004 and 2007.

Iraq accounts for 28 per cent of all direct conflict deaths in this period.

The top ten countries account for three-quarters of all direct conflict deaths. While the figures presented in Table 1.3 are sure to be undercounting direct conflict deaths by a considerable margin, they nevertheless highlight that targeted initiatives against specific armed conflicts could contribute to a significant reduction in the global burden of armed violence.

The distribution of direct conflict deaths among these conflicts has varied greatly between 2004

TABLE 1.3 Top ten direct conflict death countries, relative and cumulative total percentages, 2004–07

Conflicts	Direct conflict deaths	% of total conflict deaths	Cumulative % of total conflict deaths
1. Iraq	76,266	36.6%	36.6%
2. Sudan	12,719	6.1%	42.7%
3. Afghanistan	12,417	6.0%	48.7%
4. Colombia	11,832	5.7%	54.4%
5. DRC	9,346	4.5%	58.9%
6. Sri Lanka	9,065	4.4%	63.3%
7. India	8,433	4.0%	67.3%
8. Somalia	8,424	4.0%	71.3%
9. Nepal	7,286	3.5%	74.8%
10. Pakistan	6,581	3.2%	77.9%

SOURCE: GBAV estimates

Box 1.3 The dramatic impact of particularly violent conflicts

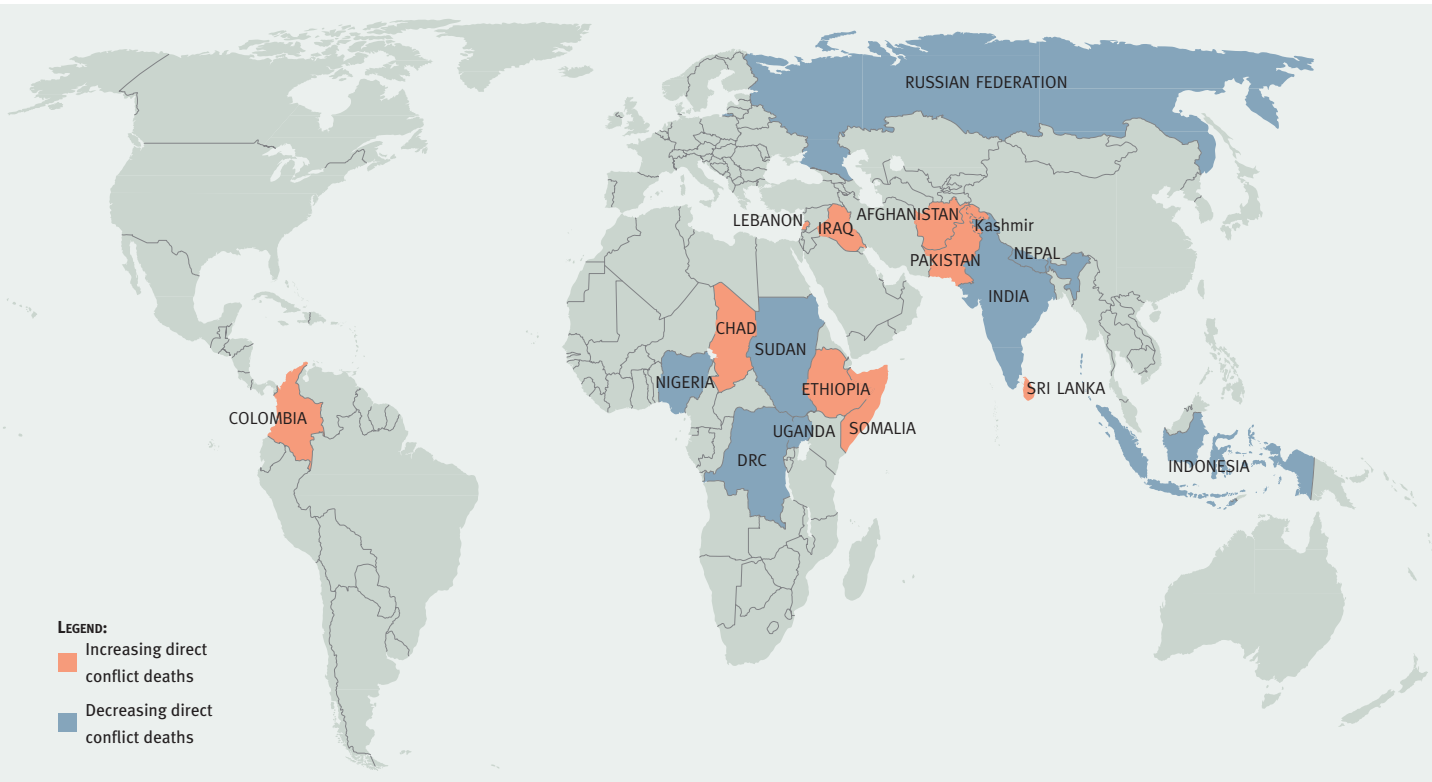
Specific armed conflicts with high rates of direct conflict deaths highlight the significant under-counting in aggregate estimates of such deaths from incident reporting systems. Epidemiological surveys in DRC estimated that approximately 5.4 million people died as a consequence of the armed conflict between August 1998 and April 2007. While most of these deaths are attributable to indirect causes, about ten per cent were estimated to be direct conflict deaths. This represents an annual average of about 50,000 direct conflict deaths—more than the global total reported in incident-reporting datasets (Coghlan et al., 2008).

This figure not only underlines the potential undercounting of incident-reporting methods—upon which the GBAV estimates of direct conflict deaths are based—but also that an alternative estimate of just one particularly severe conflict can double or triple the global estimates of direct conflict deaths. The conditions of reporting and documenting deaths in the DRC, where there is poor mortality monitoring by the press and NGOs in many regions, help explain this undercounting. On the other hand, the lack of denominator data might lead to an overcount or wide confidence intervals for survey-based estimates. It is therefore crucial to identify clearly the variation in estimates in those conflicts with high levels of direct conflict deaths. Cases such as the DRC, Iraq, Sudan, and Afghanistan show that armed violence reduction in one armed conflict can lead to substantial reductions in the global burden of armed violence.

and 2007 (see Table 1.2). Iraq registered the highest number of direct conflict deaths for 2004 through 2007. Overall, nine conflicts registered a higher ranking in 2007 than in 2004 (see Map 1.2). Iraq, Afghanistan, Somalia, Sri Lanka, and Pakistan are the five conflicts with the most dramatic increases in direct conflict deaths. Iraq reported the highest increase in direct conflict deaths, from around 9,800 in 2004 to 23,800 in 2007. In Afghanistan, direct conflict deaths increased from about 900 in 2004 to 6,500 in 2007; in Somalia from 800 to 6,500; in Sri Lanka from 100 to 4,500; and in Pakistan from 900 to 3,600. The number of conflict deaths in Lebanon peaked in 2006 and then declined in 2007, to a level higher than in 2004 (see Table 1.2).

Ten conflicts registered a decrease in their direct conflict death figures (see Map 1.2). The armed conflicts in Sudan, the DRC, India, Nepal, Nigeria, Uganda, the Russian Federation, and India–Pakistan all reported decreases (see Map 1.2). These countries also revealed lower figures of direct conflict

MAP 1.2 Increases and decreases in direct conflict deaths in selected armed conflicts, 2004 and 2007



NOTE: This map captures changes of more than 400 direct deaths for the years 2004 and 2007.

deaths in 2007 than in 2004. The most significant single reduction in direct conflict deaths occurred in Sudan, from 7,300 in 2004 to 1,700 in 2007, even though there was a slight increase in 2006 (see Table 1.2). Another drastic reduction took place in Nepal, from 3,400 direct conflict deaths in 2004 to just about 140 in 2007. In the DRC, direct conflict deaths declined by approximately half, although some 1,350 people were killed during clashes in 2007 (see Table 1.2).

Fortunately, it is possible to reduce direct conflict deaths measurably in certain countries as peace deals are negotiated and peacekeepers are

deployed. Even so, optimism should be tempered with caution, since the reductions noted above were dwarfed by the rising number of direct conflict deaths occurring in so-called ‘post-conflict’ contexts, such as Iraq, Afghanistan, and Sudan (see Box 1.4). Ultimately, a review of direct conflict deaths provides a partial picture of the burden of armed violence. As other chapters of this report make clear, a comprehensive estimate of the burden of armed violence in a specific country should also include estimates of indirect conflict deaths, non-conflict homicides, and extrajudicial killings (NON-CONFLICT ARMED VIOLENCE, OTHER FORMS OF ARMED VIOLENCE).

Box 1.4 Accounting for direct deaths in Sudan

In spite of decades of war, it is difficult to establish the scale and magnitude of direct conflict deaths in Sudan. Armed conflict in the South (1955–72 and 1983–2005) and Darfur (2003–present) have frustrated attempts to collect reliable data, whether through incident reporting or surveys. In the South, bloody conflicts were waged between the Sudanese army and militia against separatist rebel groups such as the Sudan People’s Liberation Army (SPLA). In Darfur, the Sudanese armed forces and militia are fighting against disparate rebel groups including the Sudan Liberation Movement (SLM).

There are widespread disagreements concerning the human costs of war in Sudan. Estimates of the direct and indirect death toll range from several million in the case of Southern Sudan (between 1983 and 2005) to more than 300,000 in the case of Darfur.

Drawing on multiple datasets, the *Global Burden of Armed Violence* report finds that the direct toll in recent years may have declined

considerably, although indirect mortality (INDIRECT CONFLICT DEATHS) may have remained high. Table 1.4 reveals that fewer than 7,400 people were probably killed directly during ‘battles’ in South Sudan in 2002–07, with sharp reductions following the 2005 peace agreement. Likewise, Table 1.5 highlights that direct deaths arising from ‘battles’ in Darfur in 2003–07 were probably slightly more than 15,500.

These datasets do not necessarily account for routine violence or genocide perpetrated against civilians by armed groups. One important dataset that accounts for a broader array of direct deaths (including civilians) is that of the Political Instability Task Force, or PITF. The PITF tends to report much higher rates of conflict deaths in Sudan than do most other databases. Likewise, epidemiological surveys tend to provide a wider accounting of direct deaths, as Table 1.6 makes clear. An important lesson is that incident reporting should be undertaken in unison with probabilistic survey-based estimates, especially where conflict-related violence is perpetrated by government proxies and remains largely hidden from view.



PHOTO A severely injured man suffering from gunshot wounds is carried to a waiting helicopter in Muhajirliya, south Darfur, 2007.

© Stuart Price/AMIS/Reuters

TABLE 1.4 Estimated direct conflict deaths in South Sudan, 2002–07

Database	2002	2003	2004	2005	2006	2007	Total
IISS	1,000	1,000	200	90	750	445	3,485
PRIO	2,175	3,000	253	n/a	n/a	n/a	5,428
Project Ploughshares	1,300	625	625	250	500	n/a	3,300
SIPRI	n/a	n/a	n/a	n/a	25–100	n/a	63
UCDP state	2,254	44	142	n/a	n/a	n/a	2,440
UCDP non-state	91	186	n/a	130	n/a	n/a	407
UCDP one-sided	25	69	33	n/a	n/a	n/a	127
UCDP state and non-state and one-sided	2,370	299	175	130	n/a	n/a	2,974
GBAV	2,370	3,000	625	190	750	445	7,380

TABLE 1.5 Estimated direct conflict deaths in Darfur, 2003–07

Database	2003	2004	2005	2006	2007	Total
IISS	n/a	50,000	500	987	1,289	52,776
PRIO	2,175	3,000	500	n/a	n/a	5,675
Project Ploughshares	500	350	1,000	1,250	n/a	3,100
UCDP non-state	170	81	30	n/a	n/a	281
UCDP one-sided	3,056	3,283	604	n/a	n/a	6,943
UCDP state	1,636	3,025	161	1,002	217	6,041
UCDP total	4,862	6,659	795	1,002	217	13,535
GBAV	4,862	6,659	908	1,853	1,289	15,571

TABLE 1.6 Epidemiological surveys of direct conflict deaths in Sudan, 2003–05

Year	Nabarro (excess deaths)	US State Department (excess deaths)	Coebergh (excess deaths)	Coebergh (violent deaths)	Hagan et al. (total deaths)	Reeves (excess deaths)	CRED (excess deaths)	CRED (violent deaths)	GBAV
2003	–	15,873	119,936	78,979	310,355	152,000	12,692	7,530	4,862
2004	52,500	21,164	159,915	105,305	228,846	182,400	75,813	22,588	6,659
2005	–	1,764	–	–	91,518	45,600	42,555	10,817	908
Total	35,000–70,000	63,000–146,000	253,573–306,130	172,542–196,025	630,719	38,000	131,060	40,935	12,429

NOTE: Dashes indicate that values are either zero or that no information is available.

The risk of dying in armed conflict

Wars grab headlines, but the individual risk of dying violently in an armed conflict is today relatively low—much lower than the risk of violent death in many countries that are not suffering from an armed conflict. Although there is a widespread perception that war is the most dangerous form of armed violence in the world, the average person living in a conflict-affected country had a risk of dying violently in the conflict of about 2.0 per 100,000 population between 2004 and 2007 (see Table 1.7).²⁸

This can be compared to the average world homicide rate of 7.6 per 100,000 people (NON-CONFLICT ARMED VIOLENCE). This illustration highlights the value of accounting for all forms of armed violence rather than an exclusive focus on conflict-related violence.

Certainly, there are huge variations in the risk of dying from armed conflict at the national and sub-national level, and the risk of dying violently in a conflict in specific countries remains extremely high. In Iraq, for example, the direct conflict death rate for 2004–07 was 65 per 100,000 people per year and, in Somalia, 24 per 100,000 people. This rate even reached peaks of 91 per 100,000 in Iraq in 2006 and 74 per 100,000 in Somalia in 2007.

Table 1.7 shows that ten countries had a direct conflict death rate higher than 5 per 100,000

population between 2004 and 2007. Map 1.3 graphically shows the highest risk of dying from direct conflict death per conflict in 2004–07.

Box 1.5 International vs. intrastate conflict

It is possible to distinguish between international and intrastate armed conflicts. The former refer to classic interstate warfare, as well as armed conflicts in which at least one of the belligerents is an external state party, while the latter refer to a situation in which two (or more) parties within a single country fight against each other. While such characterizations become increasingly difficult to maintain, given the complex and globalized nature of many armed conflicts, they nevertheless capture the main actors involved in and the locus of armed conflict.

The GBAV database finds that, in 2006 and 2007, more people died from international and internationalized armed conflicts than from intrastate conflict, mainly due to the wars in Iraq, Afghanistan, and Somalia, all of which involved some form of intervention by other states. The number of direct conflict deaths in international and internationalized armed conflicts increased nearly threefold from around 14,400 in 2004 to 41,000 in 2007, mainly due to the war in Iraq. The number of direct conflict deaths from intrastate conflicts decreased by about one-third from 31,600 in 2004 to 23,500 in 2007 (see Figure 1.3).

FIGURE 1.3 Direct conflict deaths by armed conflict type, 2004–07

LEGEND:

- International and internationalized internal armed conflict
- Intrastate conflict

SOURCE: GBAV estimates

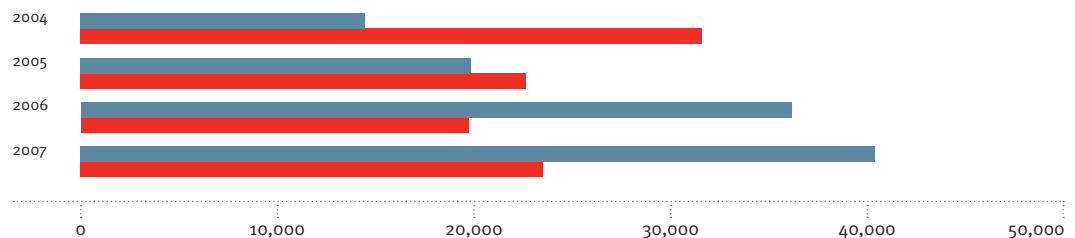
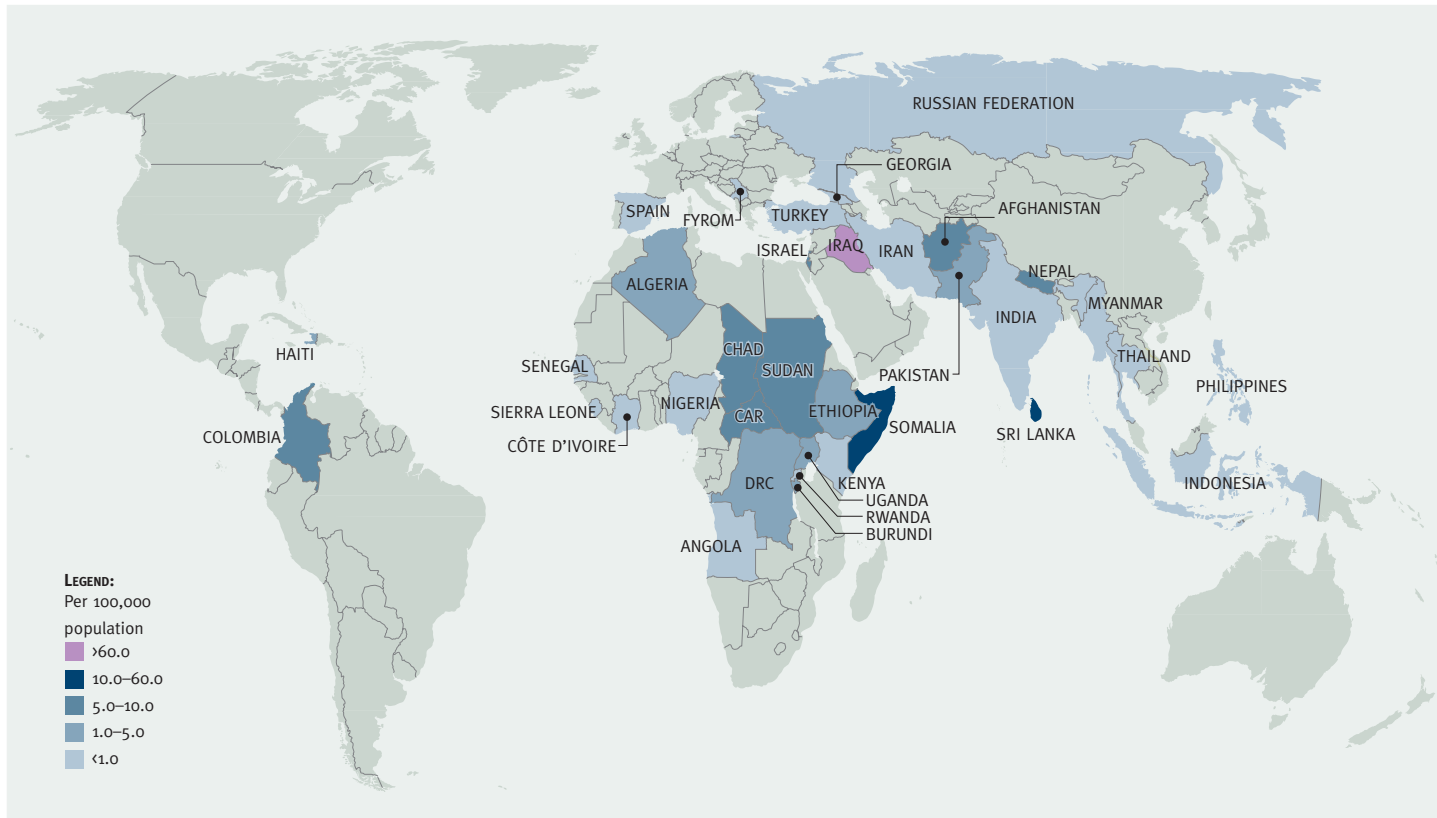


TABLE 1.7 Direct conflict death rate by country, 2004–07 (per 100,000)

	2004	2005	2006	2007	Average, 2004–07
Iraq	34.94	54.81	91.06	78.46	64.82
Somalia	9.54	3.46	10.34	74.15	24.37
Sri Lanka	0.53	1.59	19.73	21.35	10.80
Afghanistan	3.21	3.35	12.87	20.15	9.89
Sudan	20.51	3.03	7.04	4.59	8.79
Israel (and Palestinian Territories)	13.62	3.36	9.83	6.44	8.31
Central African Republic	0.00	13.62	3.13	3.85	6.87
Nepal	12.81	10.87	2.86	0.49	6.76
Colombia	6.65	6.78	4.63	7.69	6.44
Chad	0.85	1.08	13.21	10.13	6.32
Burundi	11.26	3.56	1.37	0.60	4.20
DRC	6.27	6.52	1.26	2.21	4.06
Uganda	5.93	2.98	0.66	0.36	2.48
Ethiopia	1.09	1.07	1.38	2.98	1.63
Haiti	3.75	1.76	0.71	0.05	1.56
Algeria	1.44	1.16	0.57	1.24	1.10
Pakistan	0.56	0.41	0.91	2.19	1.02
Côte d'Ivoire	1.91	0.93	1.00	0.13	0.99
Rwanda	0.84	1.02	0.00	0.00	0.93
Thailand	0.94	0.83	0.38	0.69	0.71
Russian Federation	1.14	0.75	0.28	0.19	0.59
Nigeria	1.31	0.23	0.23	0.39	0.54
Myanmar	0.07	0.92	0.51	0.52	0.51
Senegal	0.09	0.00	0.89	0.00	0.49
Turkey	0.25	0.82	0.33	0.53	0.48
Georgia	0.85	0.27	0.56	0.18	0.47
Philippines	0.40	0.46	0.46	0.52	0.46
FYROM	0.00	0.00	0.29	0.59	0.44
Kenya	0.12	0.36	0.36	0.00	0.28
India	0.24	0.23	0.14	0.15	0.19
Spain	0.45	0.00	0.00	0.00	0.15
Angola	0.24	0.13	0.06	0.00	0.14
Indonesia	0.26	0.09	0.04	0.01	0.10
Iran	0.00	0.10	0.08	0.10	0.09
Sierra Leone	0.00	0.00	0.00	0.07	0.07
Rate (all countries listed above)	1.77	1.59	2.04	2.38	1.95

SOURCE: GBAV estimates

MAP 1.3 The risk of dying violently in armed conflict per 100,000 population per year, average, 2004–07

Conclusion

This chapter features a global estimate of contemporary direct conflict deaths. In synthesizing a number of datasets, the chapter presents a somewhat higher, more pessimistic figure than those presented by widely cited sources such as the *Human Security Report* or the *Human Security Brief* (Human Security Centre, 2005; 2006; Human Security Report Project, 2008). Equally, the chapter clearly demonstrates that the number of direct conflict deaths has increased since 2005, thus departing from a decline in direct conflict deaths observed since the end of the cold war (Human

Security Report Project, 2008, pp. 6, 32–34). Even so, the numbers of direct deaths in battle are still relatively modest in comparison to historical figures and other forms of conflict and non-conflict mortality. Subsequent chapters emphasize the importance of moving beyond a single focus on direct conflict deaths and including all types of deaths from violence, including those dying indirectly from armed conflict and from homicide in non-conflict settings.

Certain armed conflicts are much more deadly in terms of their direct death toll than others. As the chapter amply shows, a small number of countries

accounts overwhelmingly for the global toll of conflict deaths. Consequently, carefully targeted armed violence reduction in a few selected countries could lead to measurable reductions in the global burden of armed violence. In addition to reducing the violent death toll, efforts to reduce armed violence could generate additional dividends for human security, including declines in refugee and internal displacement movements, gross human rights violations, and indirect conflict mortality (INDIRECT CONFLICT DEATHS).

The risk of dying violently in armed conflict is considerably lower than of being a victim of non-conflict homicide. Furthermore, the risk of dying from armed conflict is not evenly distributed among or within countries.

Enhancing our understanding of the spatial and temporal distribution of direct conflict deaths is critical. It is likely, for example, that the risk of dying differs at the subnational level and among different social groups. A more robust evidence base—particularly more complete and better disaggregated data—could contribute to the strategic planning of humanitarian or peace-keeping missions in support of armed violence reduction and prevention. 📌

Abbreviations

COW	Correlates of War
DRC	Democratic Republic of the Congo
FYROM	Former Yugoslav Republic of Macedonia
GBAV	Global Burden of Armed Violence
IISS	International Institute for Strategic Studies
MSE	multiple systems estimation
PITF	Political Instability Task Force
PRIO	International Peace Research Institute, Oslo
UCDP	Uppsala Conflict Data Programme

Endnotes

- 1 For example, Iraq was the deadliest armed conflict between 2004 and 2007, with 76,266 direct conflict deaths, or 36 per cent of the total direct conflict deaths burden (see also Table 1.3).
- 2 These estimates are based on figures for 2004.
- 3 The number of direct conflict deaths occurring in international and internationalized armed conflicts increased threefold from 14,462 in 2004 to 40,391 in 2007 (see Figure 1.3).
- 4 The number of direct conflict deaths from intrastate conflict decreased by almost one-third from 31,607 in 2004 to 23,517 in 2007.
- 5 See methodological appendix at: <<http://www.genevadeclaration.org>>.
- 6 See Iraq Body Count (2008).
- 7 Data from specific conflicts—including Peru, Guatemala, Kosovo, Afghanistan, Iraq, and the Democratic Republic of the Congo—all indicate the systematic undercounting of incident reporting datasets (Small Arms Survey, 2005, pp. 241–48).
- 8 The UCDP identifies three levels of violence: ‘minor conflicts’ cause at least 25 battle-related deaths in a year, but fewer than 1,000 overall; ‘intermediate conflicts’ cause more than 1,000 battle-related deaths overall, but fewer than 1,000 in any single year; and ‘wars’ cause at least 1,000 battle-related deaths in a single year (Eriksson et al., 2008, p. 617).
- 9 The five deadliest wars in terms of total deaths since the Second World War were Vietnam (2,097,705 deaths between 1955 and 1975), Korea (1,254,811 deaths between 1950 and 1953), the Chinese civil war (1,200,000 deaths between 1946 and 1949), the Iran–Iraq war (644,500 deaths between 1980 and 1988), and the conflicts in Afghanistan (562,995 deaths between 1978 and 2002) (Gleditsch and Lacina, 2005, p. 154).
- 10 A meta-database is an integrated database made of comparable and equivalent records taken from several databases.
- 11 The databases and reports are: 1. SIPRI (2007); 2. Human Security Centre (2006); 3. ICG (2008); 4. UCDP (2006a); 5. UCDP (2006b); 6. UCDP (2006c); 7. UCDP and Centre for the Study of Civil War (2007); 8. Project Ploughshares (2007); 9. COW (2007); 10. IISS (2008); 11. Center for International Development and Conflict Management (2005); 12. CRED (2008a); 13. CRED (2008b); 14. Center for Systemic Peace (2004); 15. Center for Systemic Peace (2007); 16. PITF (2006); 17. PTS (2008); 18. Gleditsch (2007); 19. Country documentation from a comprehensive bibliographic search.

- 12 In order to complete and check the information of the *UCDP Battle-Deaths Dataset*, the analysis includes information from the UCDP Web site (UCDP, 2008).
- 13 By contrast, the Small Arms Survey (2005, p. 247) estimates the direct conflict death toll as at least three times higher per year than the *Human Security Report* (more than 54,000).
- 14 There were an estimated 112 conflicts during the reporting period, suggesting that Obermeyer et al. (2008) captured just ten per cent of the entire sample.
- 15 This report adds the *UCDP Battle-Deaths Dataset* (UCDP, 2006b) to the *UCDP Non-State Conflict Dataset* (UCDP, 2006a), and *UCDP One-Sided Violence Dataset* (UCDP, 2006c) in order to produce a total UCDP figure (see Figure 1.1). This is only available for 2004–05. All of UCDP’s categories—interstate conflict, intrastate conflict, non-state conflict, and one-sided violence—are separate and mutually exclusive (Eck, 2005).
- 16 This does not imply that figures have been overestimated. The use of different sources allows for the generation of more accurate values.
- 17 Conflict deaths in most datasets are defined as battle deaths of official combatants, or (in some cases) non-combatant deaths, where the perpetrator is identified as a combatant.
- 18 The cases included by these criteria are: Afghanistan, Algeria, Angola, Burundi, Central African Republic, Chad, Colombia, Democratic Republic of the Congo, Côte d’Ivoire, Ethiopia, Georgia, Guinea, Haiti, India, Indonesia, Iran, Iraq, Israel (and Palestinian Territories), Kenya, Liberia, the Former Yugoslav Republic of Macedonia, Myanmar, Nepal, Nigeria, Pakistan, the Philippines, Republic of the Congo, Russian Federation, Rwanda, Senegal, Sierra Leone, Somalia, Sri Lanka, Sudan, Thailand, Turkey, Uganda, Armenia–Azerbaijan, International terrorism, Ethiopia–Eritrea, and India–Pakistan (Kashmir).
- 19 For details about the main armed conflicts selection, see the online methodological appendix (see endnote 5).
- 20 The GBAV database corrected these outliers and differences between cross-country databases by including alternative figures from sources such as national datasets or reports.
- 21 For countries with very large differences in figures, the information from national sources or reports was used to establish the most plausible figure of direct conflict deaths.
- 22 These figures are based on data for the main 41 armed conflicts between 2004 and 2007, as well as 2,861 (208,344 minus 205,483; see totals in Table 1.2) direct conflict deaths from 21 smaller armed conflicts.
- 23 The figures have been rounded up and down to the closest hundred in comparison to Table 1.1 in order to emphasise that these are not precise figures, but merely estimates.
- 24 These figures are based on the death figures of four conflicts (Iraq, Afghanistan, Sri Lanka, and Somalia) with high changes in direct conflict deaths between 2005 and 2007. In 2006 these four conflicts accounted for 35,915 deaths of a total of 55,877, and in 2007 for 41,265 out of 63,908 (see Table 1.2).
- 25 The conflict in Uzbekistan is an internationalized armed conflict involving the Islamic Movement of Uzbekistan, which conducts operations mainly in Uzbekistan, but also in Kazakhstan, Kyrgyzstan, and Turkmenistan.
- 26 The increase in 2007 was due to the conflicts in the DRC, Nigeria, and Chad.
- 27 International terrorism includes the direct conflict deaths in the conflict between the US government and the multinational coalition (state parties) vs. al Qaeda and Jemaah Islamiyah.
- 28 The rate of the risk of dying is 2.0 per 100,000 population if it is only related to the population of conflict-affected countries. If it is related to world population, this risk of dying in armed conflict decreases to 0.8 per 100,000 population.



CHAPTER TWO The Many Victims of War: Indirect Conflict Deaths

THE LETHAL IMPACT of modern war extends far beyond the number of soldiers and civilians who die violently in armed combat or clashes.¹ As some analysts have pointed out, ‘the number of battle deaths . . . does not provide a remotely adequate account of the true human costs of conflict. War kills people in less direct (but highly predictable) ways’ (Lacina and Gleditsch, 2005, p. 148; Garfield and Neugut, 1991).

Armed conflict generates a series of lethal but *indirect* impacts on communities beyond the number of people killed in battle or combat. In the short term, indirect victims of armed conflict die from a variety of specific causes, usually from easily preventable diseases such as dysentery or measles, or from hunger and malnutrition. These deaths are a result of the loss of access to basic health care, adequate food and shelter, clean water, or other necessities of life. In the long run, armed conflict affects mortality by its destructive impact on the national economy and infrastructure (including health facilities), on social cohesion, and on psychological health and well-being (Li and Wen, 2005, pp. 473–75; Murray et al., 2002; Ghobarah, Huth, and Russett, 2003). All of these factors can negatively affect the prospects for post-conflict peace-building.

These indirect victims of war do not die violently. But, from a human, moral, and political point of view, the distinction between a violent and non-violent death is irrelevant. All that matters is that a number of people died who would otherwise

have lived if armed violence had not ravaged their communities. An adequate account of the direct and indirect impact of armed conflict is also important for assessing whether international humanitarian law and human rights law have been violated, and whether groups in combat are preying on civilian populations (Daponte, 2008).

In almost all contemporary conflicts, the number of indirect victims of armed violence is many times larger than the number of battle deaths. For example, the International Rescue Committee’s series of mortality surveys in the Democratic Republic of the Congo (DRC) found that 5.4 million excess deaths occurred between August 1998 and April 2007, with 2.1 million occurring since the formal end of war in 2002 (Coghlan et al., 2008). Of these 5.4 million excess deaths since 1998, fewer than ten per cent died ‘directly’ or violently. Nearly all deaths (90 per cent)—*approximately 4.8 million people*—were indirect and caused mainly by preventable infectious diseases, malnutrition, and neonatal- and pregnancy-related conditions that emerged in the resource-poor post-conflict environment. The number of battle deaths estimated in the preceding chapter for the DRC in the period 2004–07 is about 9,300 (DIRECT CONFLICT DEATH).²

While the DRC may be an extreme case, since the end of the cold war the overwhelming majority of conflicts (95 per cent) are now fought within national borders in poor countries, often reflecting communal and political disputes that trap civilians in insecure situations (Harbom, 2007; HSC, 2005).

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PHOTO ▲ A mother holds up her severely malnourished baby in the refugee camp of Xjosa Sabz Poosh, Afghanistan. © Tim Dirven/Panos Pictures

Most conflicts are either low-intensity civil wars that involve poorly trained armies who target civilians, or asymmetric wars that pit a well-equipped army against a militarily weaker opponent (Harbom, 2007). Both scenarios inflict violent ('direct') and non-violent ('indirect') deaths on civilians. Contemporary armed conflicts involve organized and disorganized armed forces inflicting violence on both soldiers and civilians, with widespread consequences for the health and economic infrastructures of whole countries. While violent death is an indicator of armed conflict, disease and malnutrition have been the main causes of death among civilians in most major conflicts since the late 1980s (Guha-Sapir and Degomme, 2005a).

This chapter discusses what we know about 'excess mortality' and 'indirect deaths' in armed conflict. It first overviews the epidemiological and demographic methods for estimating excess mortality, current knowledge gaps, and the scientific challenges. The second section summarizes data from a variety of cases to arrive at some benchmarks to evaluate the level of indirect victimization in contemporary conflicts. The chapter closes with three brief case studies estimating indirect deaths in South Sudan, Sierra Leone, and Iraq.

The main findings of the chapter are the following:

- In the majority of conflicts since the early 1990s for which good data is available, the burden of indirect deaths was between three and 15 times the number of direct deaths.
- Variation in the ratio of direct to indirect deaths depends on the pre-conflict level of development of the country, the duration of the fighting, the intensity of combat, access to basic care and services, and humanitarian relief efforts.
- The lethal burden of armed conflict in 2004–07 was many times greater than the number of direct conflict deaths. A reasonable average estimate would be a ratio of four indirect deaths to one direct death in contemporary conflicts, which would represent *at least* 200,000 indirect conflict deaths per year, and possibly many more.³ There may have been up to 400,000 indirect conflict deaths per year in the DRC alone since 2002.
- Appropriate methods exist to arrive at a more accurate account of the number of indirect deaths in conflict zones; these should be applied systematically wherever possible to individual conflicts.

- Sexual violence in armed conflict accounts for a sizable, albeit hidden, proportion of indirect conflict deaths with the majority of victims being women and girls.

What is excess mortality?

Epidemiologists use mortality rates to assess the severity of the impact of conflict on civilian populations affected by complex humanitarian emergencies (Toole and Waldman, 1997; Guha-Sapir et al., 2005; Checchi and Roberts, 2005). Standardized mortality calculations make possible comparisons between populations and judgments on the severity of a crisis.

Excess mortality captures the difference between the death rates ('crude mortality') in a non-conflict situation and in a conflict or crisis situation. It includes those dying both from the direct and the indirect consequences of armed conflict. However, its accuracy depends on the reliability of baseline mortality data. In many protracted conflict areas the establishment of this baseline is complicated by the absence of reliable data.

The crude mortality rate (CMR) is informative only when compared with a national or regional

baseline CMR (the 'expected' mortality in a country in a normal situation) or with alert level thresholds which signify a crisis situation⁴. The numerical difference between the 'crisis CMR' and the 'baseline CMR' is termed the 'excess mortality'. This value represents the mortality that can be attributed to the crisis and is used to estimate the magnitude of the emergency and to monitor the humanitarian response. Excess mortality is traditionally broken down into two types of death—direct and indirect—according to whether or not the cause of death was violence (see Figure 2.1).

Direct deaths are caused by war-related injuries and attacks (such as those inflicted by a bullet, bomb, mine, machete, or assault) (SMART, 2005, p. 81).⁵ *Indirect deaths* are caused by the worsening of social, economic, and health conditions in the conflict-affected area. They can result from a variety of different factors including (but not limited to) inability to access health care, damage to health systems and public health infrastructure, changes in behaviour that increase the incidence of diseases, malnutrition, unsanitary living conditions, food insecurity, and loss of livelihood and agricultural land (Guha-Sapir and van Panhuis, 2002; Gayer et al., 2007).

FIGURE 2.1 Typology of conflict mortality



SOURCE: Ratnayake et al. (2008)

The magnitude of indirect deaths is difficult to quantify and verify; however, its assessment—in addition to direct deaths—is essential to understanding the true human impact of a conflict or crisis.

Although the concept of indirect death is relatively new, it is also possible that quantifying indirect deaths may contribute to holding legally accountable political and military leaders who are ultimately responsible for these deaths (Thoms and Ron, 2007). Estimates of indirect deaths have been neglected by human rights organizations, which have traditionally aimed to document the direct deaths due to violence. But improved collaboration between epidemiologists, statisticians, and human rights organizations has been encouraged in order to address the larger picture of the indirect costs of conflict (Thoms and Ron, 2007; Asher, Banks, and Scheuren, 2008).

From a public health perspective, the concept of indirect deaths is useful because it captures

deaths that might have been preventable through a bolstering of the public health system. Such figures provide strong evidence for prioritizing basic public health interventions (such as infectious disease surveillance, immunization, disease control programmes, and water and sanitation projects) in conflict and post-conflict situations.

Challenges to collecting and using data on indirect deaths

Indirect deaths are inherently difficult to quantify and attribute to conflict-related causes. There are three reasons for this:

- ongoing data collection is weak and specially-targeted methods must be used;
- the attribution of indirect deaths to the conflict is difficult; and
- it is difficult to determine baseline mortality rates in endemic conflict zones.

In conflict situations the ongoing collection of health information is difficult due to the breakdown of information systems, the loss of human resources, and restricted freedom of movement. Health information systems (HIS), which encompass vital registration, epidemiological surveillance, and health service data systems, traditionally aggregate data to provide key information on morbidity, mortality, and early warning and response. However, as health systems break down during conflicts, information systems similarly deteriorate (Working Group for Mortality Estimation in Emergencies, 2007). Even before a conflict becomes violent, information systems may already be under-resourced and underdeveloped.

There are numerous examples of the consequences of poor information gathering during conflicts. In

Box 2.1 Crude mortality rates

Crude mortality rates (CMRs) can be expressed in different ways which are useful for various purposes. Demographers and researchers for the UN's annual statistical yearbooks often use deaths per 1,000 persons per year, as annual rates are most useful in this context. In conflicts and other complex emergencies, *deaths per 10,000 persons per day* is the standard unit since it is most practical for monitoring a humanitarian situation over a short period of time. A humanitarian emergency is considered to be any situation where the CMR is double the baseline rate (Sphere Project, 2004, p. 260). The global emergency threshold used by various groups is 1.0 deaths/10,000/day; for the least developed countries it is 0.8.

The units for CMRs can easily be converted using basic equations:

$$\begin{aligned} 1 \text{ death}/10,000/\text{day} &= 3.04 \text{ deaths}/1,000/\text{month} \\ &= 36.5 \text{ deaths}/1,000/\text{year} \end{aligned}$$

NOTE: For comparison purposes in this report, most figures in this report have been expressed in deaths per 100,000 per year.

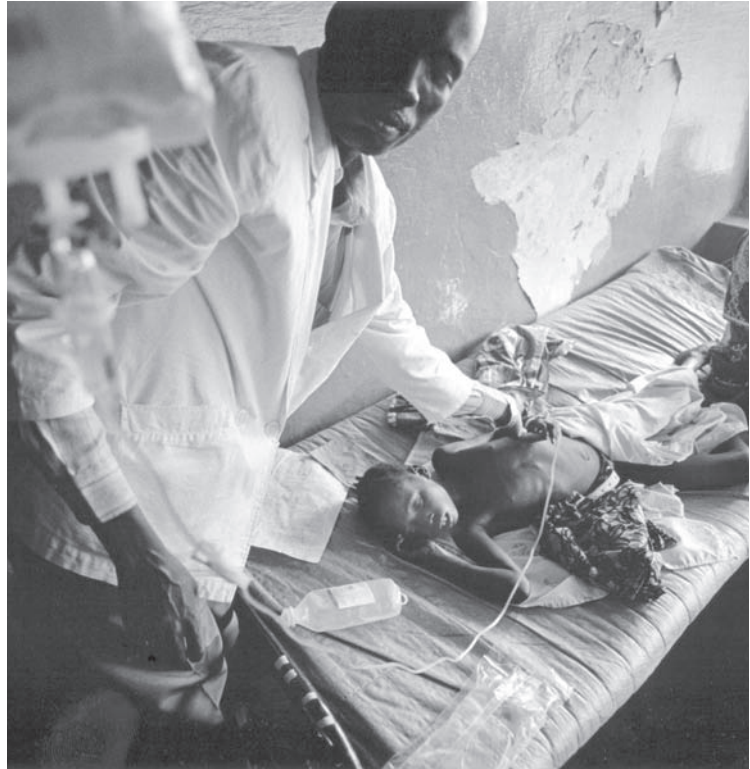
SOURCE: Guha-Sapir, Degomme, and Altare (2007)

South Sudan in 1998, a relapsing fever outbreak continued for six months due to the lack of an effective early warning system (Gayer et al., 2007). A similar lapse occurred in Angola in 2005, where health authorities were unable to identify a large, deadly outbreak of Marburg haemorrhagic fever in its early stages due to the reduced ability to detect the disease (Ndayimirije and Kindhauser, 2005).

Without working information systems, standard practices for verifying causes of death are useless. Objective indicators that are normally used (including death certificates and hospital records) are frequently missing or inaccessible (Checchi and Roberts, 2005).

One means of validating non-violent causes of death during conflicts would be verbal autopsy techniques. These interview-based protocols have been developed for community workers in low-resource contexts to obtain information about a single cause of death (Setel et al., 2006). However, the length of time required for interviews and the intensiveness of training impede their use in conflict situations, and greater research into their use in conflict settings is needed (Utzing and Weiss, 2007; Working Group for Mortality Estimation in Emergencies, 2007).

Second, attributing indirect deaths to the impacts of conflict remains difficult (Checchi and Roberts, 2005). Loss of livelihood, poor diets, lack of food, displacement, poor sanitation, and countless other factors are often treated as the underlying determinants of mortality within a conflict. However, some of these deaths would ‘normally’ occur under the adverse environmental and economic conditions, such as drought and poor diet, that prevail in most developing countries where armed conflicts occur. While seemingly distant conflict factors may still have an impact on deaths due to disease and malnutrition, attributing these conditions to the conflict remains difficult.



Third, and perhaps even more daunting, there is no straightforward method for determining baseline mortality rates in order to assess the severity of a conflict (and calculate excess mortality) in areas where for decades there have been no public services and little accurate data collection (Guha-Sapir and van Panhuis, 2004; Utzing and Weiss, 2007). Currently, there is no consensus among researchers on how to derive and compare baseline mortality rates.

In several conflict areas, such as the DRC and Sierra Leone, there has been poor coverage by vital registration for decades. There is therefore little accurate data that can be used to estimate the demographic profile of a population. In addition, it is difficult to designate a point in time at which

PHOTO ▲ A child is treated at hospital during an outbreak of cholera, which is believed to be present in the Yei River, Sudan.
© Sean Sutton/MAG/Panos Pictures

to compare countries that exist in a cycle of chronic conflict and/or emergency. For example, as Somalia has been war-torn since the early 1980s, it may not be useful to compare current mortality rates with the out-of-date mortality baseline statistics for the country, which are affected by normal demographic factors. There are, however, currently initiatives to collect routine demographic and mortality data in some areas affected by conflict (e.g. the Bandim Health Project in Guinea-Bissau) (Nielsen et al., 2006).

Notwithstanding the data collection challenges, the most widely used datasets that include baseline statistics for most countries are collected by the United Nations Population Division and often referenced in UNICEF's annual *State of the World's Children* report. This data is derived from the last census and is therefore limited by the quality of data collection and time of collection. Mortality rates are also compared with UNICEF's regional baseline rates rather than those of single countries. This approach is useful where no country-level or sub-national-level baseline data exists, and has

been recommended by the Sphere Project (Sphere Project, 2004).

An important conclusion is that in some places the 'normal' peacetime baseline mortality rate may be extremely high. The baseline mortality rate may thus not be an ideal or acceptable benchmark for the health of the population of concern (Guha-Sapir and van Panhuis, 2004).

Methods for quantifying indirect conflict deaths

There are three main approaches to quantifying indirect deaths: retrospective mortality surveys, prospective surveillance, and the analysis of multiple data sources.⁶ These methods are best used together as 'building blocks' to derive the best estimates of mortality in a conflict situation (see Table 2.1).

A retrospective mortality survey (RMS) is used to determine past mortality rates in situations where the direct collection of mortality data was or is not possible. An RMS collects mortality information for a previous period from a representative sample of a population. Surveyors administer a standard questionnaire to households to collect information on deaths. The advantage of an RMS is the rapid assessment of mortality in areas where prospective surveillance does not exist. However, RMSs are problematic in capturing the true medical causes of death because the information collected cannot be independently verified. It is also difficult to establish whether deaths occurred due to violent or non-violent causes. Logistical problems or security risks make RMSs challenging to implement, especially since the data generated is politically sensitive. Nevertheless, RMSs remain a useful tool in conflict situations with little or no previous mortality information, and

PHOTO ▼ These young children live in a wrecked armoured personnel carrier left over from the civil war, Somalia, 1992.
© Paul Lowe/Panos Pictures



TABLE 2.1 Comparison of methods for measuring excess mortality

Method	Appropriate setting	Advantage	Disadvantage
Retrospective mortality survey	<ul style="list-style-type: none"> ■ During conflict ■ Post-conflict 	<ul style="list-style-type: none"> ■ Useful for rapid assessment where prospective surveillance is not in place ■ Does not require population denominator ■ Practical for use in disorganized settlements 	<ul style="list-style-type: none"> ■ May be difficult to carry out due to logistical needs and insecurity ■ Recall bias, response bias, survivor bias ■ Measures past death, so not in real time ■ Statistical analysis is relatively complicated
Prospective surveillance	<ul style="list-style-type: none"> ■ During conflict ■ Post-conflict 	<ul style="list-style-type: none"> ■ Occurs in real time and has strong operational usage ■ Relatively simple analytical procedures involved 	<ul style="list-style-type: none"> ■ National information systems to track health and mortality are usually weak in conflict settings so an ad hoc system is required ■ Requires regular updating of data and population size to be useful ■ Possible only in camps and stable populations
Analysis of multiple data sources	<ul style="list-style-type: none"> ■ Mainly post-conflict (as it is dependent on other primary data sources) 	<ul style="list-style-type: none"> ■ Used to assess the quality and strengths of multiple sources of data ■ Statistical techniques are available to employ the best aspects of data sources (i.e. Multiple Systems Estimation) 	<ul style="list-style-type: none"> ■ Dependent on the quality and type of primary data sources (i.e. data source such as a graveyard database may not have clear information on type of death) ■ Dependent on the availability and timeliness of primary data sources

SOURCES: Checchi and Roberts (2005); Guha-Sapir, Degomme, and Altare (2007)

RMS methods have been standardized through an inter-agency humanitarian initiative (Working Group for Mortality Estimation in Emergencies, 2007).

The prospective surveillance of mortality through a health information system (HIS) is a better method to document and verify mortality in stable environments. By targeting health facilities and death registries, these systems can provide accurate and timely mortality data. However, HISs are almost universally weak in conflict-affected areas, and between two-thirds and three-quarters of the world's population are not covered by any type

of health surveillance (Fottrell, 2008, p. 4). But mortality detection can be integrated through ad hoc surveillance within humanitarian operations and in refugee camps even though it may be prone to under-reporting due to the lack of accurate demographic information (Thieren, 2005; CRED, 2006). The problem of verification and reporting of death in conflict situations is symptomatic of the general lack of standard sources on the causes of deaths.

The analysis of multiple data sources permits the reconstruction of mortality profiles using sources



PHOTO ▲ A 13-year-old and her three-month-old baby, born as a result of her rape, in hospital in Goma, DRC.
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Panos Pictures

‘Sometimes, when they said that you were the most beautiful woman, it was a disaster! They put you in the middle of everyone, on a cross, with your head down and your legs spread and they raped you in that position. And the others had to cheer them on and dance around you [. . .] I was everybody’s woman and nobody’s woman. Whoever wanted to satisfy his sexual needs came on us. Sometimes they would shout “Food! Food!” We thought maybe they were bringing us food. But unfortunately, it was not food. It was us, the women, who were their “food”.’

— Onarata Kazende, 55 years old, DRC (BBC, 2008)

Box 2.2 Sexual violence in armed conflict

During armed conflict, women and girls are specifically targeted by sexual violence that occurs in homes, detention places, military sites, and camps for refugees and displaced persons. Brutal rapes, sexual assaults, sexual slavery, and mutilation are systematically used in many armed conflicts. Survivors suffer grave psychological trauma, permanent physical injury, unwanted pregnancy, and long-term health risks including HIV/AIDS and serious complications in reproductive health.

Data on the scope and magnitude of sexual violence, especially rape, in armed conflicts worldwide is scarce, making it impossible to estimate its extent. In addition to the usual obstacles to data collection, sexual violence is surrounded by social taboos and stigmatization, resulting in a lack of (and under-) reporting even in peacetime. Table 2.2 illustrates the wide range and imprecision of estimated incidents of rape in selected armed conflicts.

A clear example of widespread sexual violence is in the DRC. Victims report that all armed groups, including state security forces, are responsible for rapes and high levels of sexual violence. The majority of the perpetrators remain unpunished, however, especially when belonging to the state security forces.

Rape is becoming more violent and more common in the DRC. It seems that male relatives are forced at gunpoint by militias or paid security forces to rape their mothers, sisters, or daughters. Often women are shot or stabbed in their genital organs after being raped (Wakabi, 2008). According to the UN special rapporteur on violence against women, 31,500 rapes were recorded in South Kivu province between 2005 and the first half of 2007, with probably many more going unreported. The Provincial Synergy for South Kivu estimates that 22 per cent of rape victims are HIV-positive due to the incidents (HRC, 2008).

Civil society organizations (CSOs) have expressed widespread concern for the pervasive nature ▶▶

of sexual violence in the country.⁷ The International Rescue Committee reported assistance to more than 40,000 rape survivors in DRC since 2003. A United Nations Populations Fund survey among half of the health centres in the country showed that 50,000 rape cases were reported in 2007 (Wakabi, 2008). The ceasefire of January 2008 did not stop the incidence of sexual violence. In North Kivu province, 880 cases of rape were documented by NGOs and UN agencies in April 2008 alone.⁸

Findings from surveys in different countries and among refugee and internally displaced persons (IDPs) camps show varying prevalence of sexual violence. While in some camps women and girls are especially at risk when they leave the camp to collect wood and fetch water, in others the majority of assaults happen within the camp. A 2006 UNHCR report on sexual and gender-based violence notes that more than 20 of 104 camps that supplied data reported rates of sexual and gender-based violence of between 250 and 500 per 100,000 persons, with approximately ten camps reporting rates of between 500 and 1,000 per 100,000, and 20 camps reporting rates greater than 1,000 per 100,000 (UNHCR, 2007, p. 65). This means that 50 per cent of camps reporting data had rates of sexual and gender-based violence greater than 250 per 100,000.

The 2008 United Nations Security Council (UNSC) Resolution 1820 on sexual violence, adopted unanimously on 19 June, classifies rape and other forms of sexual violence as a weapon of war. It can constitute a war crime, a crime against humanity, or a constitutive act with respect to genocide. Resolution 1820 stresses that perpetrators of crimes of sexual violence should be excluded from amnesty provisions and should be prosecuted (UNSC, 2008). The responsibility for perpetrators of sexual violence is now collective. Some NGOs are concerned that the new resolution on sexual violence does not strengthen the provisions of UNSC Resolution 1325 on Women, Peace and Security and that it does not offer clear measures to end impunity for acts of sexual violence.

TABLE 2.2 Estimated incidents of rape in selected armed conflicts

Armed conflict	Estimated number of incidents
Sierra Leone (1991–2001)	More than 215,000
Rwanda (1994)	250,000–500,000
Bosnia and Herzegovina (1992–95)	14,000–50,000
Liberia (1989–2003)	Approximately 500,000 ⁹
Kosovo (1998–99)	23,200–45,600 ¹⁰

SOURCES: UNICEF (2005, p. 4); UNECOSOC, Commission on Human Rights (1996, §16); OCHA/IRIN (2005, p. 178); Refugees International (2004); AI (2004, p.10); Hynes and Cardozo (2000)

of mortality statistics collected before, during, and after conflict. Demographers and statisticians offer several approaches based on the availability of data sources and the derivation of the best estimates. Multiple systems estimation (MSE) techniques can, for example, assess databases of human rights violations, a census of public graves, and an RMS to estimate mortality. The clear advantage of such an analysis is the assessment of quality among different data sources to derive a best estimate. However, the approach could also aggregate potentially flawed sources of secondary data giving a false impression of a solid evidence base.

Direct versus indirect deaths in recent conflicts

Given the challenges to arriving at an assessment of the burden of indirect deaths in armed conflict, it is difficult to provide a precise assessment of the annual burden of indirect conflict deaths. Based on the figure of 208,300 conflict deaths between 2004 and 2007 (an average of around 52,000 per year) presented in the chapter on conflict deaths, it is possible to provide some indication of the likely indirect burden in recent years.

The first step is to examine the available evidence on indirect versus direct deaths in recent conflicts. Table 2.3 below does this for 13 conflicts, from different continents and covering different time

periods. Several points should be noted from this table. First, in all but one case (Kosovo, 1998–99), indirect deaths were greater than direct deaths, and usually by a wide margin. The Kosovo case

TABLE 2.3 Direct vs. indirect deaths in several recent armed conflicts

	Indirect deaths as percentage of total excess deaths	Ratio of indirect to direct deaths	Conflict mortality rate (per 100,000 per year, average)	Total conflict deaths (direct and indirect)
Kosovo, 1998–99 ^a	0 ¹¹	–	334	12,000
Iraq, 2003–07 ^b	63	3.0	246	347,000
Northern Uganda, 2005 ^c	85	5.6	476	26,000
Democratic Republic of the Congo, 1998–2002 ^d	90+	9.0	1,316	3,300,000
Congo-Brazzaville, Pool Region, 2003 ^e	83	4.8	n/a	n/a
Burundi, 1993–2003 ^f	78	3.5	500	300,000
Sierra Leone, 1991–2002 ^g	94	15.7	1,101	462,000
Darfur, Sudan, 2003–05 ^h	69	2.3	730	142,000
South Sudan, 1999–2005 ⁱ	90+	9.0	1,178	427,000
Angola, 1975–2002 ^j	89	8.1	676	1,500,000
Liberia, 1989–96 ^k	86	6.1	889	175,000
East Timor, 1974–99 ^l	82	4.6	638	103,000
Iraq, 1991 war ^m	77	3.3	784	144,500

SOURCES:

^a Based on Spiegel and Salama (2000, p. 2204). Detailed calculation in Small Arms Survey (2005, p. 259).

^b There is considerable uncertainty around both direct and indirect conflict deaths in Iraq. Figures used here (87,185 direct and 259,000 indirect conflict deaths) should be considered conservative; it is possible that up to 150,000 direct deaths and as many as 326,000 indirect deaths have occurred. This would yield a total of 476,000 conflict deaths, a conflict mortality rate of 337 per 100,000. Based on data in Box 2.5.

^c Based on WHO (2005). Total deaths is + or - 4,000; UBOS (2006).

^d Based on IRC (2000, pp. 1, 3); IRC (2003b, pp. 5–6); IRC (2001a, pp. 6, 8–11); IRC (2004a, pp. 11, 13, and 17); Coghlan et al. (2008), p. 13. Total death figure from Coghlan et al. (2006).

^e Based on a survey in the Pool region (IRC, 2004b, p. 7). Details in Small Arms Survey (2005, p. 259).

^f Indirect death ratios for 2002–03, based on IRC (2002a; 2002b; 2002c; 2003a). Details in Small Arms Survey (2005, pp. 258–59). Total deaths are for the entire conflict (1993–2003) from IRC (n.d.).

^g See Box 2.4.

^h Based on Guha-Sapir and Degomme (2005a; 2005b). This is a meta-analysis of more than 24 different surveys in the region.

ⁱ See Box 2.3.

^j Based on Lacina and Gleditsch (2005, p. 159). The 11 per cent ‘battle deaths’ estimate appears to include both civilian and combatant violent deaths.

^k Based on Lacina and Gleditsch (2005, p. 159). The 12–16 per cent ‘battle deaths’ estimate appears to include both civilian and combatant violent deaths. Total deaths are + or - 25,000.

^l Based on Silva and Ball (2006). Death total is + or - 12,000.

^m Based on Daponte (2008, p. 59).

can be explained by the relatively well-developed pre-war basic health and service infrastructure, the rapid and effective humanitarian response to the population displacement that occurred during the fighting, and the relatively short and intense nature of the armed conflict.

Second, the conflict mortality rates that these figures suggest are very high, ranging from 334 to 1,316 per 100,000 per year. These are considerably greater than the highest direct conflict and non-conflict death rate, underlining that the risk of dying in warfare can be much higher if accounting for indirect conflict deaths.

Although there is a wide variation in the relationship, in only two cases other than Kosovo did the ratio fall below three indirect deaths for every direct death. Both the Iraq 2003–07 and Darfur, Sudan, 2003–05 cases have been the subject of numerous analyses. The low ratio in the Iraqi case is partly due to the intensity of the violence and the relatively well-developed infrastructure (compared to other conflict zones), and is discussed in Box 2.5. The lower ratio for Darfur is partly due to the fact that studies focused on conflict-affected populations, groups among which the violent deaths were concentrated. It is based on an estimated 142,000 total deaths in 2003–05, of which 43,935 are estimated to be violence-related (Guha-Sapir and Degomme, 2005a; 2005b). Whatever the ratios, the conflicts in Iraq and Darfur exacted a huge human toll.

Three main factors explain the differences in proportion between direct and indirect conflict deaths: the quality of pre-existing health care systems and patterns of disease; the speed and extent of the humanitarian response; and the intensity and duration of battle. Relatively healthy populations with prior access to good health care are much less vulnerable to rapid increases in mortality, whereas vulnerable and weak populations quickly fall victim.



A vigorous humanitarian response—food, water, protection, shelter, and basic health care—and good access to affected or displaced populations can also reduce mortality. Conventional battles between regular armed forces in limited areas—which characterizes few contemporary wars—also reduces the burden of indirect deaths on the civilian population, and can (if fighting is intense) also increase the proportion of battle deaths. These three factors taken together can help explain the relatively low ratio for the 1991 Iraq war, compared with the conflicts in Africa.

The persistence of high levels of indirect conflict death after the end of the violent phase of a conflict is an important problem for policy-makers concerned with humanitarian aid and reconstruction. It is often far more time-consuming to restore health infrastructure, services, and security than to negotiate a ceasefire, or even demobilize combatants. States that have been weakened by long-term violent conflicts generally lack the resources and capacity to address these challenges, and

PHOTO ▲ A line forms outside an information tent in Stenkovec 2 camp, Macedonia, for refugees fleeing Kosovo.
© Andy Johnstone/
Panos Pictures

progress is not made until long after a conflict has ended. The disruption and increased mortality that persist at the end of a violent conflict need to be taken seriously into account in the planning of long-term reconstruction and development programmes.

Without detailed data on mortality for all the contemporary conflicts discussed in the preceding chapter (DIRECT CONFLICT DEATH), it is not possible to give a precise estimate of the indirect burden of armed violence. But an order of magnitude can be offered for the purposes of comparison with other aspects of the global burden of armed violence, based on the following data and assumptions:

- The direct death burden in conflicts for 2004–07 from incident reporting was 208,300, or about 52,000 per year.¹² These reported deaths clearly undercount the actual total of direct conflict deaths, although the degree of undercounting varies by conflict.
- A previous study of undercounting in specific conflicts demonstrated that it could be between two and four times the level captured in incident reports (Obermeyer et al., 2008; Small Arms Survey, 2005, p. 230). In the DRC alone, an estimated average of 51,000 people have died violently per year since 1998, although the annual totals have been lower since 2002.
- A conservative ratio of 4:1 indirect to direct deaths would mean that the burden of indirect deaths for an average year between 2004 and 2007 would be at least 200,000 and probably higher.¹³

The total number of indirect deaths would vary considerably from year to year, depending on the number and intensity of conflicts, the nature of the fighting, the provision of humanitarian assistance, and the condition of the affected population. In order to avoid the impression of excessive pre-


cision in what is simply an order of magnitude, this report concludes that *on average, at least 200,000 persons have died each year as an indirect result of conflict since 2004.*

The pages following the end of this chapter provide detailed discussions of three long wars—in Iraq, Sierra Leone, and South Sudan—to provide concrete illustrations of how field-based surveys can provide a more adequate picture of the burden of violence in armed conflicts.

Conclusion

Quantifying excess mortality and indirect deaths is a difficult task. But the expert consensus is that in almost all contemporary armed conflicts, indirect deaths are often more numerous than mortality arising from violence. Non-violent deaths that can be directly linked to conflict should count as part of the burden of armed violence, since from a human perspective it matters little if a parent or child dies from a bullet or from dysentery soon after an armed clash.

Several scientifically rigorous methods have been developed and improved in recent years, by epidemiologists, demographers, and statisticians, to provide reliable estimates. These methods continue to be refined and standardized, as evidenced by the SMART (Standardized Monitoring and Assessment of Relief and Transitions) initiative and the general increase in the quality of data collection and analysis in humanitarian research.

Continued innovation in measuring indirect mortality in conflicts will be crucial to understand the true human impact of mortality in conflicts, to help set priority public health goals for the prevention of disease and malnutrition, and to provide the evidence base to hold perpetrators of violent acts against innocent populations legally accountable. 

Box 2.3 A very dark number: direct and indirect mortality in southern Sudan, 1999–2005

Since Sudanese independence in 1956, civil wars have raged in the south, with a lull between 1972 and 1983. The period 1983–2005 was the longest and, in all likelihood, the deadliest spell. In January 2005 the Comprehensive Peace Agreement formally ended the fighting, and relative calm has since returned.

Large-scale human rights violations were committed during the 1983–2005 civil war, in particular against the civilian population of southern Sudan. Massive population movements took place; famines were chronic. Food aid to the affected population was in numerous instances denied or purposely obstructed.

An estimated 427,337 people died (excess mortality) during the second phase of the armed civil conflict in the period 1999–2005 in the three states of southern Sudan: 339,342 in Upper Nile, 58,663 in Bahr el Ghazal, and 29,332 in Equatoria (these three regions have become the ten states of South Sudan).

Of these excess deaths, the percentage of direct (violent) deaths is only 0.3, although it appears there was relatively higher direct mortality in Bahr el Ghazal (one per cent) during this period. The total number of direct deaths in southern Sudan between 1999 and 2005 was 1,381 (594 in Bahr el Ghazal, 520 in Upper Nile, and 167 in Equatoria). This is in addition to the previously estimated 1.7 million victims between 1983 and 1998 (Burr, 1993; 1998).

How are these figures arrived at? Direct mortality is estimated from data on killings in all documents that could be found on the Internet, through fellow researchers, and in libraries. Documents were selected if they provided independent information on mortality during the conflict. Incidents and casualties were collected in one file, and identified by location and date, to prevent double counting. Verbal descriptions ('many', 'numerous', 'few') were quantified (see Bijleveld, Degomme, and Mehlbaum, 2008).

To estimate total excess mortality, the crude (CMR) and under-five (U5MR) mortality rates in all the surveys in the CE-DAT database have been plotted against the years studied and the trends in mortality have been investigated (CRED, 2008).¹⁴ Any outliers are removed in order to arrive at a conservative estimate, and mortality rates are applied to time frames and regions to develop a differentiated estimate.

For estimating total mortality, 78 surveys that gave either a CMR or U5MR were found. Only 37 of these gave a recall period, but as

the largest recall period was three months, and as population estimates for southern Sudan are fairly coarse anyway, all surveys were used, whether or not they reported a recall period, and to peg the mortality rate to the time that the survey was administered. Most surveys were conducted by NGOs active in southern Sudan, both in towns like Aweil and Bentiu and in the rural areas. No surveys were found for 1999. One outlier with an U5MR of 33 was removed (Ratnayake et al., 2008, p. 16).

Virtually all surveys that reported CMRs and U5MRs above emergency level were conducted between June 2001 and August 2003 in the Upper Nile and Jonglei states. These rates are problematic, however, as they are excessively high and would have to have been reflected in massive starvation, which was not reported during those years. In addition, the surveys were methodologically different from subsequent measurements. The median of the CMR from the surveys (2.1) was used as a more conservative estimate. With these elevated rates excluded, the average CMR was 0.58.

For the Bahr el Ghazal and Equatoria regions the average non-elevated CMR of 0.58 was used for the entire period. For 1999, the 2000 mortality rates were assumed to hold. For the Upper Nile region the 0.58 CMR was used for 1999, 2000, and 2004. As the surveys show elevated mortality for Upper Nile and Jonglei from only mid-2001 and onwards, 2.1 was used for 2002 and 2003 for the entire Upper Nile region.

To determine excess mortality, expected mortality was subtracted and set conservatively at 0.5. Applying these mortality rates to estimated population sizes, the total excess mortality is 427,337 (339,342 for Upper Nile, 58,663 for Bahr el Ghazal, and 29,332 for Equatoria).

These estimates are dependent on assumptions, and, in the case of direct deaths, in part on a quantification of verbal statements that may be inaccurate. However, even if 90 per cent of all direct mortality was missed, or if total excess mortality were only 50 per cent of what is estimated here, almost all excess mortality would still be indirect, and only a fraction (less than five per cent) the immediate consequence of violence.

By far the largest contribution to mortality in southern Sudan in 1999–2005 was indirect deaths. On a more general note, our calculations are on the edge of feasibility, since they have been made from scarce data and should be used with caution.

Box 2.4 Direct and indirect mortality in Sierra Leone, 1991–2002

Massive human rights violations took place during the civil war in Sierra Leone from 1991 to 2002. During almost 11 years of conflict, many thousands of people were displaced from their homes or fled the country. As the conflict moved across the country, population moved in its wake.

With infrastructure destroyed and/or facilities looted in most conflict zones, parts of the population were unable to plant their crops, and had severely reduced access to health care. In addition to being caught up in the fighting, the civilian population was also actively targeted. Among the crimes committed were widespread and systematic sexual violence, sexual slavery, abduction, use of child soldiers, murder, robbery, destruction, amputations, displacement of people, and starvation (PHR, 2002).

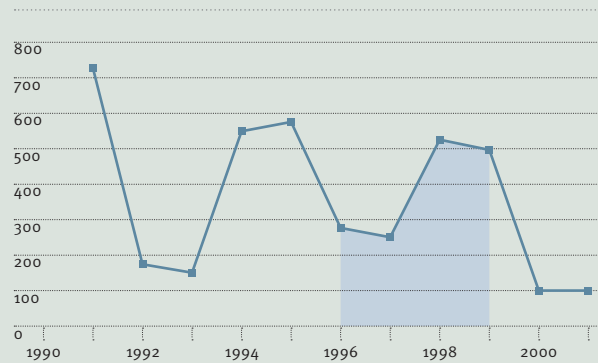
War-related sexual violence in Sierra Leone

During more than a decade of armed conflict in Sierra Leone sexual violence and associated abuse against women and girls was characterized by extreme brutality. As many as 215,000–257,000 women and girls were affected by sexual violence (PHR, 2002, p. 4). According to the Truth and Reconciliation Commission (TRC) all armed factions, in particular the Revolutionary United Front (RUF) and the Armed Forces Revolutionary Council (AFRC), systematically and deliberately raped women and girls (TRC, 2005, p. 162).

In addition to rape, other human rights violations, such as abductions, beatings, killings, torture, forced labour, firearms and other injuries, and amputations were committed on a regular basis. One survey found that 94 per cent of 991 randomly surveyed households reported at least one of the above listed abuses during the course of the war. Of those who experienced sexual violence, 89 per cent were raped, 33 per cent were gang raped, 33 per cent were abducted, 14 per cent were molested, 15 per cent experienced sexual slavery, and 9 per cent were forced into marriage. The majority of incidents occurred between 1997 and 1999 (PHR, 2002, pp. 2–4).

Violence against the civilian population and especially against women and girls perpetrated by combatants in Sierra Leone was widespread, representing a significant long-term health burden.

FIGURE 2.2 Distribution of killings in Sierra Leone, 1991–2001



SOURCE: Benetech report to the TRC (Conibere et al., 2004)

Different estimates of civilian deaths from these gross human rights violations do exist, ranging from 35,000 to 200,000 deaths (cf. Bijleveld and Hoex, 2008). These estimates are, however, barely substantiated. Also, it is unclear what part of mortality is direct (violent) and what part is indirect (consequence of disease, starvation, exhaustion, injuries, etc.).

To estimate direct mortality, the distribution of direct deaths as reported by the Sierra Leonean Truth and Reconciliation Commission (TRC) is used. Next we assume that all killings in Sierra Leone in the period under investigation did follow the trend as given by the TRC report. Finally, the level of this trend curve was set to match the available data (mainly from UN and Amnesty International sources) on direct killings from 1996–99.

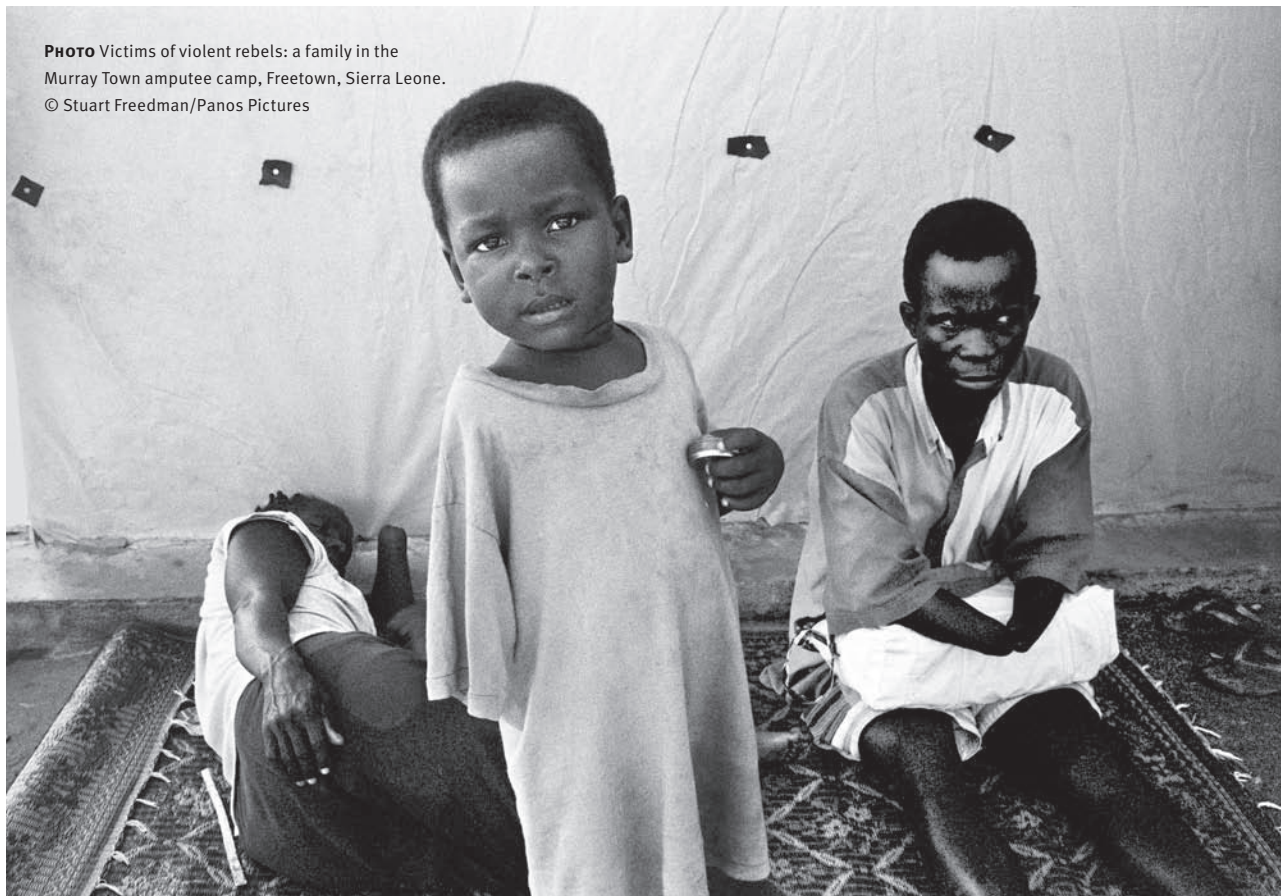
Figure 2.2 describes the distribution over time of the total estimated direct mortality of 26,704.

This number should be regarded as conservative when compared with other sources. TRC data is an underestimate: for instance, in January 1999 around 5,000 persons were killed in Freetown, while the total TRC number adds up to approximately 4,500.

Similarly, the Amnesty International deaths are also an underestimate, since they cover only six months in 1996, only five months in 1997, and eight months in 1998; as well, not all districts were covered and some periods and areas were too dangerous to survey.



PHOTO Victims of violent rebels: a family in the Murray Town amputee camp, Freetown, Sierra Leone.
© Stuart Freedman/Panos Pictures



Total excess mortality was calculated using a hypothetical population size for 2002 and assuming uninterrupted non-conflict population growth from the 1990 population for Sierra Leone of 4,087,000. Using a conservative growth rate of 1.96 and correcting for migration leads to a hypothetical population size by 2002 of 4,979,321.

The actual population size in 2002 was estimated by calculating back from the 2004 census, and again correcting for migration, to estimate actual Sierra Leonean population size in early 2002 at approximately 4,517,330.

Total war-related mortality, estimated as the difference between the hypothesized and the actual population, is then approximately 461,990—meaning that an estimated 460,000 Sierra Leoneans

lost their lives as a result of the conflict between 1991 and 2002.¹⁵ Approximately 26,704 of these deaths—or six per cent—were most probably directly due to violence. Roughly 94 per cent of the total excess mortality was thus indirect, mostly attributable to causes other than violence.

These estimates all depend on assumptions. It may have been that the Sierra Leonean population would, without the conflict, not have grown at the assumed rate, but at a much slower rate. In that case, the percentage of direct deaths becomes higher. However, even if the growth rate were set at the lowest rate ever measured (1.4 per cent, which is unrealistic and too low), still around a quarter of total excess mortality is direct, and three-quarters is indirect. By far the greater part of the mortality in the Sierra Leone war was indirect.

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Box 2.5 Armed violence in Iraq: what's in a number?

Estimates of violent deaths (both direct and indirect) in Iraq since 2003 have generated extreme controversy, in part because of the wide variation in the number of deaths, in part because of lack of clarity regarding what different techniques measure or count. Sources may focus on combatants (battle deaths), civilians who die violently, or on changes in overall mortality rates since 2003.¹⁶ But as shown below, it is reasonable to conclude that armed violence has claimed more than 200,000—and perhaps up to 400,000—lives since 2003.

The situation in Iraq also shows how difficult it is to draw a line between 'conflict' and 'post-conflict' violence, or between conflict and 'non-conflict' or criminal violence. In many cases, the identity or motive of the perpetrator of violence is unknown, making it difficult to establish why particular killings occur. Furthermore, the ebb and flow of armed violence since 2003 call into question the very notion that violent deaths decrease after a conflict has been declared over. ▶▶

TABLE 2.4 Violent deaths reported in Iraq, 2003–07

Database	2003	2004	2005	2006	2007	Total*
Cross-country databases						
IISS	10,000	15,000	12,900	23,000	31,560	92,460
Ploughshares	12,500	6,500	10,500	35,000	n/a	64,500
PITF	100–1,000	1,000–5,000	10,000+	10,000+	n/a	23,500**
PRIO	10,000	9,500	8,100	n/a	n/a	27,600
SIPRI	18,600	n/a	5,500	n/a	n/a	24,100
UCDP state	8,313	1,987	2,299	3,537	n/a	16,136
UCDP state and non-state	8,494	2,304	3,418	3,537	n/a	17,753
National databases						
Iraq Body Count	11,672	9,843	13,816	26,659	23,427	85,417
Iraq Coalition Casualty Count	598	1,093	3,542	3,042	2,833	11,108
GBAV estimate	10,919	9,803	15,788	26,910	23,765	87,185

* For available years only.

** This includes averages for the ranges for 2003 and 2004 and the lowest figures for 2005 and 2006.

Source from this chapter: Iraq Coalition Casualty Count (2008).

Sources from Chapter 1 (DIRECT CONFLICT DEATH): IISS (2008); Iraq Body Count (2008); PITF (2006); PRIO (2008); Project Ploughshares (2007); SIPRI (2007); UCDP (2006a)

Violent (direct) deaths

Two main techniques have been used to collect data and estimate levels of violent deaths: incident reporting and mortality data from surveys. The Iraq case is one of the few in which a comparison between different methods can be made.

Table 2.4 shows data from incident-based databases, both from cross-country databases and country-based studies for Iraq. The differences are mostly due to different techniques and (more importantly) different rules for counting. The UCDP dataset, for example, measures only battle-related deaths; Iraqi Body Count measures civilian casualties including morgue reports; and the Iraqi Coalition Casualty Count measures casualties among combatants and civilian contractors.

The last row in Table 2.4 provides the consolidated estimate for 2003–07 used in this report. It is based on combining figures for country-based studies and accounting for the different counting methodologies used. This report thus estimates that since the start of the war *at least* 87,000 direct conflict deaths have occurred, of which only 15 per cent are identified as state or coalition combatants. Translated into mortality rates, this would equal approximately 65 violent deaths per 100,000 people per year—a high rate. All the sources used note that undercounting of the real burden is likely because of difficulties encountered in gathering reliable information on all violent deaths.

The GBAV estimate is calculated by pooling a variety of incident-based datasets. In order to control for overlap across sources, this technique includes civilian data from Iraq Body Count after discounting morgue data, which cannot be tied to conflict actions with any certainty. While it also excludes accidents and civilian data, the estimate includes figures for military and contractor casualties as well as Iraqi armed forces generated by the Iraq Coalition Casualties Count. The GBAV estimates track the perceived intensity of the war over time and are similar to the trends documented in most other data sources.¹⁷ ▶▶

TABLE 2.5 Violent death estimates from three mortality surveys

	Period covered	Violent deaths
Roberts et al. (2004)	March 2003–Sept. 2004 (18 months)	14,700–49,980*
Burnham et al. (2006)	March 2003–July 2006 (40 months)	601,027 (426,369–793,663)
Alkhuzai et al. (2008)	March 2003–June 2006 (40 months)	151,000 (104,000–223,000)

* This estimate is based on the percentage of the recorded deaths that were violent deaths (15 per cent if the deaths from Falluja are excluded; 51 per cent if they are included), multiplied by the mid-point estimate of 98,000 excess deaths. It should be noted that there is a wide confidence interval for the estimate of 98,000 deaths, so these figures should be taken as indicative only.

TABLE 2.6 Overview of indirect death estimates from three mortality surveys

	Period covered	Excess deaths estimate
Roberts et al. (2004)	March 2003–Sept. 2004 (18 months)	83,300*
Burnham et al. (2006)	March 2003–July 2006 (40 months)	53,938**
Alkhuzai et al. (2008)	March 2003–June 2006 (40 months)	259,000***

* The figure is the total of 98,000 excess deaths minus the violent deaths (14,700), excluding violent deaths recorded in the Falluja cluster, which was itself excluded from the estimates given for excess deaths.

** The figure is low because of the very high rate of violent deaths reported (see Table 2.5).

*** The range for this estimate is 213,000–327,000. Figure based on WHO calculations from the original dataset. Mills and Burklee (2008) suggest a higher figure of 282,000 non-violent indirect deaths.

Several recent epidemiological studies provide further information on the scale and scope of direct and indirect conflict deaths. Two studies were published in the medical journal *The Lancet* in 2004 and 2006 (Roberts et al., 2004; Burnham et al., 2006) and a third in the *New England Journal of Medicine* in 2008 (Alkhuzai, 2008), all based on sampling survey techniques used to calculate an estimate for the entire population. At least one of these estimates stirred a controversy by revealing an extremely high level of violent deaths (conflict and non-conflict), much larger than the one estimated by incident reporting or other studies. The results of all three epidemiological studies for violent deaths are summarized in Table 2.5.

At first glance, such a wide range seems to imply that the exact number of deaths due to violence remains unknown. But the quality and reliability of these surveys is not equal. The most recent study (2008) surveyed 9,345 households, and was conducted under the auspices of the World Health Organization. The previous two studies, both conducted under difficult circumstances and with limited resources, surveyed 990 (2004) and 1,849 (2006) households. The gain in precision with greater numbers of households surveyed in the 2008 study is obvious, and some concerns have been raised about the accuracy of the estimates in the 2006 study.

The estimate of 151,000 violent deaths for the 40-month period from March 2003 to June 2006—an average of 45,300 deaths per year (Alkhuzai, 2008)—is approximately three times higher than the equivalent period in the incident reporting data. The figure can in part be explained by the under-reporting that characterizes all incident reporting systems, especially where media coverage is patchy and conflict is intense. It also underscores the main message of the conflict deaths chapter—that the figures of 52,000 conflict deaths per year *for all conflicts* in recent years, based on incident reporting, is certainly an undercount of the burden of direct deaths (CONFLICT DEATHS).

Indirect deaths

The Iraqi conflict also potentially produced *indirect deaths*—persons who have died from such preventable causes as disease and malnutrition, due to loss of access to basic health care, water and sanitation, or other basic services. The three mortality surveys discussed above estimate both violent and non-violent mortality; consequently, they can also estimate the burden of indirect conflict deaths in Iraq. Table 2.6 presents an overview of the results of the non-violent mortality rates.

The figures in Table 2.6 provide a very wide range of estimates: between 1,348 and 3,900 per month. Nevertheless, based on these figures, which calculate the difference between the post-invasion and pre-invasion mortality rates in Iraq, one can arrive at an estimate of indirect deaths from March 2003 to March 2008 (five years) for the Iraq conflict: more than 150,000 indirect deaths, with a wide possible range between 80,000 and 234,000. These figures illustrate that the estimate for excess indirect mortality in Iraq remains as imprecise as the estimate for direct deaths.

Regardless of the final figure, the total number of direct and indirect victims of the Iraq war since 2003 is very large, almost certainly exceeding 200,000 and perhaps as high as 400,000.

Abbreviations

AFRC	Armed Forces Revolutionary Council
CE-DAT	Complex Emergency Database
CMR	Crude mortality rate
CSO	Civil society organization
DRC	Democratic Republic of the Congo
HIS	Health information system
IDP	Internally displaced person
MSE	Multiple systems estimation
RMS	Retrospective mortality survey
RUF	Revolutionary United Front
TRC	Truth and Reconciliation Commission
UNSC	United Nations Security Council
U5DR	Under-5 death rate
U5MR	Under-5 mortality rate

Endnotes

- 1 This chapter draws extensively upon Ratnayake et al. (2008), which was commissioned for the *Global Burden of Armed Violence* report.
- 2 Of the 2.1 million reported indirect deaths since 2004, only 0.4 per cent—or 8,400—were calculated as violent deaths, a figure that accords well with the direct conflict death estimates for the same four years (Coghlan et al., 2008).
- 3 This 'reasonable estimate' is based on the assumed undercounting of combat deaths, and conservative assumptions about indirect deaths. The figure is explained in more detail below.
- 4 The use of alert thresholds is explained further in Checchi and Roberts (2005, p. 7).
- 5 Accidents are sometimes grouped under direct deaths as they specify a grey area where deaths may have indeed been due to violence.
- 6 For a more detailed account of the methods of quantifying indirect deaths, see Ratnayake et al. (2008, pp. 6–12)
- 7 Letter to the UNSC from 71 Congolese organizations representing the women of DRC. 12 June 2008.
- 8 Letter to the UNSC from 71 Congolese organizations representing the women of DRC. 12 June 2008.
- 9 Estimated 40 per cent of the female population, averaged over 15 years.
- 10 Population-based survey of 1,358 Kosovo Albanians (who had been internally displaced or who had recently returned to Kosovo) conducted in August and September 1999 by the Centres for Disease Control and Prevention (CDC). Extrapolation to an estimated 800,000 Kosovo Albanian women over 15 years of age (Hynes and Cardozo, 2000).
- 11 In Kosovo the number of violent deaths recorded in the sample population actually exceeded the number of calculated excess deaths (both direct and indirect) in the conflict. This may be a statistical artefact due to the small numbers used to calculate ratios, but it also reflects the fact that intentional injury was a cause of death in Kosovo even before the most intense phase of the conflict. Some direct deaths may therefore have been included in the number of expected deaths for the population.
- 12 This figure includes civilian victims of violence in conflict; the number of combatant deaths is lower.
- 13 A qualitative assessment of the most important ongoing conflicts would support this assumption of a 4:1 indirect to direct death ratio as a minimum average.
- 14 The Complex Emergency Database (CE-DAT) is an online, publicly accessible, searchable database of global humanitarian emergencies. It contains more than 1,800 surveys previously collected in complex emergencies occurring since the year 2000. <<http://www.cedat.be>>
- 15 It should be stressed that these are a conservative estimates; Bijleveld and Hoex (2008) give a range.
- 16 It is impossible to summarize all the relevant contributions to these debates. For some examples, see Dobbs (2007); Fischer (2007); Ahuja (2007); and Tapp et al. (2008).
- 17 See the online annexe at www.genevadeclaration.org for a detailed explanation of the methodology.

which was commissioned for the *Global Burden of Armed Violence* report.



CHAPTER THREE **Armed Violence After War:** **Categories, Causes, and Consequences**

THE END OF war does not necessarily herald a return to security. Ceasefires, peace agreements, arms control activities, or even elections—important as they are—do not necessarily guarantee tangible improvements in the safety—real or perceived—of individuals and communities. In fact, many so-called post-conflict theatres presented more direct and indirect threats to civilians than the armed conflicts that preceded them.

Since many armed conflicts end without a strong commitment to the peace agreement or ceasefire, efforts to impose a ‘victors’ justice’ can actually escalate armed violence (Kreutz, Marsh, and Torre, 2007; Licklider, 1995). Similarly, some armed groups may be dissatisfied with the terms of the ‘peace’, providing a source for instability (Muggah, 2008; Darby, 2001). Pre-existing networks and structures associated with the war economy may remain intact. Post-conflict armed violence may thus be perpetrated by a fluid constellation of state agents and armed groups with competing (and often changing) motivations and interests. Armed violence that may previously have been concentrated in specific geographic areas in the hinterland may shift to new spaces—from war zones and border areas to urban slums.

Post-conflict armed violence is a policy concern, for two reasons: because it often contains the ‘spoiler’ potential to disrupt a peace process or contribute to a relapse into war, and in its own right as a condition that can undermine longer-term

processes of development and democratization (Chaudhary and Suhrke, 2008).

This chapter focuses on the character and shape of post-conflict armed violence. Post-war contexts are as complex and varied as war-affected environments, and several different types of post-conflict violence can be distinguished, including political violence, routine state violence, economic and crime-related violence, community and informal justice, and post-war displacement and disputes. A number of important patterns emerge from an analysis of post-conflict environments:

- Some post-conflict situations have rates of armed violence comparable to (or even higher than) the conflicts that preceded them.
- Indirect (non-violent) deaths can remain high in post-conflict societies, long after the fighting stops.
- Post-conflict countries are at greater risk of war recurrence than those that have not experienced armed conflict.
- Structural risks in post-conflict environments—youth bulges, high rates of male unemployment, and concentrations of displaced populations—can contribute to armed violence.
- In post-conflict situations, violence against women often continues, and in some cases increased incidence of such violence has been reported.

- Refugee and internally displaced populations in camps and settlements are often exposed to high levels of armed violence.

The chapter concludes by noting that there are a range of security promotion strategies to quell the effects of armed violence that can be useful in post-war (as well as non-war) contexts. These range from post-conflict disarmament, demobilization, and reintegration (DDR) to security sector reform (SSR) and activities focused on armed violence prevention and reduction.

These interventions may be useful if targeted at specific groups at risk for, or vulnerable to, violence, and at potential ‘spoilers’ (individual combatants and groups) of peace transitions. But these programmes often lack clear measures of effectiveness particularly when they contend with the criminal and quasi-political violence that often overtakes politically oriented violence in the post-conflict period. Medium- and long-term strategies that are not pursued in isolation may be more useful to reduce the risks of high levels of post-conflict armed violence.

PHOTO ▼ An old woman and child in the remains of a bombed-out warehouse.
© Teun Voeten/Panos Pictures



Disaggregating post-conflict armed violence

A common belief is that when armed conflicts come to an end improved safety and security will soon follow. While direct conflict deaths rapidly decline when war ends, new forms of armed violence can emerge, and the level of indirect deaths can remain comparatively high until access to basic services is re-established.¹ Conflict and post-conflict armed violence substantially increases the exposure of civilians, particularly women and children, the elderly, and the displaced, to a higher risk of mortality and morbidity (WHO, 2008a; 2008b; Ghoborah, Huth, and Russett, 2003). For example, in the wake of the 1990–91 Gulf War, one expert remarked that ‘far more persons died from postwar health effects than from direct war effects’ (Daponte, 1993). Where wars are especially long and severe, post-conflict mortality and morbidity can escalate further still.

The persistence of above-average rates of mortality and morbidity in the post-conflict period is linked to reduced financial investment and human resources in public infrastructure, including health care. Depending on the length and severity of the conflict, the professional health workforce may be seriously depleted, often taking generations to recover (Hoeffler and Reynal-Querol, 2003). But because surveillance and monitoring systems may also collapse, there are considerable challenges to defining and measuring the global burden of post-conflict armed violence.² Another challenge is linked to disagreements over how to define ‘post conflict’: as with definitions of ‘war’, ‘armed conflict’ and ‘violent crime’, there is no internationally agreed definition of when a country is officially pre- or post-conflict.

A post-conflict situation is here described as a *situation following an armed conflict, character-*

ized by a clear victory of one party, a declared cessation of war (i.e. peace agreement or ceasefire), a stalemate, or a significant reduction in armed violence. Post-conflict environments are more easily described than defined. Table 3.1, which lists several recent ‘post-conflict’ countries, highlights the nature of the challenge. Afghanistan is ‘post-conflict’ in the sense that the Taliban government was overthrown in 2001, but significant fighting continues in many areas. Burundi witnessed a power-sharing arrangement in 2003, but the last remaining rebel group was not brought into the fold until 2008. Other conflicts have similar complexities.

These semantic disagreements generate contradictions and challenges. For example, there are routine disagreements over how to ‘count’ violent deaths, human rights violations, and criminal violence during and after wars. Certain governments may feel they have legitimate reasons to shield the true magnitude of armed violence from public scrutiny.³ As a result, there is little systematic or synthetic analysis of post-conflict violence, and few comprehensive datasets exist to explain patterns and trends before and after war.

While it may be difficult to define post-conflict circumstances precisely, certain broad generalizations can be made about different post-conflict contexts. According to Chaudhary and Suhrke (2008) post-conflict countries can be differentiated according to how they experience armed violence. Some countries that have long since emerged from war, such as Nicaragua, Guatemala, and El Salvador, continue to exhibit acute levels of armed violence—sometimes at rates higher than during periods of their armed conflicts. Other countries, such as Peru, Mozambique, the Solomon Islands, and Sierra Leone, successfully transitioned into more peaceful societies.

TABLE 3.1 Selected post-conflict countries: 1995–2005

	End date	Outcome
Afghanistan*	2001	Victory
Angola	2002	Peace agreement
Bosnia and Herzegovina*	1995	Peace agreement
Burundi	2003	Peace agreement
Cambodia	2000	Peace agreement
Cameroon*	1996	Reduced conflict
Central African Republic*	2002	Reduced conflict
Comoros*	1997	Ceasefire
Congo, Democratic Republic	1999, 2002	Peace agreement
Congo, Republic of	2000	Peace agreement
Côte d'Ivoire*	2004	Peace agreement
Ecuador-Peru *	1995	Ceasefire
Eritrea*	1997, 2000	Peace agreement
Ethiopia*	1997, 2000	Peace agreement
Guinea-Bissau*	1999	Victory
Indonesia/Timor-Leste	1999	Peace agreement
Indonesia/Aceh	2005	Peace agreement
Israel*	1999, 2006	Reduced conflict
Lesotho*	1998	Victory
Macedonia*	2001	Peace agreement
Myanmar*	1997	Ceasefire
Nepal	2005	Peace agreement
Niger*	1997	Ceasefire
Nigeria ^{a,*}	2004	Victory/ceasefire
Russia (Chechnya)*	1996	Ceasefire
Rwanda	2002	Peace agreement
Sierra Leone*	2000	Peace agreement
Solomon Islands	2003	Intervention
Sri Lanka*	2001	Ceasefire

^a There were two conflicts that ended in 2004: northern Nigeria (victory) and Niger Delta (ceasefire agreement).

SOURCES: * UCDP, Conflict Termination dataset v. 2.0, 1946–2006. Other entries by editors.

Box 3.1 Post-conflict violence in the Democratic Republic of the Congo

As conflict subsides and violence is brought under control, direct mortality rates decline rapidly. Indirect mortality rates also decline, but somewhat more slowly, and they remain elevated for an unspecified time (Ghobarah, Huth, and Russett, 2001). These trends have been documented in Sierra Leone, Angola, Liberia, and South Sudan, among other places.⁴

The persistence of above-average rates of indirect conflict deaths in the aftermath of war is a critical challenge facing humanitarian and recovery operations. Far more time and resources are expended on reconstructing basic health infrastructure than in negotiating ceasefires and disarming and demobilizing former combatants. The relative vulnerability of populations combined with the inability of states to rehabilitate and resume basic service delivery can contribute to an increase in mortality that persists well after armed conflicts come to an end.

The Democratic Republic of the Congo (DRC) was affected by systemic armed conflict for more than a decade, with devastating implications for population health. The acute armed violence (1998–2002) contributed to a massive upsurge in violent deaths, a serious deterioration in health services, food shortages, displacement, and ultimately spiralling rates of excess mortality.

Despite the signing of a formal peace accord in late 2002 and a reduction in levels of armed violence, persistent conflicts in several eastern provinces continued to exact a monumental human toll long after the shooting stopped. Although a reduction in the risk of violent death and more robust UN peacekeeping efforts by United Nations Mission in the Democratic Republic of the Congo (MONUC) have shored up the security situation since 2004, the situation for the Congolese remains precarious.

On the basis of five surveys conducted between 2000 and 2007, the International Rescue Committee (IRC) estimates that more than 5.4 million excess deaths occurred after 1998. An estimated 2.1 million of these excess deaths—more than one-third—have occurred since the formal end of war in 2002. Six years after the signing of the formal peace agreement, the country's national crude mortality rate (CMR) remains stubbornly high at 2.2 deaths per 1,000 per month—more than 50 per cent higher than the sub-Saharan African average. As Table 3.2 shows, CMRs are higher in the volatile eastern provinces, at some 2.6 deaths per 1,000 in 2007.

The IRC claims that DRC represents the 'world's deadliest crisis since World War II' (IRC, 2007, p. ii). Crucially, fewer than 10 per cent of all these deaths were attributed to armed violence. The vast majority of the victims died as a result of easily preventable diseases such as malaria, diarrhoea, pneumonia, and malnutrition.

TABLE 3.2 Approximate crude mortality rates (CMRs) in east and west DRC, 1999–2007

	Percentage of crude mortality rates (CMRs) due to violent deaths	CMR in east DRC (per 1,000 population)	CMR in west DRC (per 1,000 population)
1999	11.1	5.4	–
2000	–	5.4	–
2001	9.4	5.4	–
2002	–	3.5	2.0
2003	1.6	2.9	1.8
2004	–	2.9	1.8
2006	–	2.6	2.0
2007	0.6	2.6	2.0

NOTE: 2005 was a period that was not surveyed.

SOURCE: IRC (2007, pp. 9, 13)

On the basis of Chaudhary and Suhrke (2008), it is possible to discern several overlapping post-conflict scenarios. These include *political violence, routine state violence, economic and crime-related violence, community and informal justice, and post-war property-related disputes*.⁵ Post-conflict environments imperfectly reflect the conflicts that precede them. They may continue to feature government-supported militia, the emergence of organized crime relying on new forms of capital, and the progressive militarization of society, including in the service of economic and political elites, and high levels of sexual violence (see Box 3.2).

Why would the incidence of post-conflict violence remain high, and why would its form change? One reason is that the domestic balance of power is usually fundamentally realigned after an armed conflict. Whether as a result of concessions made during peace negotiations, the disarmament and

TABLE 3.3 Typology of post-conflict armed violence

Type of violence	Indicators
Political violence	Assassinations, bomb attacks, kidnappings, torture, genocide, mass displacements, riots
Routine state violence	Violent law enforcement activities, encounter killings, social cleansing operations, routine torture
Economic and crime-related violence	Armed robbery, extortions, kidnappings for ransom, control of markets through violence
Community and informal justice and policing	Lynching, vigilante action, mob justice
Post-war displacements and disputes	Clashes over land, revenge killings, small-scale 'ethnic cleansing'

SOURCE: Chaudhary and Suhrke (2008)

Box 3.2 Sexual violence in the aftermath of war

Higher levels of rape and domestic violence have been reported in many post-conflict situations, such as in the Democratic Republic of the Congo, in the former Yugoslavia, in Afghanistan, Burundi, and Liberia, but also in Guatemala, Nicaragua, and Peru (Bastick, Grimm, and Kunz, 2007). Post-conflict sexual violence has been explained by a multitude of factors including the influx of returnees to their communities, high unemployment rates, lack of economic opportunities, widespread availability of arms, breakdown of social norms, post-conflict masculinity crisis, and high prevalence of single female-headed households. Weak justice and police institutions, general lawlessness, and a climate of impunity further increase the risk of violence and the victimization of groups vulnerable to sexual violence, such as women and children.

In this environment, the culture of violence and lack of respect for human rights persists. In some post-conflict countries, it has been observed that, while during conflict the majority of perpetrators of violence and sexual violence were identified as members of armed groups and security forces, an increasing number of perpetrators during the post-conflict period seem to be neighbours and community members.

In Sierra Leone, experts estimate that between 215,000 and 257,000 women and girls were affected by sexual violence (PHR, 2002, p. 4). The legacy of widespread sexual violence during armed conflict continues into post-conflict society. Half a decade after the end of the conflict, women and girls were not safe from sexual assault. The International Rescue Committee together with the Government of Sierra Leone established Sexual Assault Referral Centres, also referred to as 'Rainbo' centres, offering free medical, psycho-social, and legal support to victims (Kellah, 2007). In 2007, 1,176 women and girls were treated at the centres. Victims of sexual assault and rape were very young: 65 per cent of reported cases were girls younger than 15 years. In 149 cases women and girls were gang-raped. Most of the cases came from areas with large numbers of ex-combatants. This number represents only a fraction of all incidents. Most police stations received at least one complaint of rape every day. But the unreported cases remain very high because victims are very reluctant to report what happened to them (IRIN, 2008).

Many DDR programmes established in the aftermath of war still observe traditional gender roles and focus disproportionately on male combatants. Thus, women and girl combatants are often excluded or their special needs are not taken into account. This increases the risk of social exclusion and poverty for women and children ex-combatants, making them more vulnerable to trafficking and prostitution, perpetuating a cycle of sexual violence. Thus, excluding women and girls from DDR has important implications for the victims themselves, but also for development more generally. Some DDR programmes, such as the United Nations Mission in Liberia's DDR Action Plan, have started to include an explicit gender focus and special arrangements for female combatants.

SOURCE: Bastick, Grimm, and Kunz (2007, pp. 183–86)



PHOTO ▲ A five-year-old Hutu refugee boy stands next to a Rwandan Army soldier in Gisenyi, 1996.
© Jerome Delay/AP Photo

demobilization of commanders and rank and file, or the introduction of democratic elections, different winners and losers emerge in the post-conflict period. In addition, political elites may rely on political armed violence to shore up their negotiating positions and lay out their agendas. The shape and direction of such violence will be informed by the dynamics of a given peace settlement or internationally supported recovery strategy.

As noted by Chaudhary and Suhrke (2008), if one party wins and controls a strong security apparatus this can lead to violent purges to eliminate

remnants of the enemy and its affiliates, as was the case in Rwanda following the 1994 genocide.⁶ By contrast, if a war ends with a clear settlement overseen by international forces, there may be fewer instances of flagrant persecution. Rather, former and official political authorities, military personnel, and business elites may deploy violent intimidation against those challenging their position. In many cases, such actions may be reported erroneously as common or petty crime. Even more problematic, in some post-conflict settings experiencing fragmentation and division, armed violence can take on more anarchic characteristics. Following the United States-led armed intervention in Afghanistan in 2001, for example, the vacuum created by the factionalization of the security sector contributed to an escalation in warlord-inspired violence.⁷

Many post-conflict environments are equally characterized by more routine *state-led armed violence* perpetrated by its security apparatus. In certain countries such as Guatemala, Mozambique, or Angola, the military, police, and paramilitary forces may be more inclined to pursue violent strategies than to deliver public security after the warfare has come to an end. The progressive militarization of these security institutions may be implicitly sanctioned, even if not explicitly authorized, by politicians and public authorities. Routine state armed violence can include what Chaudhary and Suhrke (2008) label ‘encounter violence’ (i.e. extrajudicial killing of suspected criminals rather than arrest or prosecution) as well as torture to obtain confessions. Security agencies may also condone social cleansing operations in slums and shanty towns as part of law and order operations.

Another common feature of post-war societies is *economically motivated armed violence*. Policy-makers and researchers have focused on the way

illegal war economies, including their networks of patronage, contribute to persistent armed violence at war's end in countries such as Afghanistan, Bosnia, Haiti, and elsewhere (Cooper, 2006; Spear, 2006; Goodhand, 2005; Pugh, 2005). Armed groups that have not been effectively disarmed and demobilized may morph into organized criminal networks. The entrenchment of economic armed violence can persist due to the continued presence of armed ex-combatants with experience using violence and the absence of meaningful employment and economic opportunities, as the case of Iraq so painfully demonstrates. Government and state security forces may also seek to continue to profit from illegal rents. As pointed out by Chaudhary and Suhrke (2008), organized crime of a certain scale cannot continue without some degree of official complicity. Countries such as Liberia, Northern Ireland, South Africa, and others in Central America experienced violent crime waves in the aftermath of war.

An under-reported but nevertheless important category of post-war armed violence relates to *community and informal justice and policing*. Because 'modern' law enforcement is often contested in post-conflict societies, informal policing including vigilantism, lynching, gang patrols, and customary forms of retributive justice can come to the fore. As Chaudhary and Suhrke (2008) observe, the lines between these various categories are fluid and shifting. For example, vigilante groups are often formally structured and draw on popular support (White, 1981).

Such violence may derive legitimacy through the real and perceived protection of civilians from daily insecurity, often with public support from state authorities. In Liberia, for instance, the Ministry of Justice (controversially) called for the formation of vigilante groups to counter increasing violent crime in the capital, Monrovia. Lynching

and mob justice also appear to enforce certain forms of order and moral codes.⁸ Community policing can include elements of 'gang' violence, just as neighbourhood gangs may also establish elements of local control through the provision of 'protection services'. In post-war Nicaragua, for example, urban youth gangs have evolved from 'providing micro-regimes of order as well as communal forms of belonging' in the mid-1990s, to forming predatory organizations 'concerned with regulating an emergent drug economy in the exclusive interest of the individual gang members instead of protecting the local neighbourhood' (Rodgers, 2006, p. 321).

A final category of post-conflict armed violence relates to *property disputes* arising from competing claims registered by displaced populations. Large-scale dislocation can generate renewed armed violence if repatriated or returning families find their house, land, and assets seized by some-

PHOTO ▼ A mother with two children crouched in the entrance of a makeshift shelter at the Kalma refugee camp, Nyala, Sudan, 2007. © Sven Torfinn/Panos Pictures



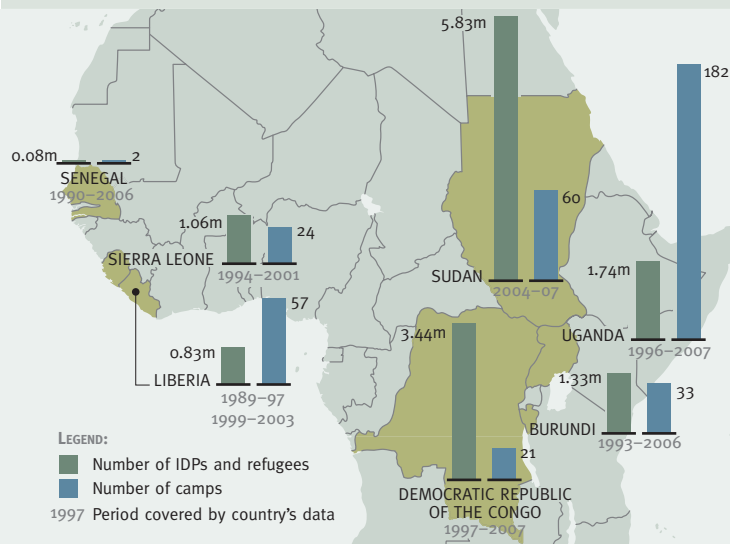
Box 3.3 Protecting the displaced from armed violence

Refugees and displaced persons are most often fleeing from conflicts, but dislocated populations can remain for long periods in protracted and 'post-conflict' situations. In these circumstances, violence may have subsided, but insecurity is high and return impossible.

Overall refugee numbers are disputed. In 2007, The UN High Commissioner for Refugees (UNHCR) recorded 11.4 million refugees under its mandate, of whom about 2.3 million were in Africa alone (UNHCR, 2008, pp. 2, 7). Although there are competing definitions of who counts as an 'internally displaced person' (IDP), the range of estimates is much higher in comparison to refugees. The Internal Displacement Monitoring Center reported 26 million IDPs in December 2007, of whom 12.7 million were located in Africa (IDMC, 2008, p. 7). UNHCR estimates that a total of 51 million IDPs have been displaced as a result of armed conflict or natural disasters (UNHCR, 2008, p. 2).

Population dislocation is one of the world's most urgent humanitarian and development problems. A considerable proportion of the displaced population resides in so-called protracted situations, often living in dilapidated settlements over generations. Despite the emergence of new normative standards to promote protection from the UN High Commissioner for Refugees (among others), insecurity remains widespread and poorly understood (Muggah, 2006).

MAP 3.1 Distribution of IDP and refugee populations in selected African countries



SOURCE: Ford Institute for Human Security (2008)

A recent research assessment of what puts protracted refugees and IDPs at risk of armed violence reviewed more than 1,500 refugee and IDP camps in Burundi, the DRC, Liberia, Senegal, Sierra Leone, Sudan, and Uganda (Ford Institute for Human Security, 2008). It identified more than 25 factors that intensified risks and enhanced resilience. The assessment highlights four strategies to enhance the safety and security of displaced populations.

Robust protection of camps is much more effective than small symbolic contribution of forces. Protected camps were less likely to be attacked than unprotected camps. Of 1,180 documented attacks, fewer than 20 per cent took place where there a protection force was in place. Government forces, irrespective of their size, are most likely to be attacked, though they are also regularly accused of abusing the populations they are charged with protecting. International peacekeeping forces are less likely to be attacked, but a small symbolic force does not provide a robust deterrent. A small force may in fact embolden would-be attackers.

Early protection of camps can save lives. There is an important relationship between the duration of conflict and the number of attacks on camps. Attacks tend to steadily increase in the early stages of war, then decrease. Early protection can prevent belligerent forces from committing armed violence. In Sierra Leone between 1997 and 2001, for example, in the aftermath of a coup, more than three-quarters of all camps were attacked at least once per year. These rates dropped dramatically after 2001.

Improved access to water can potentially reduce armed violence against displaced people. There appears to be a relationship between water points, camps, and the incidence of armed violence. Specifically, water availability appears to motivate both the migratory movements of refugees and IDPs and attacks by belligerents. In Sudan, for example, a high percentage of attacks occur near water points.

Locating camps at some distance from international borders does not necessarily increase the safety of displaced residents. Current international

standards issued by UNHCR emphasize the importance of locating refugee and IDP camps at least 50 km from neighbouring country borders. But the 50 km buffer between camps and borders or conflict zones does not necessarily protect the camps.

Larger camps tend to be more susceptible to attacks than smaller ones. There is growing evidence that the larger the refugee or IDP settlement, the more likely it is to be exposed to armed violence. In Sudan, for example, according to available data, more than two-thirds of the 101 camps with populations over 10,000 were attacked. Approximately one-third of the 188 camps with populations of fewer than 10,000 were attacked over the same period.

SOURCE: Ford Institute for Human Security (2008)

one else (see Box 3.3). In certain cases, entire villages and population groups may have been coercively evicted, as was the case with certain Tamil and Sinhalese populations in Sri Lanka between 2002 and 2008. Liberian Mandingos who fled during the war found their land occupied by other ethnic groups when they returned, and attempts to reclaim it led to rioting and new forms of communal violence (Chaudhary and Suhrke, 2008). Likewise, in post-war Kosovo, for example, the Serb minority was particularly exposed to Kosovo Albanians seeking to establish an ethnically homogeneous territory. Revenge or retribution killings over the death or maiming of family and community members are also common in many post-war societies. Such killings tend to reflect the interests of narrow groups, which subtly distinguishes them from the community and informal justice just described. In certain instances, such killings can escalate and intensify smouldering tensions (Mac Ginty 2006).

PHOTO Georgian soldiers run near a blazing building after a Russian bombardment in Gori, 2008. © Gleb Garanich/Reuters



Box 3.4 When do countries relapse into civil war?

It is often said that countries coming out of civil war have a nearly 50 per cent risk of sliding back into war within the first five post-conflict years. The figure has circulated in the academic world, the United Nations system, and the international donor community, and was used as a justification for the establishment of the Peacebuilding Commission.

However, the broad acceptance of this figure stands in contrast to its general validity. The 50 per cent figure was established as part of an inquiry at the World Bank into the economic aspects of armed conflict that was led by Paul Collier and associates (Collier et al., 2003). Various authors have suggested that this figure is misleading and probably too high. Revised figures point to a 20–25 per cent risk of conflicts recurring, based on the use of alternative datasets and independent retesting of the original data (Walter, 2004; Suhrke and Samset, 2007). Even the authors of the World Bank study revised their earlier figure downward to 40 per cent (Collier, Hoeffler, and Söderboom, 2006, p. 14).

These differences matter. On the policy level, a high figure will bolster the arguments for ‘robust’ international interventions in war-torn countries and post-conflict situations. Since the figure is based on statistical averages, Collier recommends that, as a rule, international peacekeeping missions should last at least ten years to counter the high risk of conflict recurrence. The lower-end estimate of 20–25 per cent, by contrast, would justify a more modest and less intrusive engagement.

The different outcomes partly reflect the use of different time periods for analysis (does war recur within five or ten years?), and different methods. But this should be a strong warning about the complexities and uncertainties of using a single estimate as an evidence base for policy. This is particularly the case in research on armed conflict, where the raw data often is incomplete and uncertain. In this context, statistical analysis can provide false certainty to policy-makers and support tendencies to fit the data to the preferred policy position. While still resonating in policy circles, much statistical research on civil war has been discredited on methodological grounds (Nathan, 2005; Cramer, 2002).

The responsibility for preventing misuse of research lies with both scholars and policy-makers. There is nothing unusual about figures changing as methodologies and data evolve. Researchers need to acknowledge and discuss openly the limitations of their data and, where appropriate, the changing results over time—even if it means less support from policy-makers who ask for certainty and general formulas. This is particularly so where statistical methods seem to convey a high degree of certainty. Policy-makers should acknowledge that most social scientific knowledge evolves, and temper their expectations on certainty and general formulas as the basis for developing policy.

SOURCE: Suhrke and Samset (2007)

Risk factors facing post-conflict societies

International concern with post-conflict armed violence is motivated by its potential to reignite war and contribute to persistent suffering and insecurity. At the macro level, research suggests that post-conflict societies are vulnerable—at least to the risk of conflict recurrence, if not also to high levels of armed violence. The oft-cited statistic that countries emerging from war have a 50 per cent risk of sliding back within the next five years is probably too pessimistic, but the risk still is likely to be in the order of 20–25 per cent—which remains significant from a policy perspective. Box 3.4 provides an overview of this debate. Similarly, although the data is poor, Paul Collier and his colleagues find that ‘during the first five years following a civil war [homicide] is around 25 per cent higher than normal’ (Collier and Hoeffler, 2004, p. 12).

Better evidence is needed on these macro risks, since these differences matter for policy and programming. For example, the higher the estimated risk of war recurrence, the more likely policy-makers are to undertake robust interventions. The less certainty that exists, the more cautious and sensitive will be the likely external intervention.

At the social and individual levels, a host of risk factors for armed violence affect both non-conflict and post-conflict societies (Small Arms Survey, 2008). Understanding why violence occurs, who commits violent acts, and who is at risk of victimization is at the core of strategies for violence reduction. At the centre of these interventions are risk factors, which paint a picture of perpetrators, victims, means, and types of violence in a community. These in turn enable policy-makers to design interventions to target those perpetrating armed violence and protect the most vulnerable.

TABLE 3.4 Risk factors for youth violence

Individual	Family	Peer	School
<ul style="list-style-type: none"> ■ Attention deficit ■ History of early aggression ■ Substance abuse ■ Low cognitive skills 	<ul style="list-style-type: none"> ■ Exposure to violence in the family ■ History of victimization ■ Poor parenting ■ Severe or erratic punishment ■ Poor family functioning ■ Parental substance abuse ■ Poor supervision 	<ul style="list-style-type: none"> ■ Associating with delinquent peers ■ Peer substance abuse ■ Involvement in gangs ■ Social rejection by peers 	<ul style="list-style-type: none"> ■ Lack of involvement in school extra-curricular activities ■ Poor academic performance ■ Low commitment to school ■ Poor school environment ■ School bullying

SOURCE: Small Arms Survey (2008, p. 262)

General risk factors for violence include substance abuse, a history of victimization, violence in the home, attitudes that support the use of violence, and high levels of economic inequality. While the presence of these general risk factors increases the likelihood of violence, different types of violence appear to exhibit some unique risk factors, as Table 3.4 shows for youth violence. Important predictors for violence are the presence of gangs in the neighbourhood, having an older sibling who is in a gang, feeling unsafe at school or in the neighbourhood, and lack of economic opportunities. Substance abuse, associating with delinquent peers, and school bullying contribute to youth violence.

In addition, general conditions such as social and economic exclusion, rapid urbanization and social dislocation, unequal access to basic public services, unemployment, and living in poorer and socially marginalized areas appear to be correlated with the onset of criminal violence (UNODC, 2005; Small Arms Survey, 2007). In some cases, as in West and Central Africa, youth are rapidly recruited (voluntarily and forcibly) from urban slums into more structured political institutions such as militia or even rebel groups (Small Arms Survey, 2006). Given that many of these factors are associated with rapid urbanization, greater attention to the dynamics of post-conflict urban armed violence is needed. Cities are mag-

nets for the young, and youth are the most likely to perpetrate and be victimized by armed violence (WHO, 2008b).

Meanwhile, other structural risk factors are being linked to the recurrence of conflict armed violence. Sharp economic shocks, rising levels of income inequality (Picciotto and Fukuda-Parr, 2008), the expansion of unemployed youth populations (Collier et al., 2003), horizontal inequalities, and emerging grievances have all been offered as explanations for the onset of armed conflict as well as its contagion across borders. Although debates persist over the influence of these risks, the fact that many countries afflicted by war slip back into conflict means that conflict-prevention and peace-building interventions should focus attention on reducing conflict-related violence (OECD, 2008).

Despite increasing knowledge about risk factors for violence, a number of important issues remain unresolved. Little research has yet been undertaken to identify the specific risk factors that might condition the onset and nature of post-conflict armed violence, whether or not it erupts into outright war. More attention also needs to be paid to the factors that contribute to the resilience of individuals and societies in the face of the extreme adversity that often characterizes post-conflict settings.

Box 3.5 The demographics of discord

From the alleyways of Nairobi's Kibera slum to the cocaine-processing enclaves of Colombia's highlands and militia encampments in Darfur, the age of violence entrepreneurs is strikingly similar. The overwhelming majority of those wielding arms are male and less than 30 years old. This isn't altogether surprising. Even in developed countries males are responsible for four out of every five violent crimes, and the proportion of young adults in a society is a fair (but incomplete) predictor of homicide rates (see Figure 3.1). Likewise, the proportion of young adults in a society gives a reasonable indication of a country's risk of stumbling into mass violence.

What is the youth bulge?

The youth bulge represents the relatively large proportion of young adults (15 to 29 years of age) in a given society. More than 80 per cent of all armed civil conflicts since the 1970s began in countries where more than 60 per cent of the population was younger than 30. Most other conflicts involved both insurrections and the violent suppression of young populations. While the age structure of a given population may not necessarily figure in the political and strategic calculations that pave the way to war, their mobilization is one ingredient that, together with capital availability, arms supplies, grievances, and state weaknesses, completes the recipe.

When plotted graphically, the profile of the youthful population is easily identified and distinguished from more mature ones. It appears broadly pyramidal, providing a hint of the magnitude of the challenges that developing states face in providing adequate public services. Typically, countries with pyramidal age structures experience growth rates in working age populations of three to

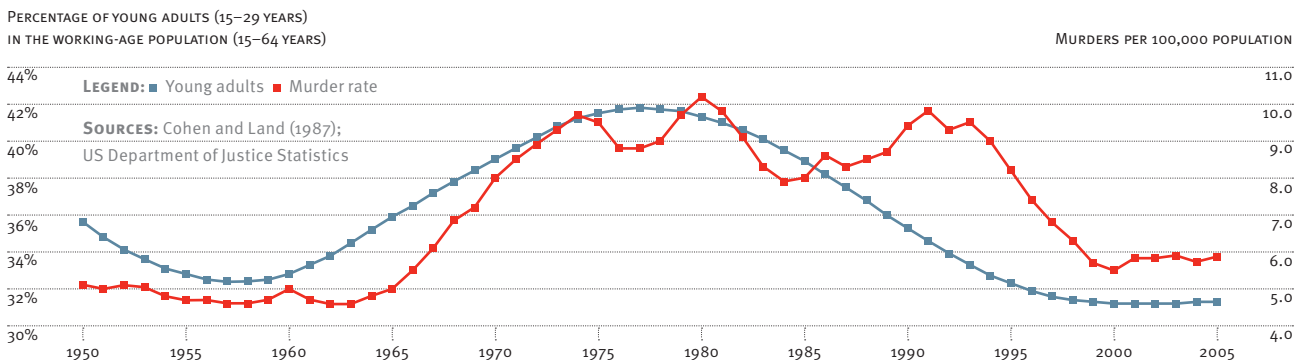
four per cent (compared to about 1 per cent in the United States). An abundance of adolescents and young adults tends to promote a vibrant and experimental youth culture. When this large group matures into its working years, it tends to saturate the job market, depressing wages and exacerbating unemployment. As a society's agricultural sector declines and urbanization intensifies, inequalities rapidly emerge.

Declines in women's fertility dramatically alter this profile.⁹ As a rule, youth bulges appear in countries that have experienced high fertility rates 20 years previously. Because a bulge dissipates only after about two decades of fertility decline, today—despite the spread of modern contraception—15- to 29-year-olds still comprise more than 40 per cent of the working-age population (15 to 64) in over half the world's countries. Most are in sub-Saharan Africa, the Andes in South America, Central and South Asia, and the Pacific Islands.

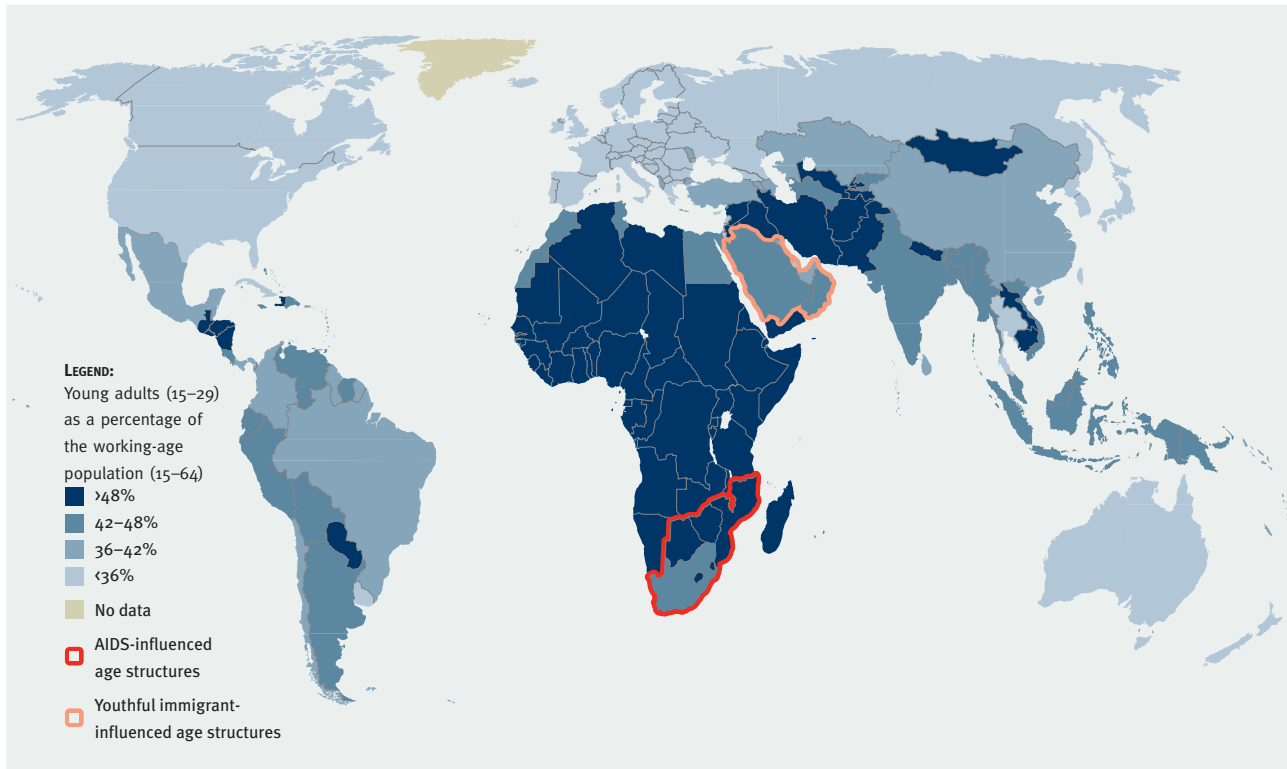
Youthful risks

A youthful society constitutes a potential risk, rather than a cause, of the onset of collective armed violence. Since the 1960s, there has been growing awareness that those countries with a large proportion of young adults have an elevated risk of experiencing the emergence of a new civil conflict, political violence, and domestic terrorism.¹⁰ Comparative studies indicate that the risk of conflict associated with a large youth bulge is roughly comparable to risks associated with low levels of per capita income or high levels of infant mortality—around 2.3 times that of other intervening variables.¹¹ Political demographers hypothesize that a large youth bulge facilitates youth political mobilization and more formal recruitment into state and non-state forces and criminal networks. ▶▶

FIGURE 3.1 Youth population growth rates and murder rates in the United States, 1950–2005



MAP 3.2 The youth bulge in 2005



SOURCE: Cincotta (2008)

Declines in youth bulges are not immediately associated with rapid reductions in civil conflict. During Northern Ireland's 'Troubles' (1968–96) and Sri Lanka's conflict (1983–present), collective armed violence persisted after the population age structure had experienced considerable maturation. There are some indications that increasing age maturity together with economic development can make recruitment into organized armed violence more expensive (ECONOMIC COSTS OF ARMED VIOLENCE).¹² Even so, medium- and long-term strategies can reduce the demographic risks of high levels of criminal and political violence.

Boosting job supply while decreasing job demand

In the medium term, development donors and development banks can speed up the global migration of light industry to

youth-bulge countries by focusing on incentives and risk protection for private investors—particularly those who encourage export-oriented industries, job growth, and apprenticeships for young people, and are willing to work in post-conflict conditions. Governments and NGOs could promote interventions that reduce young males' vulnerability by expanding their skill sets, promoting self-esteem, and developing entrepreneurial motivation and opportunities to encounter peers. More job opportunities for youth in high-risk countries as well as investments in girls' education, maternal and child health, and family planning could also help in the long term to ease demographic pressures while simultaneously reducing the risks associated with surging unemployed populations.

SOURCE: Cincotta (2008)

Box 3.6 The mobilization of inequalities

The vast majority of multiethnic and multi-religious societies are not excessively violent (Fearon and Laitin, 1996). Nevertheless, policy-makers would do well to better understand the circumstances under which violent ethnic and communal conflicts do break out. A recent project by the Centre for Research on Inequality, Human Security and Ethnicity (CRISE) at Oxford University focuses on the role of ‘horizontal inequalities’ as a causal factor. The study focuses on Latin America, South-east Asia, and West Africa, and finds that leaders are instrumental in mobilizing latent horizontal inequalities into conflicts and occasionally armed violence. They play a critical role in fomenting social cleavages along particular group identities and in exacerbating tensions between communities for instrumental gain.

Horizontal inequalities refer to the economic, social, and political inequalities between culturally defined groups (Stewart, 2008).¹³ Most people have multiple social identities, including gender, ethnicity, religion, language, profession, and geographic location. The importance attached to some of these identities varies. In some contexts where one’s group affiliation assumes more prominence, however, they can lead individuals to fight, kill, and die in the name of identity (Stewart, 2008). This is particularly likely to be the case where groups have suffered vis-à-vis other groups in terms of their economic advancement, educational and social welfare, access to the state in terms of exercising political voice or using services, or rights to express their cultural identity (Langer and Brown, 2008; Diprose and Ukiwo, 2008; Stewart, 2008). Group identities and the real and perceived relationships between groups, are frequently a central feature of contemporary armed violence.

In Côte d’Ivoire, for example, differences in socio-economic status between northerners and southerners were mobilized by political leaders and the media (Langer, 2008). Likewise, in both Nigeria and Indonesia localized identity differences were critical in mobilizing votes and gaining access to local government institutions (Diprose and Ukiwo, 2008). Group affiliations can be mobilized according to religious affiliation (e.g. Northern Ireland, India, and the Philippines), ethnicity (e.g. Rwanda and Sri Lanka), class and caste (e.g. Nepal), or some combination of these. Ultimately, however, large-scale group mobilization is not likely to occur in the absence of serious grievances experienced by both elites and citizens.¹⁴

Both leaders and followers may become strongly motivated where there are severe and persistent economic, social, and political

differences between culturally defined groups. Østby (2008) also shows a significant rise in the probability of the onset of conflict across countries with severe social and economic horizontal inequalities, for 1986–2004. Mancini (2008) also finds that horizontal inequality in child mortality rates and its change over time are positively (and significantly) associated with the patterns of ethno-communal violence in Indonesia.

There are also connections between different types of horizontal inequality. Inequalities in political power often lead to social and economic inequalities. Lack of access to education leads to decreased economic opportunities, while low incomes tend to result in poor educational access and achievement in a vicious cycle of deprivation. There are also reinforcing cycles of privilege and deprivation because of the way that one type of capital requires others to be productive (Stewart, Brown, and Langer, 2008).

The nature of the state and its reaction to conflicts are important elements determining the severity and persistence of conflict over time. In Guatemala’s civil war (1960–96) the extremely violent and repressive state reaction to rebellion has been described as ‘a campaign of state terror’ (Caumartin, 2005, p. 22) with massive killings, particularly focused on the indigenous population. In areas where the state is absent (whether by design or by default), local institutions and local leaders’ reactions to emerging conflicts can determine the likelihood and persistence of violence.

There are ways to minimize the risk that such horizontal inequalities will be mobilized into violent conflicts. For example, in both Nigeria and Indonesia the presence of formal and informal institutions in peace-building can prevent armed violence from breaking out. Where the state gives equal treatment to competing sides (e.g. accountability and incentives to resolve tensions), suspicion can be reduced and social capital fostered.

There is also empirical evidence that power sharing (through state structures) can reduce political horizontal inequalities. Likewise, taxation, affirmative action, employment and education quotas, and other factors are shown to have a significant impact on reducing socio-economic horizontal inequalities. Successful examples include Malaysia, where systematic policies introduced in the 1970s have improved the position of the Bumiputera, and Northern Ireland, where effective employment and education policies (among others) have sharply narrowed the difference between Catholics and Protestants and are one major factor behind the progress to peace (Stewart, Brown, and Langer, 2008).

SOURCE: Diprose and Stewart (2008)

Given the potential importance of ‘youth bulges’ and ‘horizontal inequality’ as general factors conditioning conflict and violence, a better understanding of these specific risk factors—whether for criminal or inter-personal violence—is warranted. Boxes 3.5 and 3.6 explore the impact of demographic factors and of horizontal inequality on the incidence of armed violence and conflict.

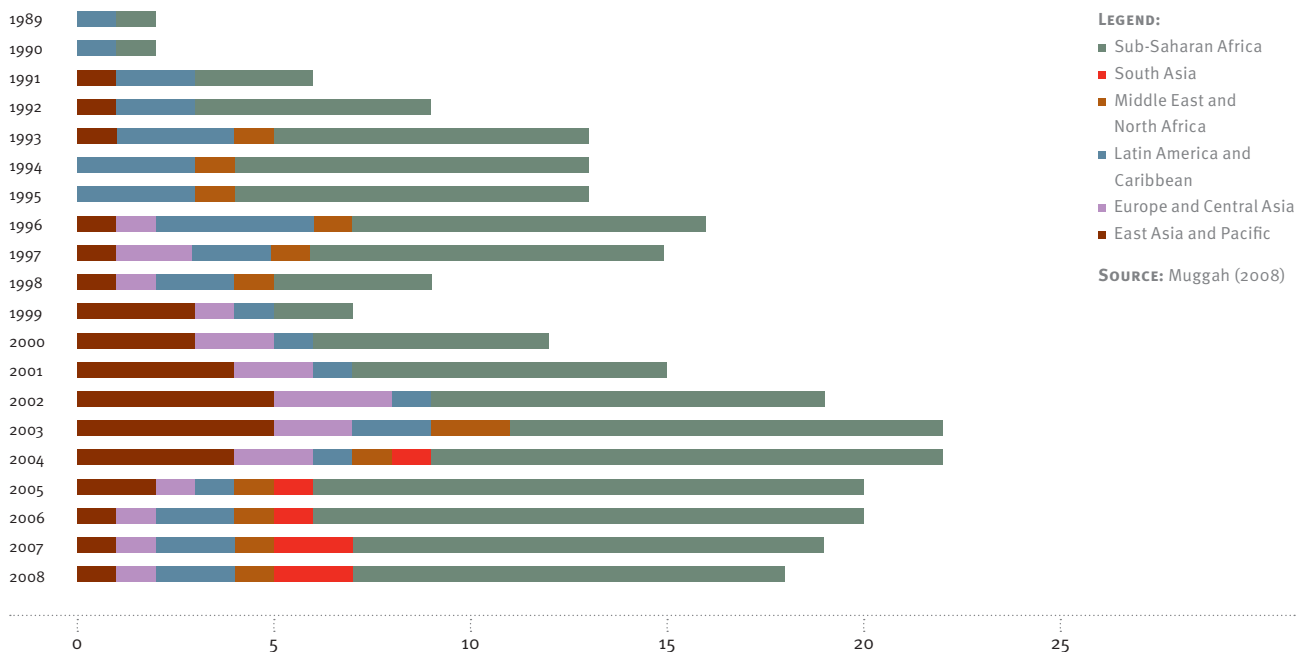
Conclusion: promoting security after conflict

Armed violence and its aftershocks tend to persist well after the formal fighting stops.¹⁵ Anticipating the many forms armed violence can take in the post-conflict period is essential

to promoting sustainable security and development. Yet many contemporary post-conflict security-promoting activities are simply ill-equipped to deal with the diverse and complex faces of armed violence.

Multilateral peace and security operations have expanded to deal with irregular forms of war, up to and including peace enforcement operations, and to engage in the longer-term process of post-conflict peace- and state-building and democracy promotion. The vast majority of DDR and arms control operations are also launched in post-war and post-conflict settings, and (as Figure 3.2 indicates) they have expanded in scale since the 1990s. The development community has also come to treat underdevelopment as ‘dangerous’ and to invest in interventions to bolster govern-

FIGURE 3.2 Number of DDR operations around the world, 1989–2008



Box 3.7 Transitional justice and DDR in Africa

Conventional transitional justice measures include, *inter alia*, criminal prosecutions, truth commissions, reparations for victims, and vetting or other forms of institutional reform. Post-conflict countries in Africa have witnessed some of the most well-known efforts in the emerging field of transitional justice. Examples include the South African Truth and Reconciliation Commission, the International Criminal Tribunal for Rwanda, the *gacaca* process in Rwanda, the Special Court for Sierra Leone, the Sierra Leone Truth and Reconciliation Commission, and the first arrest warrants issued by the International Criminal Court (ICC) against political leaders and leaders of armed groups in the DRC, Sudan, Central African Republic, and Uganda.¹⁶

Africa has also been the site of the greatest number of DDR operations. Since the late 1980s there have been at least 11 UN peacekeeping operations in Africa in which the DDR of combatants has been included in the mandate. In six of these there has also been some form of an internationally assisted transitional justice process.¹⁷ But in the remaining two dozen DDR programmes undertaken in Africa since the early 1990s, connections with transitional justice did not feature at all.¹⁸

There are good reasons to expect a rise in post-conflict situations where DDR processes and transitional justice initiatives will coexist. While transitional justice is focused on promoting justice and accountability, DDR is more focused on stability and security promotion. Though supporters of the two processes often compete, both are nevertheless intent on contributing to longer-term peace and structural stability.

SOURCE: Muggah (2008)

ance and growth opportunities in so-called fragile or weak states.

As this chapter shows, investment in armed violence prevention and reduction will have to account for the many dimensions of post-conflict violence, investing in reducing known risk factors, and promoting violence-sensitive development. A failure to address effectively and comprehensively the immediate and underlying causes of armed violence means that the embers can smoulder, waiting for the next spark to reignite into war.


Yet most contemporary forms of security promotion in post-conflict environments tend to be adopted in response to war. As a result, these interventions typically adopt a narrow conception of armed violence and specific categories of armed actors and struggle to contend with the more dynamic temporal, spatial, and demographic dimensions of armed violence before, during, and after wars come to a close. Part of the reason for this is political and bureaucratic—programmes such as DDR, international policing, and small arms control are routinely introduced as part of a UN Security Council Resolution or pursuant to a peace agreement with direct prescriptions on how such interventions should be executed.

As such, they assume that conflict has passed its ‘peak’ and that some form of normalization (or stability) will ensue in the anticipated post-conflict period. Only rarely are interventions developed on the basis of robust evidence on the ground, to deal with the combined forms of armed violence identified above, or to anticipate the medium- and long-term importance of risk reduction.

Beyond a focus on the former warring parties, and on instrumental policies (such as DDR) to remove weapons and combatants from conflict dynamics, a number of other approaches can be explored. One involves linking transitional justice to issues such as DDR, and is explored in Box 3.7.

Other approaches to containing arms and spoilers in post-conflict contexts could draw upon emerging experiences of armed violence prevention and reduction in seriously violence-affected societies. These approaches tend to focus on identifying and responding to risk factors, enhancing resilience at the municipal level, and constructing

interventions based on identified needs. A variety of armed violence prevention and reduction programmes were launched in municipal centres in Colombia, El Salvador, Nicaragua, Haiti, and Brazil during the 1990s and the early part of the next decade. These included voluntary weapons collection, limits on weapon-carrying, alcohol restrictions, and targeted environmental design. These and other interventions explicitly targeted the diverse dimensions of arms availability, including the preferences of actors using them and the real and perceived factors contributing to armed violence.

Such programmes also, however, rely on comparatively robust and decentralized local authorities and civil society—institutions that may be weakened by prolonged periods of warfare and comparatively underdeveloped. More positively, they also encourage public and private actors to define and design targeted programmes. Mirroring the logic of participatory development, the initiative, control, and responsibility of overseeing such violence reduction activities rests at least as much with local partners as with external actors. Although such interventions are nascent, and evidence of their effectiveness is patchy, they offer a promising approach to dealing with some of the complexities of post-conflict violence.¹⁹ 

Abbreviations

CMR	Crude mortality rate
DDR	Disarmament, demobilization, and reintegration
DRC	Democratic Republic of the Congo
ICC	International Criminal Court
IDP	Internally displaced person
IRC	International Rescue Committee
SSR	Security sector reform
UNHCR	UN High Commissioner for Refugees

Endnotes

- 1 For a review of the epidemiological literature on post-conflict armed violence, consult Small Arms Survey (2005).
- 2 Reporting biases are common in post-conflict environments. In some cases, post-war killing may be classified as common crime rather than banditry. In other cases, the sudden and rapid expansion of reporting may give a false impression that criminal violence is on the increase. See, for example, Collier et al. (2003).
- 3 Reporters and human rights agencies may also under-report the scale of violence owing to repression and self-censorship. In an era dominated by the ‘war on terror’, governments may also describe simmering violence as ‘terrorism’.
- 4 See, for example, CRED surveys in its Complex Emergency Database (CE-DAT) <<http://www.cedat.be/database>>.
- 5 This typology draws explicitly from Chaudhary and Suhrke (2008) and is based on a project on Violence in the Post-conflict State at the Chr. Michelsen Institute (CMI) in Norway.
- 6 The Rwandan Patriotic Front (RPF), which took control of the state after the 1994 genocide, used military means to pursue the *genocidaires* and the wider ethnic group associated with them as they fled into neighbouring DRC, reportedly killing approximately 200,000 people (Chaudhary and Suhrke, 2008).
- 7 For instance, militia leaders and rivals Abdul Rashid Dostum and Atta Mohammed have repeatedly clashed in their attempts to control the country’s northern provinces.
- 8 This is not new. Lynchings of African-Americans in the post-civil war United States were sometimes announced in newspapers beforehand.
- 9 As youthful populations progress through the demographic transition—descending from high to low birth and death rates—their age structure matures gradually, accumulating larger proportions in the middle and upper parts of their profile while the proportion in younger age groups shrinks. This transition, which began slowly during the 18th century in western Europe, has picked up dramatically: since the mid-1960s it generated an unprecedented diversity of country-level age structures.
- 10 See, for example, Staveteig (2005) and Urdal (2006).
- 11 See, for example, Urdal (2006).
- 12 For example, as Northern Ireland’s youth bulge dissipated during the early 1980s, the Irish Republican Army shifted to its ‘long war’ strategy that disengaged from personnel-intensive armed incursions. By the mid-1990s both nationalist and unionist militia were reduced to relatively small, though ruthless and savvy, criminalized units. That effect

- seems also to be influencing Sri Lanka's ongoing civil war and the changing parameters of Colombia's insurgency.
- 13 These are distinct from 'vertical inequalities', which are typically described as inequalities between individuals.
- 14 One study in Indonesia that compared two areas in Central Sulawesi Province with similar concentrations of Muslims and Christians and inequalities in household asset wealth demonstrated that only one experienced a serious outbreak of armed violence. A major difference between the two was that the difference in household wealth at the elite level was much sharper in one community than in the other (Diprose and Stewart, 2008).
- 15 See, for example, Monthly Deaths by Collective Violence from News Reports for a review of the way armed violence can persist after outbreaks of collective violence. <http://www.columbia.edu/~cds81/docs/violence_graphs.pdf>
- 16 The ICC is currently prosecuting political leaders and leaders of armed groups in the DRC, Sudan, and Uganda.
- 17 These six UN missions include: United Nations Assistance Mission for Rwanda (UNAMIR) in 1993, United Nations Assistance Mission in Sierra Leone (UNAMSIL) in 1999, the United Nations Mission in the Democratic Republic of Congo (MONUC) in 1999, the United Nations Mission in Liberia (UNMIL) in 2003, the United Nations Operation in Burundi (UNOB) in 2004, and the United Nations Mission in the Sudan (UNMIS) in 2005. See UN Department of Peacekeeping Web site at <<http://www.unndr.org/partners.php?id=5>>.
- 18 See, for example, Muggah (2008).
- 19 See Muggah (2008) for a review of such interventions in Africa.



CHAPTER FOUR **Lethal Encounters: Non-conflict Armed Violence**

BY FAR THE largest aspect of the global burden of armed violence is the deaths and injuries that occur in non-conflict or non-war settings. Countries such as South Africa, Jamaica, and El Salvador suffer from extremely high recorded levels of homicide, with more deaths each year than in many contemporary wars. This fact alone underlines the importance of adopting a more comprehensive approach to armed violence, since a narrow focus on conflict-related deaths by development donors and practitioners excludes the significant burden of armed violence that occurs in non-conflict settings.

This chapter provides a regional and subregional breakdown of the global distribution of non-conflict violent deaths, both in absolute terms and as rates per 100,000 population. It also examines the limited available trend data and provides information on the burden of violence in cities, firearm homicides, the gendered dimension of violent deaths, and the issue of the effectiveness of criminal justice systems.

The main findings of this chapter are as follows:

- Approximately 490,000 deaths from homicide are estimated to have occurred in 2004.¹ The world average homicide rate in 2004 was 7.6 per 100,000 population.
- Southern Africa, Central America, and South America are the three subregions with the highest homicide rates. West and Central

Europe, East Asia, and South-east Europe are the three subregions showing the lowest rates of homicide.²

- Approximately 60 per cent of all violent deaths are committed with firearms, with variation from a low of 19 per cent in West and Central Europe to a high of 77 per cent in Central America, based on data from 45 countries.
- In countries with high homicide rates, women make up around ten per cent of the victims. As homicide rates drop, women make up a greater percentage of victims, up to around 30 per cent in European countries. Available data is seldom, however, disaggregated by sex.
- Trend data shows few increases in homicide rates over the past decade. The majority of subregions examined show flat or slightly increasing or decreasing trends. There is little evidence that armed violence has, at least at the subregional level, increased overall in the Americas, Europe, and Central Asia and Transcaucasia in recent years.

Arriving at these findings is a complex and delicate exercise, and the chapter also explains some of the difficulties involved in measuring armed violence. Existing statistics and data-gathering mechanisms are underdeveloped, and greater investment in effective measurement of the burden of armed violence will be needed in order to develop a more accurate picture of its overall scope and impact.³

Defining and measuring violent deaths

‘Homicide’ is a legal label used to gather information about a specific way in which people die. Most generally, homicide can be defined as unlawful death inflicted on a person by another person. Such a broad definition encompasses a wide range of acts that may result in death and a whole spectrum of states of mind of the perpetrator.

The focus of this chapter is intentional homicide, or murder. Intentional homicide requires that the perpetrator purposefully intends to cause the death or serious injury of a victim. Situations where the perpetrator is reckless or grossly negligent, or where the perpetrator kills in self-defence,

are therefore usually excluded from the category of intentional homicide. The fact that a person is intentionally killed by another does not necessarily mean that the act is a homicide in law. The killing of a person by a police officer acting legitimately in the line of duty is an obvious exclusion, as is the killing of an enemy combatant during a war or armed conflict.

Despite varying definitions, ‘homicide’ is the most widely collected data source on non-conflict-related armed violence across and within countries. The killing of a person is one of the most serious crimes and therefore tends to be recorded more effectively than other crimes. The fact of a dead body is usually processed by the medical or public health system, in addition to the police and criminal justice system, creating two potential sources of administrative statistics. In addition to counting direct and indirect deaths from armed conflict, numbers and rates of homicides are useful indicators to capture the non-conflict-related burden of armed violence.

Armed violence also results in many tens of thousands more victims than the 490,000 homicide victims in 2004. There are, however, no reliable estimates for the number of people who are injured (with either minor injuries or permanent disabilities), or who become victims of armed crimes such as robbery, carjacking, or armed assault.

The legal label ‘homicide’ captures a wide range of acts, including domestic disputes that end in a killing; interpersonal violence; violent conflicts over land, resources, grazing, or water rights; inter-gang clashes over turf or control; and predatory violence and killing by armed groups. For example, most of the deaths in Kenya in the aftermath of the disputed 2007 election would be considered intentional homicide, as would the more than 2,500 persons killed in drug-related

PHOTO ▼ Supporters of the opposition armed with machetes, clubs, and axes run from tear-gas and bullets in Kibera slum, Nairobi, Kenya.
© Jon Hrusa/EPA



violence in Mexico in 2007–08 (BBC, 2008; *Los Angeles Times*, 2008; Reuters, 2008). By contrast, the 79 suspected gang members killed in clashes with police in Sao Paulo in May 2006 may not be counted as homicides (BBC, 2006). Similarly, neither the nearly 3,000 persons killed in the attacks on the United States on 11 September 2001, nor the nearly 200 persons killed in terrorist attacks on 11 March 2004 in Madrid, Spain were recorded as homicides. These examples highlight that while ‘homicide’ is a broad category that goes beyond interpersonal violence, it does not capture all intentional killing.

The difference between deaths arising from armed conflict and non-conflict deaths is often described by the organization of the killing. Homicide is usually committed by individuals or small groups, whereas the killing in armed conflict is committed by more or less cohesive groups of up to several hundred members (Collier and Hoeffler, 2004, p. 3). But there is often little difference in intensity between large-scale criminal violence and low-level armed conflict, and the line between the two is often blurred.

A comparative analysis of homicide statistics must be conducted cautiously. Legal definitions of homicide vary among countries, and may or may not include crimes such as assault leading to death, euthanasia, infanticide, or assistance with suicide. Societies define those killings that are perceived as acceptable and others that are not in their legal codes. Comparing intentional homicide among countries and regions is, therefore, a comparison not only of the level of intended killing of persons, but also of the extent to which countries and regions deem that a killing should be classified as such.

Official statistics rarely capture the number of actual criminal events that have occurred. Figures



and rates should therefore be assumed to be conservative estimates. Homicide can be reported by relatives and witnesses, but obviously cannot be measured through reports by victims. The quality of homicide figures is also affected by different criteria and approaches to case recording, and the capacity of national institutions to gather data and accurately record events (Aebi, 2004).

The capacity gap between developed and developing countries particularly affects the cross-national comparison of police-recorded crime statistics (UN, 2007a), with the result that administrative statistics are not a particularly strong basis for the study of cross-national differences in criminal activity (Aebi, 2004, p. 163). Some analysts (Soares, 2004a, p. 851) have demonstrated that variations in crime reporting rates are ‘strongly related to measures of institutional stability, to police presence, and . . . to a subjective index of corruption’ (see also Soares, 2004b). Cross-national differences in reported crime must therefore take into account both state capacity and crime victim reporting rates.

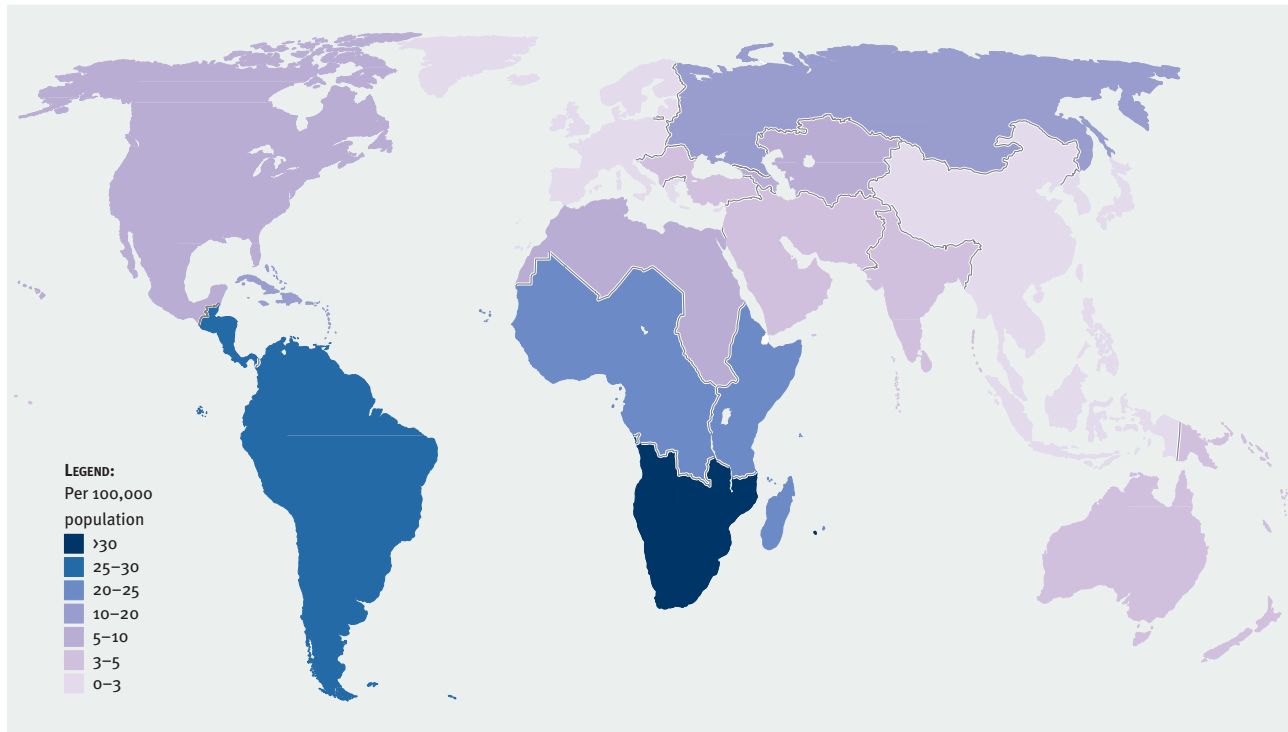
PHOTO ▲ Police officers patrol near the house where two Chinese students were found murdered in Newcastle, UK, August 2008.
© Paul Ellis/AFP/Getty Images

There are also important differences between data obtained from public health, police, or criminal justice institutions. All measure subtly different phenomena and are therefore unlikely to provide identical numbers.⁴ The differences between health and police statistics are especially marked in developing countries, with some analysts noting that health statistics may be up to 45 per cent higher than police-recorded figures. In higher income countries, such as those in West and Central Europe, significant differences remain for some countries between police and health statistics (Shaw, Van Dijk, and Romberg, 2003, pp. 46–47). Such differences may be linked to limitations in

the capacity of police and law enforcement agencies to identify and record homicide events, and other factors such as the lethality of assaults.

Despite the proliferation of increasingly dangerous weapons and an increase in the number of serious criminal assaults in developing countries since 1960, the lethality of such assaults has dropped dramatically due to developments in medical technology and medical support services, in both North America and Western Europe (Harris et al., 2002; Aebi, 2004). As a consequence, not only is it difficult to explain long-term homicide trends in one region without taking into account improvements in health care, but it is also difficult to draw

MAP 4.1 Homicide rates per 100,000 population, by subregion, 2004



NOTE: The boundaries and designations used on this map do not imply endorsement or acceptance.

SOURCE: UN Office on Drugs and Crime (UNODC) estimates

comparisons between regions of the world that have different healthcare systems.

Estimating global homicide levels

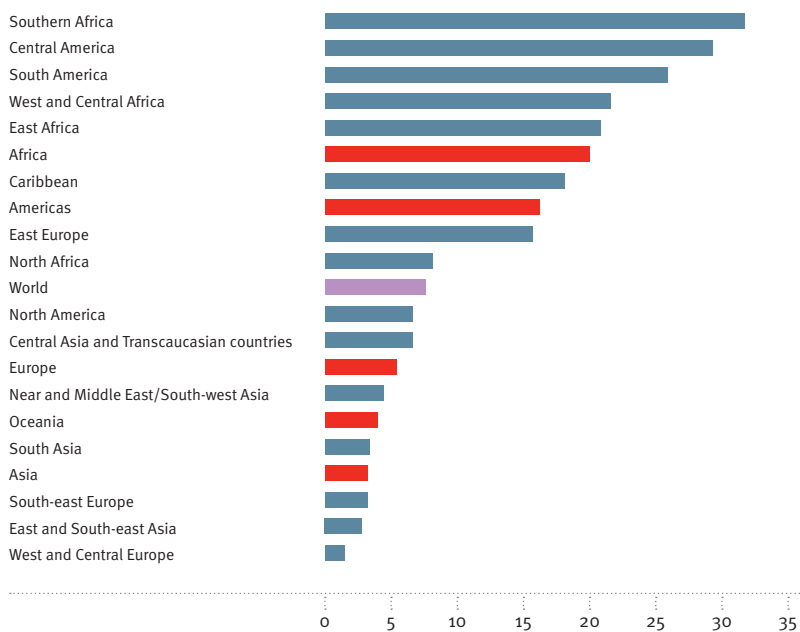
This section disaggregates the estimated 490,000 non-conflict violent deaths using results from analysis of available national-level data.⁵ Data is presented in this section as subregional aggregates due to the difficulties in comparing homicide data directly at the country level. The resulting homicide estimates are expressed as the number of homicides per 100,000 people in one year.

Map 4.1 shows the global distribution of homicide captured as population-weighted homicide levels for 16 subregions for 2004. These subregional figures are calculated from 201 individual

country or territory homicide level estimates, each derived from available national-level administrative data.⁶

The world average for 2004—the most recent year for which comprehensive data is available—is 7.6 homicides per 100,000 population. The highest homicide rates are concentrated in Africa (with the exception of North Africa) and Central and South America, and fall within the higher homicide rate ranges of from 20 to more than 30 homicides per 100,000 population. By contrast, East and South-east Asia and West and Central Europe show the lowest homicide levels, with rates lower than 3 homicides per 100,000 population. The Caribbean and East Europe are affected by relatively high homicide rates that are in the range of 10–20 homicides per 100,000 population. North Africa, North America, and Central Asia follow with

FIGURE 4.1 Homicide rates per 100,000 population by region and subregion, 2004



NOTE: Regional and subregional estimates are derived both from public health and police or criminal justice data sources at the national level. The full methodology is described in the on-line appendix at <http://www.genevadeclaration.org>. Data for Africa derives primarily from public health sources, while data for Europe and Asia uses police data as the preferred source. Data for the Americas represents both public health and police data. As set out in this chapter, police and health statistics measure subtly different phenomena, with the result that data sets may not be directly comparable. Where possible, such differences have been taken into account at the national level, prior to the calculation of subregional figures.

SOURCE: UNODC estimates

rates between 5 and 10, while Oceania, the Near and Middle East/South-west Asia, South Asia, and South-east Europe show homicide rates in the range 3–5 per 100,000 population.

Figure 4.1 provides in graphic form details of the regional and subregional distribution of homicide rates. In Africa, high homicide rates may be associated with a series of social and economic indicators also linked to crime. These include, for example, a low overall Human Development Index (HDI),⁷ low economic performance,⁸ high levels of income inequality,⁹ a youthful population,¹⁰ rapid rates of urbanization, poorly resourced criminal justice systems, and a proliferation of firearms, related in part to the recurrence of conflict in all regions of the continent (UNODC, 2005, p. ix). Systematic analysis of the nature of these linkages, however, remains to be done (see Box 4.1).

Box 4.1 Homicide and human development

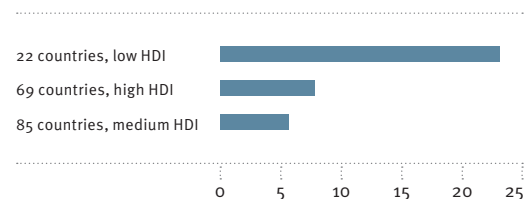
Analysis of homicide rates by level of human development reveals the concentration of violent deaths in countries marked by a lack of resources and poverty. Figure 4.2 shows the population-averaged homicide rate for 176 countries, grouped by low, medium, and high levels of human development as assigned by the United Nations Development Programme (UNDP) HDI. The HDI combines measures of life expectancy, literacy, education, and gross domestic product (GDP) per capita as means of measuring and comparing levels of human development.

The homicide rate in countries with low levels of human development is more than three times higher than the average rate in countries with high or medium levels of human development. This should come as no surprise: crime rarely occurs in isolation and is one of a range of co-factors associated with underdevelopment. High levels of income inequality, rapid urbanization, a high share of unemployed youth in the population, poorly resourced criminal justice systems, and the proliferation of firearms are all associated with both crime and low levels of development. However, while Figure 4.2 suggests broad links between development and homicide levels, a strong correlation does not exist between the two at the level of individual countries.¹¹ Rather, the HDI captures development indicators that are both affected by and partly symptomatic of the level of violence in a given society.

In Africa, some conflict-related deaths may appear in homicide statistics, but overall the number of direct conflict-related deaths in Africa (approximately 17,700 conflict deaths were recorded via incident reporting in 2004¹²) pales compared to an estimated 180,000 non-conflict violent deaths in 2004. There is nevertheless a link between conflict and non-conflict violence. Armed conflict has the potential to influence violent crime both during and after the end of hostilities (ARMED VIOLENCE AFTER WAR). Contemporary conflicts often also overlap with organized criminal activity and other forms of looting and predation. The psychological impact of war, destruction of social fabric, loss of livelihoods, social displacement, and increased availability of weapons may also all contribute to high post-conflict levels of crime and insecurity that are reflected in homicide levels (UNODC, 2005, p. x).

The Americas, with the exception of North America, show the second-highest regional homicide levels. Central and South American rates are higher than the global average, representing the second- and third-highest subregional rates globally: 29.3 and 25.9 homicides per 100,000 population, respec-

FIGURE 4.2 Homicide and HDI: homicide rate per 100,000 population, 2004*



* The classification of high, medium, and low human development is used in the UNDP *Human Development Report* to describe countries that have a HDI value of 0.800 or above (high), 0.500–0.799 (medium), or less than 0.500 (low). See UNDP (2008, <http://hdr.undp.org/en/media/hdr_2007_2008_readers_guide.pdf>, p. 222).

SOURCE: UNODC estimates

tively. The Caribbean rate of 18.1 is more than twice as high as the global average (7.6 per 100,000 population).

However, the socioeconomic situation of the Americas is qualitatively different to that of Africa. GDP per capita for the Caribbean and South and Central America is about double that of Africa and the average HDI is 0.78, as compared with 0.53 for Africa.¹³ Out of a total of 41 main armed conflicts globally, 16 occurred in Africa, while there were only 2 in the Americas (DIRECT CONFLICT DEATH).

This suggests a different set of factors associated with a high homicide rate. While the Americas region does have some history of armed conflict (especially in Central and South America), it is drug trafficking, criminal activity, and youth gangs that play a more significant role in driving homicide levels, particularly in Central America and the Caribbean (OTHER FORMS OF ARMED VIOLENCE). The drug trade fuels crime in numerous ways: through violence linked to trafficking; by normalizing illegal behaviour; by diverting criminal justice resources from other activities; and, importantly with respect to homicide, by contributing to the widespread availability of firearms (UNODC, 2007, p. 15; UNODC and World Bank, 2007, pp. i–ii).

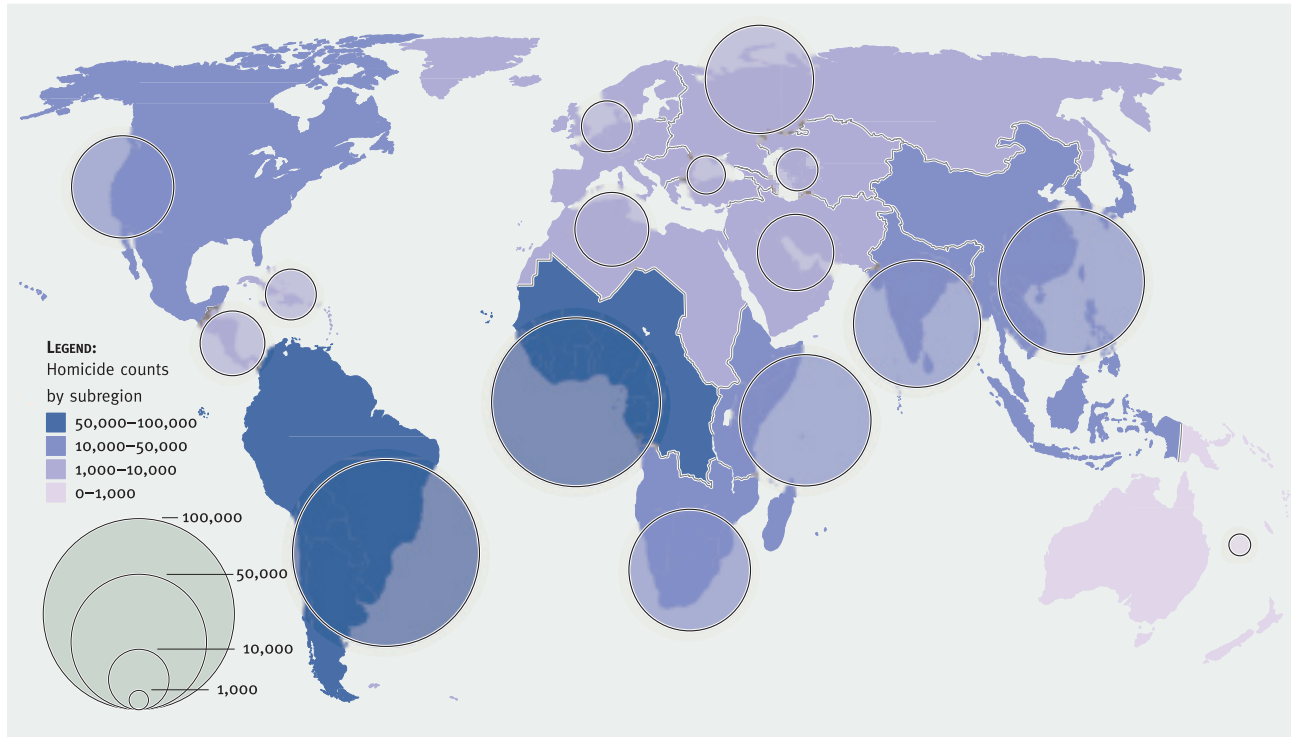
By comparison, as a region, Asia has the lowest average intentional homicide rate. However, its subregions show considerable variability, from 6.6 per 100,000 population for Central Asia and Transcaucasia to 2.8 for East and South-east Asia. South Asia is slightly higher at 3.4 per 100,000, as is the Near and Middle East/South-west Asia at 4.4 per 100,000 population. It is worth noting that average homicide levels in South Asia are almost six times lower than for Africa, even though average GDP per capita in South Asia is approximately equal to that for Africa. There is



no clear explanation for this, but it does call for a nuanced perspective on the association between economic performance (as measured by GDP) and levels of armed violence.

Oceania shows a homicide rate slightly higher than for Asia, at 4.0 per 100,000 population. Factors particularly affecting this comparatively low rate may include the unique geographic and demographic features of Oceania, with some 23 out of 26 countries or territories having a population under 1,000,000 persons. Fifteen of these do not reach 100,000 inhabitants. While the regional average is low, countries within Oceania show considerable variability, ranging from 15.2 to less than 1 per 100,000 population.

PHOTO ▲ An armed gang member in a Rio favela.
© Q. Sakamaki/Redux

MAP 4.2 Absolute homicide counts by subregion, 2004

NOTE: The boundaries and designations used on this map do not imply endorsement or acceptance.

SOURCE: UNODC estimates

The South-east and West/Central European subregions have among the lowest rates of homicide worldwide, at 3.2 and 1.5 homicides per 100,000 population, respectively. The overall average for Europe, 5.4 homicides per 100,000, is influenced by the high value for East Europe of 15.7 homicides per 100,000 population. West and Central Europe, taken as a whole, has detailed homicide statistics available from police and criminal justice sources, which implies comparatively efficient police forces capable of crime prevention, detection, and investigation functions. This may be a significant factor in the low figure for West and Central Europe and may partly explain the consistently decreasing

trend of homicide levels. Figures from EUROSTAT, for example, suggest that homicides recorded by the police fell by about three per cent annually in European Union member states where consistent figures could be provided for the period 1995–2005 (Tavares and Thomas, 2007, p. 2). This pattern is most noticeable in South-east Europe, where absolute numbers of homicides declined by around 50 per cent between 1998 and 2006 (UNODC, 2008, p. 39).

The global burden of homicide can also be expressed in absolute counts. These figures are not representative of homicide levels, because they are unrelated to the population from which

the homicide count is derived. Nonetheless, Map 4.2 presents a representation of absolute numbers of homicides by subregion and provides a broad idea of the global distribution of non-conflict violent deaths.

Of around 490,000 people who were killed in homicides in 2004, the largest number died in the subregion of South America: some 95,000, representing 19 per cent of the total. West and Central Africa followed with an estimated total of 78,000 deaths. Homicides in Africa and the Americas together represent 66 per cent of the overall figure; 37 per cent and 29 per cent, respectively. Asia follows with 25 per cent of global homicides. Europe accounts for around 9 per cent of homicide deaths and Oceania for 0.3 per cent of the total.

Behind the numbers: trends and distribution of violent deaths

A global analysis of homicide trends over the past fifty years points to no clear trends. Twelve out of thirty-four countries for which World Health Organization (WHO) mortality statistics were available showed significant increases—also described as ‘crime booms’—in homicide levels between 1956 and 1998 (LaFree and Drass, 2002). However, there

Box 4.2 Guns and homicide

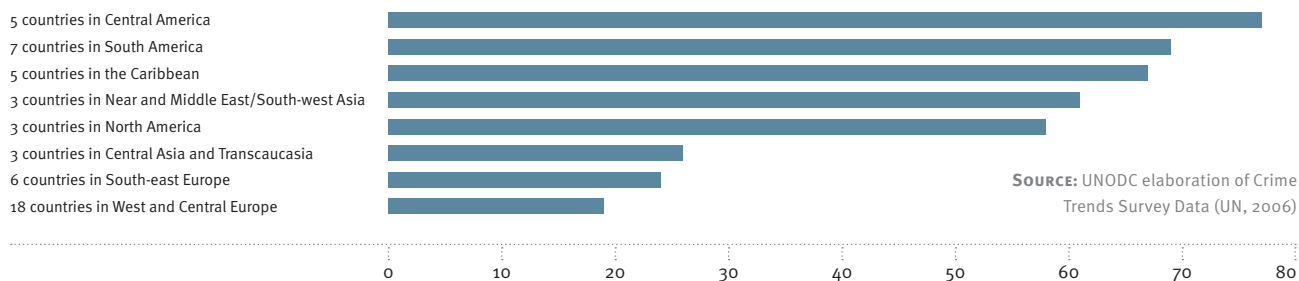
Firearms are not the only weapons used in armed violence, and death is not the only outcome. Death by firearm is nonetheless a crucial aspect of the global burden of armed violence. Using figures from the Ninth UN Survey on Crime Trends and Operations of Criminal Justice Systems (UN, 2006), Figure 4.3 presents the percentage of homicides committed by firearm for countries from eight subregions for which data was available.

The percentage of homicides committed by firearm varies from 19 per cent in West and Central Europe to 77 per cent in Central America. On a global scale, percentages may be divided into subregions with more than 50 per cent of homicides committed by firearm—Central America, South America, the Caribbean, the Near and Middle East, South-west Asia, and North America—and those under 50 per cent—Central Asia and Transcaucasia, South-east Europe, and West and Central Europe.

Although a number of interpretations may be given to the data, such as the effect of gun control laws and differing availability of small arms and light weapons between subregions, the results must be interpreted with caution. Countries operate different recording systems and may inaccurately record the number of homicides committed by firearms. This may be a result of limited criminal justice statistics-gathering capacity, factual difficulties in identifying the cause of death, or simply a lack of follow-through from operational case notes to official police statistics. Some homicide by firearm statistics reported to the UN Survey on Crime Trends (UN, 2006; 2008) (and not included in the above analysis) reveal inconsistencies either with data from previous years or as compared to the total homicide figure provided.

Despite these difficulties, the available data suggests that approximately 60 per cent of total homicides in the eight subregions were carried out with a firearm. This figure excludes all of Africa, Oceania, East and South-east Asia, and South Asia, for which no reliable figures were available. It is, however, worth noting that if the 60 per cent figure is applied to the global total of 490,000 estimated total homicides in 2004, the result (approximately 245,000 firearms deaths) is somewhat higher than previously estimated (Richmond, Cheney, and Schwab, 2005; Small Arms Survey, 2004).¹⁴

FIGURE 4.3 Percentage of homicides committed with a firearm for countries in eight subregions, 2004 or closest available year



is no conclusive evidence to support the argument that crime booms have been universal since the Second World War.¹⁵ More recently, analysis of homicide and homicide attempts in the 1990s in Europe shows an increase between 1990 and 1992, followed by a gradual but consistent decrease in homicide levels between 1992 and 2000 (Aebi, 2004). According to data from EUROSTAT, this decline has continued to the year 2006 (Tavares and Thomas, 2007).

In a longer historical perspective, however, all analysts agree that homicide rates in Western Europe have dropped more or less steadily—and

dramatically—over the past several centuries. Homicide rates dropped roughly by half from the medieval to the early modern period (late 16th and early 17th centuries), and by the 19th century had dropped five to ten times further. This holds from England and Scandinavia to Germany, Switzerland, the Netherlands, and Italy. The homicide rate in England dropped from about 23 per 100,000 population in the 13th and 14th centuries to 4.3 per 100,000 by the end of the 17th century, to 0.8 per 100,000 by the first half of the 20th century. In the Netherlands and Belgium, equivalent figures were 47, 9.2, and 1.7 per 100,000; while in Germany and Switzerland, the figures fell from 37 per 100,000 to below 2.0 for the 20th century (Eisner, 2001; Gurr, 1981; Monkkonen, 2001). Although the exact timing and scope of the decline varies from place to place, there is no doubt about the historical decline in lethal violence within European states.

Various explanations have been advanced for this decline, including increases in state capacity (policing, criminal justice), increased urbanization and levels of education, and changing norms towards interpersonal violence. Whatever the causes, the long-term decline in lethal violence should provide some insight into contemporary global trends analysed over a short time period.

The analysis presented below looks at homicide trends in selected countries based on results from multiple data sources. It captures the best available data for the period 1998–2006 in order to provide a temporal context to the subregional estimates presented above for 2004.¹⁶ This trend analysis refutes the existence of ‘crime booms’ in the Americas, Europe, and Central Asia and Transcaucasia in recent years. It shows that there were very few sustained increases of greater than ten per cent in homicide levels. The majority

PHOTO ▼ An Italian soldier guards a train station in suburban Rome.
© Tony Gentile/Reuters



TABLE 4.1 National-level homicide trend analysis by subregion, 1998–2006

	Caribbean	Central America	North America	South America	Central Asia and Transcaucasia	East Europe	South-east Europe	West and Central Europe	Total
Increasing trend	1	2	–	7	1	–	–	–	11
Decreasing trend	3	1	2	1	6	3	6	11	33
Flat trend	1	2	1	1	–	–	1	11	17
Single dominant change	–	–	–	–	1	1	–	5	7
Total	5	5	3	9	8	4	7	27	68
Number of countries/territories in subregion	16	7	3	13	8	4	9	34	94

SOURCE: UNODC estimates

of subregions examined show flat or slightly increasing or decreasing trends.

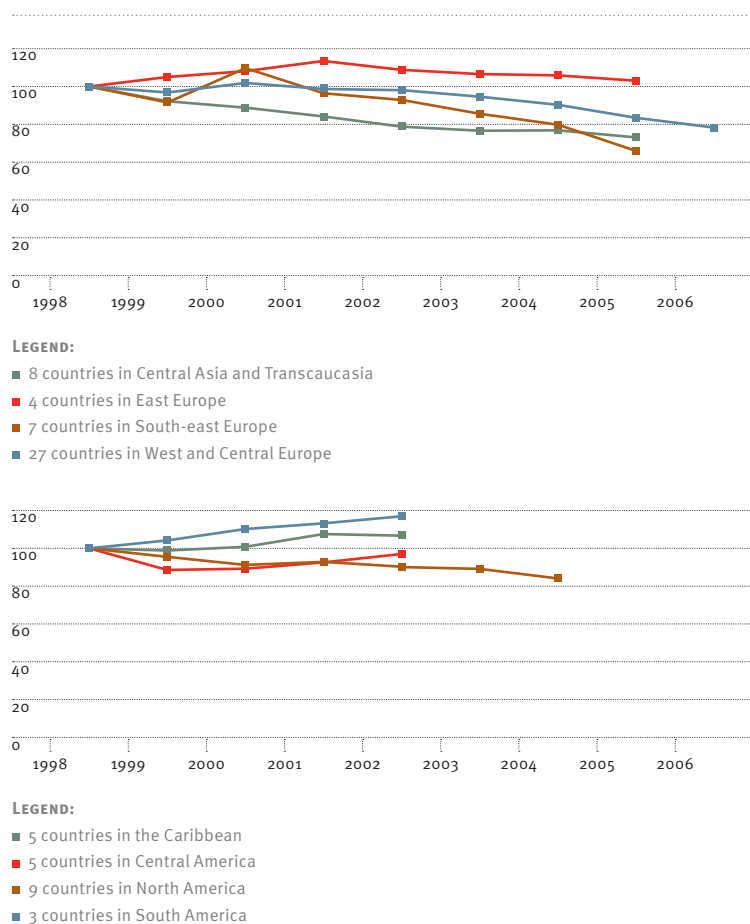
The examination of homicide trends over time can be undertaken, provided that reporting and recording practices, as well as legal definitions of the offence, do not change during the period considered. Trend analysis further requires a rigorous approach to data completeness: it is important that data from the same set of countries is compared year to year and that, where sub-regional or regional trends are examined, data is collected from as many representative countries as possible. Reliable trend analysis also usually requires that countries with fewer than one million inhabitants be excluded, as small numbers may contribute to a lack of statistical reliability (Aebi, 2004).

National-level time series data was examined for the existence of possible trends, and countries (or territories) classified as ‘increasing’, ‘decreasing’, ‘flat’, or ‘single dominant change’. The category ‘single dominant change’ describes the situation where homicide levels show a ‘∩’- or ‘∪’-shaped trend. Countries exhibiting short-term

fluctuations or cyclic changes with multiple peaks and troughs, but no overall trend, were classified as flat. The full methodology used to produce trend data and to classify it according to these four categories is described in the methodological annex available on the Geneva Declaration Web site.

Table 4.1 shows the results of homicide time series data for 68 countries in eight subregions for which sufficient data was available. In 33 out of 68 countries, the trend is declining. The majority of countries with an increasing trend are in Central and South America. A large number of countries in West and Central Europe show no overall upward or downward trend, although only a few of these exhibited a completely flat trend, with the rest showing significant year-on-year variation.¹⁷ A number of countries in West and Central Europe, East Europe, and Central Asia and Transcaucasia showed a ‘∩’- or ‘∪’-shaped trend over the period, suggesting some short- to medium-term change in homicide trends. Figure 4.4 shows overall trend graphs by subregion for the period 1998–2006.

FIGURE 4.4 Trends in intentional homicide in the Americas, Europe, and Central Asia and Transcaucasia, 1998–2006



NOTE: The figure provides a visual representation of the overall subregional trend classifications. As with the 16 subregional homicide estimates for the year 2004, the subregional trends in the figure represent population weighted averages for each year. The trend is made up from data corresponding to the same sub-set of countries within the subregion in each year. The practice of excluding data from countries with a population of less than one million persons has been followed. The graphs have all been set to a nominal starting value of 100 in order to allow direct comparability of trends, irrespective of actual homicide levels, i.e. real homicide rates are not shown. The full methodology used for trend calculation is provided in the on-line appendix at <http://www.genevadeclaration.org>.

SOURCE: UNODC estimates

Between 1998 and 2006, subregional homicide levels appear relatively stable. Rates change reasonably slowly and consistently and do not generally exhibit unpredictable large increases or decreases from year to year. In the Americas, for example, only four data points show a five per cent change or greater as compared with the previous year.

In Europe and Central Asia, rates are slightly less stable. Only South-east Europe and Central Asia and Transcaucasia, however, show a significant number of changes of greater than five per cent between individual years. During the whole period, a change of greater than ten per cent between individual years occurs only three times, each time in South-east Europe. A change greater than 10 per cent occurs as an increase from 1999 to 2000 (20 per cent), and a decrease from 2000 to 2001 (12 per cent) and from 2004 to 2005 (17 per cent).

East Europe shows a particular turning point in 2001. Homicide rates were gradually increasing prior to this date and began a consistent decline thereafter. It is possible that this change is due, in part, to increased rule of law initiatives and reform within the subregion introduced around this time.¹⁸

In other European subregions, homicide trends are generally decreasing. In South-east Europe, homicide rates declined between 2001 and 2006 by over 40 per cent after a peak in 2000: an annual average decline of 5.1 per cent. This pattern is matched, although less dramatically, in Central Asia and Transcaucasia, with an annual average decrease in the same period of 4.2 per cent. West and Central Europe shows a decreasing trend throughout the period 1998–2006, with an average decrease of 2.8 per cent. As a subregional average, however, this masks the fact that, as shown in Table 4.1, some countries showed con-

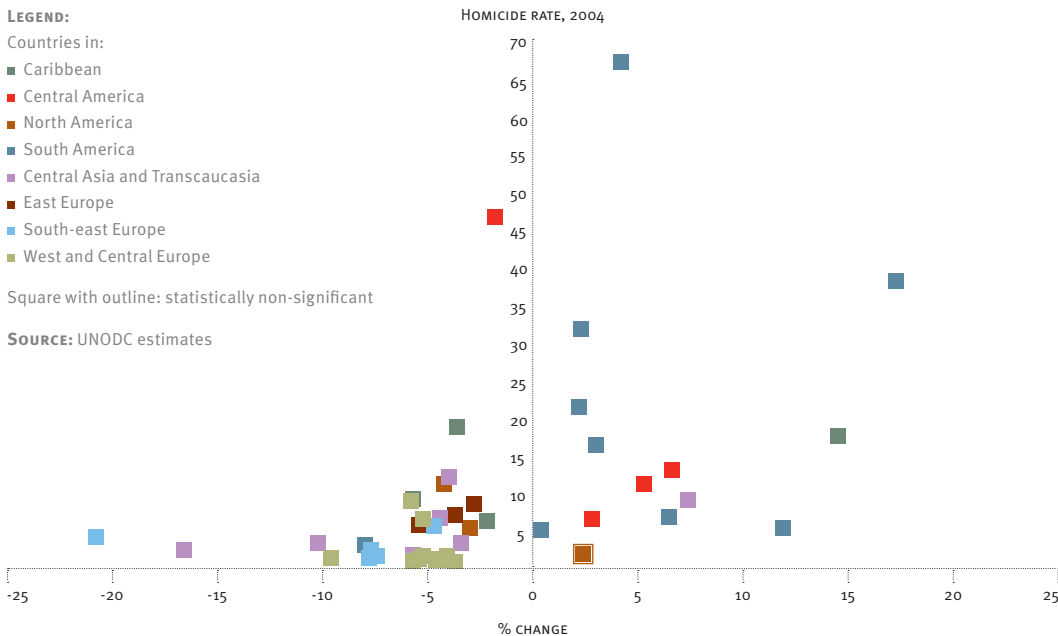
sistent increases during the time period, while others demonstrated ‘∩’- or ‘U’-shaped trends.

By contrast, South America shows the greatest rate of consistent increase between 1998 and 2002 (four per cent). The Central America rate fell between 1998 and 1999, but increased consistently thereafter. North America decreased between 1998 and 2002, with an average annual decrease of 2.4 per cent. The Caribbean shows

no clear linear increase, but presented a homicide rate six per cent higher in 2002 than 1998. The increasing trend in the Caribbean links with previous findings of rising crime in the subregion and a vulnerability to narcotics trafficking and the violence associated with it (UNODC and World Bank, 2007, p. ii).

Trend analysis for the Americas, Europe, and Central Asia and Transcaucasia provides a con-

FIGURE 4.5 Homicide country rate per 100,000 population plotted against average % change in country homicide levels



NOTES:

Each square represents data for one country, coloured by subregion. Data points in the top right of the chart indicate a high and increasing homicide rate. Data points in the bottom left indicate a low and decreasing homicide rate.

The plot in this figure represents the superimposition of national homicide levels per 100,000 population at the *end* of the trend period measured, with the corresponding average percentage change in homicide levels for that country over the time period. It should be noted that the period over which the average percentage change is measured is not identical among subregions. Homicide trend analysis was only possible for the years 1998–2002 in the Americas and for 1998–2005 in Europe, and Central Asia and Transcaucasia. Only countries showing a decreasing, increasing, or flat trend are plotted. It is not possible to calculate an average percentage change figure for those countries showing a single dominant change or where significant year-on-year variation occurred. These countries are excluded from the figure, which, as a result, is provided for visual comparison only.

text to the global subregional estimates for 2004 presented above. The high subregional 2004 homicide value for South America (25.9 per 100,000 population), for example, is a result of a consistent increase in homicide levels between 1998 and 2002. At the lower end of the scale, it can be seen that subregions with comparatively

low homicide rates in 2004—West and Central Europe, South-east Europe, and Central Asia and Transcaucasia—have achieved such values through consistent and, in some cases, marked decreases since 1998.

Figure 4.5 summarizes the homicide trends. It provides a visual indication of homicide levels

TABLE 4.2 Female homicides for selected countries, 2005

Country	Total homicides	Female homicides	Female homicides as % of total homicides	Rate per 100,000 population
Belarus	1,135	393	34.6	7.6
Brazil	48,600	4,520	9.3	4.4
Bulgaria	372	100	26.9	2.5
Canada	663	180	27.1	1.1
Colombia	18,111	1,493	8.2	6.4
Czech Republic	167	58	34.7	1.1
El Salvador	3,778	390	10.3	11.5
Germany	2,723	974	35.8	2.3
Guatemala	5,338	518	9.7	8.0
Honduras	2,417	171	7	5.0
Hungary	165	77	46.7	1.5
Ireland	62	9	14.5	0.4
Jamaica*	1,471	141	9.6	10.6
Kyrgyzstan	491	106	21.6	4.1
Netherlands	198	67	33.8	0.8
Nicaragua	729	60	8.2	2.2
South Africa**	18,528	2,409	13	10.1
Turkey	6,573	1,266	19.3	3.5
Ukraine	3,529	961	27.2	3.8

* 2004 figure.

** South African Police Service statistics are given from April 2005 to March 2006.

SOURCE: World Bank Group (2008); SIM Datasus (n.d.); Colombian National Police;¹⁹ Observatorio Centroamericano sobre Violencia (2007); Campaña de prevención de violencia de género en El Salvador (2006); IIDH (2006); Jamaica Police Constabulary;²⁰ South African Police Service;²¹ UNECE (2008)

Box 4.3 Sex, age, and armed violence

Sex disaggregated data on homicide shows that male homicides vastly outnumber female homicides. There are no comprehensive and reliable statistics disaggregated by sex, but data from various sources—which are not directly comparable with the dataset used in this chapter—indicates that male homicide rates are usually four or five times greater than female homicide rates.

Table 4.2 presents female homicide data for a selection of states. Aside from the great variation in rates—between 0.4 and 11.5 per 100,000 population—one potential relationship stands out: as a country's rate of female homicide decreases, the percentage of its total homicide victims that are women increases. In countries that have relatively high overall homicide levels, female homicides represent between 7 and 13 per cent of total homicides. Colombia, El Salvador, Jamaica, and South Africa have particularly high female homicide rates. For countries with lower overall rates of homicide (Germany, the Netherlands, and Canada, for example), the proportion of female homicides is higher, falling between 27 and 46 per cent.

This suggests that as homicide levels rise, the deaths are concentrated among young men, perhaps linked to larger patterns of criminal activity (e.g. drugs, gangs, etc.). It also suggests that intimate partner violence may not necessarily decline along the same path that other forms of lethal violence follow. This might be linked to the persistence of traditional gender roles and violent masculinities across time and place. Data and analysis for many more countries would be needed, however, in order to test this observation.

Data from WHO also confirms the general notion that men between the ages of 20 and 29, or 30 and 44, are the most vulnerable to being victims of lethal armed violence compared to other age categories (see Figure 4.7). Women, by contrast, are shown to be most vulnerable to homicide in their first year of life, and to have a roughly equal level of vulnerability from age 20 onwards. This might be linked to practices of female infanticide and the general neglect of girl children in many societies, based on the greater value accorded to male children (ARMED VIOLENCE AGAINST WOMEN).

While these figures provide an overall picture of the distribution of homicide among different sex and age groups, much remains to be done to improve data collection. So far, most sex- and age-disaggregated datasets are from WHO, but these are often of limited utility due to their incompleteness.²² In order to develop a better understanding of the distribution among different sexes and age groups, data gathering on the national level should include these categories in standard reporting mechanisms on homicide.

FIGURE 4.6 Female homicide rates per 100,000 population, 2005

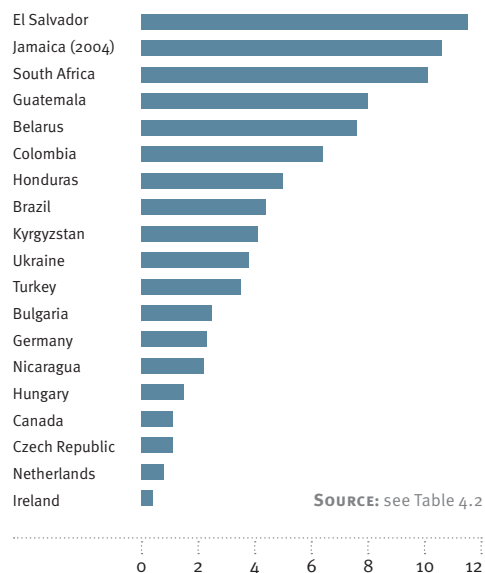
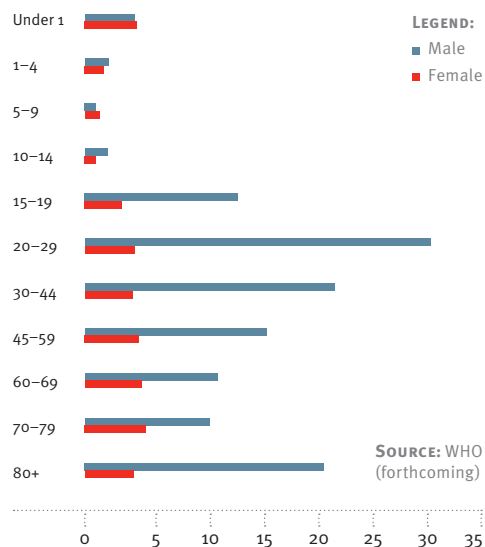


FIGURE 4.7 World estimates for homicide rates per 100,000 population by age, 2004



Box 4.4 Up close and personal: arms availability and female homicide

The simple existence of a gun in a household increases the risk for women becoming a homicide victim. In the United States, between 40 and 50 per cent of all female homicides are intimate partner homicides. Of these homicides, 67–80 per cent involve physical abuse of the female by the male partner before the homicide. Access to a gun and previous threats with a gun have been found to increase the risk of homicide by about three times (Kellermann et al., 1993; Campbell et al., 2003, p. 1089).

In 2005 in the United States, 1,858 females were murdered by men. More than 50 per cent (52 per cent) of these female homicides were committed with firearms, and more than 90 per cent (92 per cent) of the victims were murdered by someone they knew (VPC, 2007). In South Africa, 43 per cent of female homicides were committed with a gun in 2000, making it a major external cause of death for women. The majority of these homicides are committed by legally possessed firearms. Thus, rather than contributing to higher levels of protection, gun ownership at home can increase the risk of homicide by a family member or intimate partner (Campbell et al., 2003, p. 1084; NIMSS, 2001, p. 21).

and rates of change across eight subregions for 47 countries (but see the note beneath the figure). The countries of South and Central America predominantly fall towards the top right of the graph, indicating high and increasing homicide levels between 1998 and 2002. The countries of West and Central Europe, South-east Europe, and North America fall to the bottom left, indicating low and decreasing homicide levels (between 1998 and 2005). Countries of the Caribbean and Central Asia are more widely distributed. They generally fall higher in the graph and to the left. A number of outliers, however, show strongly increasing trends with resultant effects on overall subregional trends. Overall, this figure suggests that homicide rates are highly sensitive to local factors, including, as discussed above, cross-national differences in healthcare systems.

Armed violence and the criminal justice system

An effective criminal justice response to armed violence is an important element of prevention and reduction policies—both for its deterrent effect and for the prevention of reoffending. An effective and successful criminal justice system boosts public confidence and perceptions of security. As might be expected, however, the ‘success’ of a criminal justice system in detecting crime and bringing perpetrators to justice depends on many factors. These range from the efficiency and level of resources and training of police and justice personnel to the level of sophistication of criminal activity in a particular country and the degree to which corruption and bribery allow criminals to operate with impunity.

The measurement of ‘success’ is a complex task, and a number of possible tools have been proposed. The *justice attrition rate* compares the number of recorded cases of armed violence, the number of persons arrested for this crime, the number of persons prosecuted, the number of persons convicted, and the number of persons sentenced to deprivation of liberty. The utility of the method suffers, however, from the fact that police, prosecution, court, and penal systems frequently use different methods of case recording and different definitions, and from the problem that cases may take a significant amount of time to be processed by the police and justice system. As a result, comparison of such figures as published in official statistics is rarely appropriate.

Another tool is the *police detection rate*. The detection rate is frequently defined simply as the number of cases solved divided by the number of cases recorded (Smit, Meijer, and Groen, 2004, p. 229). The Tenth UN Survey of Crime Trends and Operations of Criminal Justice Systems (UN, 2006) defined a case ‘solved’ if it conforms to the following criteria:

- The police are satisfied of a suspect's guilt because there is a corroborated confession and/or because of the weight of the evidence against him or;
- The offender was caught in the act (even if he denies all guilt) or;
- The person who committed the offence has been identified (regardless of whether he is in custody, on provisional release, still at large, or dead) or;
- Police investigations reveal that no penal offence was in fact committed (UN, 2007b, p. 39).



PHOTO ▲ A member of the 18th Street Gang lies dead, gunned down by a rival gang member in Guatemala City, 2001.
© Donna DeCesare

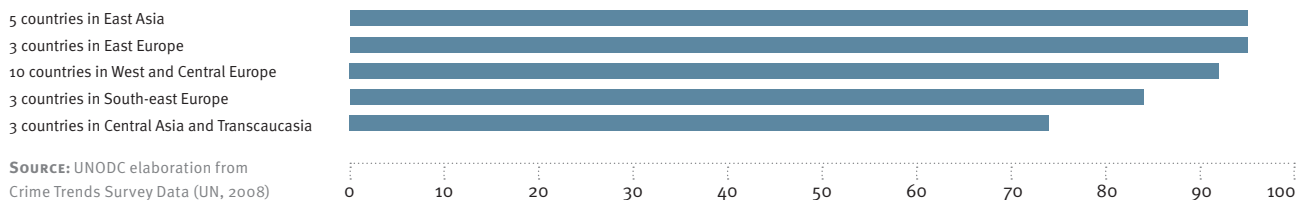
Figure 4.8 highlights preliminary results for the number of recorded homicide cases that are solved, based on state responses to a question in the UN Survey on Crime Trends. It must be noted that only a limited number of responses were received, from countries predominantly in Europe and Asia, and that these countries have very different criminal justice systems. In general, however, responding countries indicated a very high percentage of homicide cases solved.

The overall median value for all 24 countries responding to the question of the number of solved cases was 90 per cent. For 16 countries in Europe, the median was 92 per cent, while for 8 countries in East Asia, Central Asia, and Transcaucasia the median was 76 per cent. In 13 countries (3 Asian

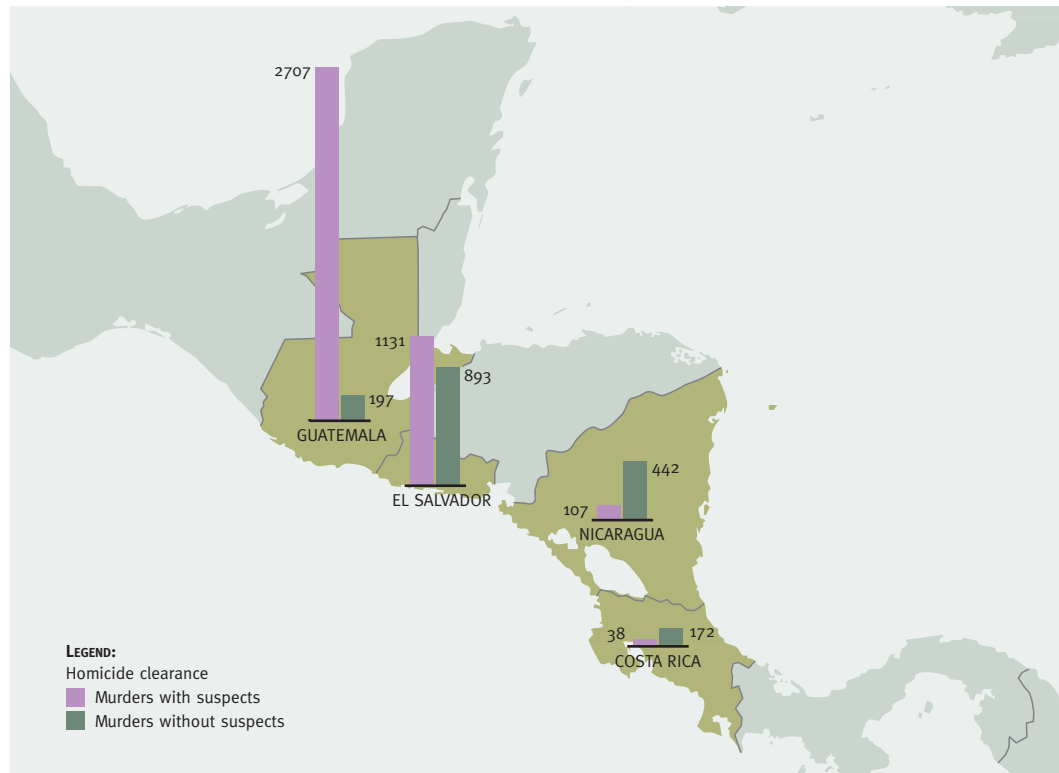
and 10 European) the percentage of homicide cases solved was greater than 90 per cent, while in 7 countries (4 Asian and 3 European) the value was less than 80 per cent. The differences between the subregional medians are relatively modest, and, as noted above, a range of factors may affect police performance in resolving cases. In particular, as the data relates to recorded cases in one particular year (2005), cases solved in the next year involving crimes committed in 2005 may not be taken into account.

Commentators note that the majority of solved cases are solved at the moment of registration or shortly thereafter (Smit, Meijer, and Groen, 2004, p. 229). Moreover, the standard as to what constitutes 'satisfied of a suspect's guilt' or 'the person

FIGURE 4.8 Median percentage of recorded homicide cases solved in 24 countries by subregion, 2005



MAP 4.3 Homicide clearance rates in Central America

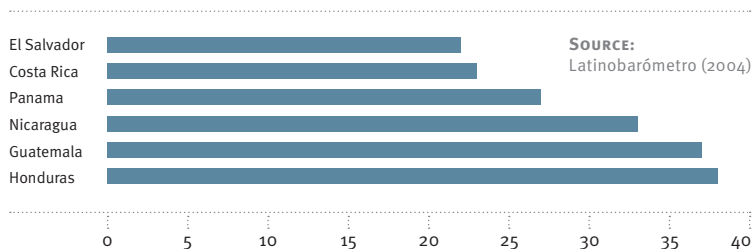


SOURCE: UNODC elaboration from Crime Trends Survey Data (UN, 2006)

who committed the offence has been identified' may vary between countries. The suspect may or may not have to be formally charged before this

criterion is satisfied. Overall, while little may be said about the differences between subregions, the results indicate a generally high level of success of the various criminal justice systems.

FIGURE 4.9 Respondents saying it is possible to bribe a judge to get a reduced sentence in Central American countries (%), 2004



Nevertheless, these figures should not underestimate the significance of the problem of ineffective justice and correctional services for violence prevention and reduction. In Guatemala, for example, in the year 2000 there were 2,707 murders with a suspect and only 197 without suspects (UNODC, 2007, p. 32). In addition, 37 per cent of respondents in a survey for Latinobarómetro (2004) indicated that it is possible to bribe a judge to receive a reduced sentence (see Figure 4.9). Other Central

American countries have similar trends, even if they are not as acute as Guatemala (Map 4.3). In Africa, the chances of a murder resulting in a conviction are only around 11 per cent. This figure increases to 18 per cent in South Africa and stands in comparison to 56 per cent in the United States and 61 per cent in the United Kingdom (UNODC, 2005, p. 13).

The inability to prosecute offenders, corruption, and the absence of adequate prison facilities foster a perception of impunity for homicide. The experience of justice reform in Jamaica and the Dominican Republic highlights that better cooperation among the police, justice, and correctional services (supported by integrated information systems) and embedding justice reform in a broader multi-sector strategy of violence and crime prevention can help in dealing with impunity and increase the effectiveness of institutional responses to crime (UNODC and World Bank, 2007, pp. 126–27).

Conclusion: knowledge gaps and policy implications

The use of international homicide data as an indirect means to assess the global burden of armed violence is in its infancy. This chapter has made use of extensive and rigorous data gathering and analysis in order to provide a comprehensive snapshot of the scale and magnitude of lethal non-conflict armed violence. It has also attempted to provide some indication of recent trends, and of the possible spatial, demographic, and socio-economic factors that might affect levels of armed violence.

Some cross-national comparisons of homicide levels have recently begun to appear in development-related publications, including the *Human Develop-*

Box 4.5 Violent death in the city

Received wisdom claims that victimization by more serious crimes is correlated with increases in the proportion of the population of a country living in larger cities. Criminologists frequently argue that urban density is thought to be associated with crime, since greater concentrations of people lead to competition for limited resources, greater stress, and increased conflict (Glaeser and Sacerdote, 1996; Van Dijk, 1998, p. 69; Naudé, Prinsloo, and Ladikos, 2006).

When it comes to urban *armed violence*, however, its frequency and effect is strikingly heterogeneous and it results from multiple causes. It is linked to factors such as the drug trade, the availability of weapons, and forms of social organization such as street gangs and militia or quasi-militia groups (Small Arms Survey, 2007). While not all urban violence ends in homicide, homicide rates are related to more general violent acts.

The complexity of urban armed violence is highlighted by the fact that there is no clear correlation between city population and levels of urban homicide (Small Arms Survey, 2007). In order to provide further insight into differences between urban and rural homicide rates, research was undertaken to identify homicide rates per 100,000 population in major cities. Data for the largest available city in 67 countries was located. The cities ranged from a population of just over 6,000 persons to more than 14 million persons. The median city population was slightly over 1.2 million. The results of this comparison are presented in Figure 4.10 and are summarized by subregion. Insufficient data prevented meaningful comparisons being carried out for Africa, Oceania, and Asia, with the exception of East Asia. The methodology for major city/rest of country comparisons is described in full in the on-line appendix (www.genevadeclaration.org).

A common theme in the literature is that crime levels are higher in urban areas than rural areas (UN-HABITAT, 2006). While this may be true for North America, Central Asia and Transcaucasia, West and Central Europe, and South-east Europe, the reverse appears to be true for East Europe, Central America, and East Asia. South America shows only a small difference between urban and rural homicide rates.

A first possible explanation for differences may relate to differing degrees of urbanization in the rest of the country. The ‘major city’ rate may, for instance, be compared with a ‘rest of country’ rate that itself contains many large urban centres. A look at urbanization rates only partially explains the differences, however. While a low urbanization rate in Central Asia and Transcaucasia (50 per cent) corresponds with a homicide rate one and a half times as high in the largest city as for rest of country, the pattern is more complicated in other subregions. The four countries examined in East Europe and the five countries in East Asia, for example, show average urbanization rates (both around 60 per cent) lower than those for the countries examined in North America (80 per cent) and West and Central Europe (73 per cent).²³ This is despite the fact that East Europe and East Asia show higher homicide rates for ‘rest of country’ than major cities. ▶▶

Another reason may be that homicide rates are not dictated by simple urban–rural distinctions, but by the nature of urban settings themselves. Small towns may have levels of violent crime as high as in large cities because people are more likely to remain in contact, leading to pressure to solve ongoing conflict (Garrido, Stangeland, and Redondo, 2001). Rapid urbanization in subregions such as Central America may lead to the growth of many small towns and a subsequent higher homicide rate in the rest of the country as compared to the largest city.

The results suggest that a number of factors may be at work in different social, cultural, and national contexts. Patterns of violence may differ between urban and rural areas according to whether the perpetrator is an individual, a gang, or an organized criminal group, and whether the crime is driven by factors such as drugs, personal vendettas, or simple opportunism. Police presence and effective state control are also likely to differ between urban and rural areas, particularly in developing countries.

In the more developed countries of North America and West and Central Europe, higher homicide rates in major cities may actually indicate a concentration of violent offences in urban areas, because police and medical systems usually provide effective country-wide coverage. In East Asia and East Europe, it is difficult to conclude whether violent crime is indeed higher outside of the major cities or whether other factors, such as differences in the urban–rural availability of medical care, are responsible for the apparent difference. In South and Central America, it is possible that a range of forms of violent crime operate across the countries examined. These can include organized crime and drug trafficking or opportunism and banditry, giving rise to similar homicide rates for major cities and the rest of the country.

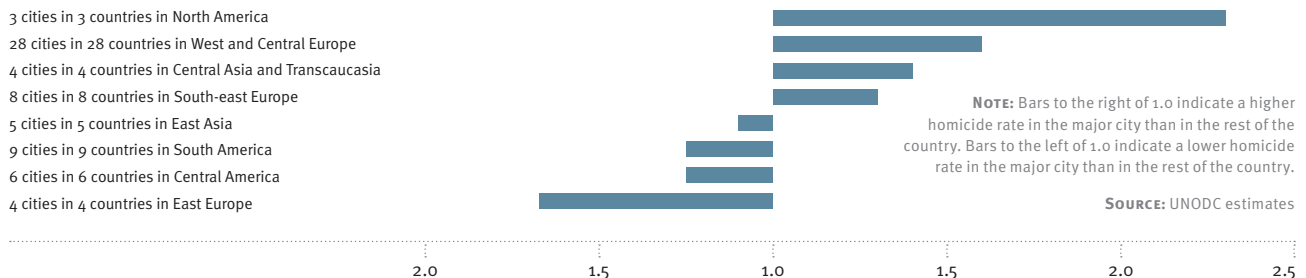
Finally, the blurring of traditional classifications of urban and rural through the widespread growth of shantytowns and super-conurbations dictates that comparisons should be interpreted with caution. Such effects make accurate definition of the population of a ‘major city’ an extremely difficult task. In turn, when population figures do not correspond with the area covered by police administrative statistics, a significant degree of error may be introduced into the urban–rural comparison.


ment Report 2007/8, The Economist’s Global Peace Index, and the Ibrahim Index of African Governance. These analyses all stress the negative impact that high levels of lethal violence can have on states and societies, and the utility of homicide as a proxy to capture overall levels of armed violence and insecurity.

Other studies conducting cross-national comparison and interpretation of data using police and public health statistics on homicide (Neapolitan and Schmallegger, 1997; LaFree, 1999; 2005) have attempted to describe the phenomenon with reference to time series data and correlations with other variables. Van Wilsem (2004) notes, for example, a statistical connection between homicide and other forms of violent crime. Other research has detected correlations between homicide levels and political, economic, and social variables, in an attempt to identify co-determinates of homicide (Collier and Hoeffler, 2004; Fajnzylber, Lederman, and Loayza, 1998; Bye, 2008). A few studies have also attempted to make cross-national or historical comparisons of homicide levels (Gartner and Parker, 1990; Stamatel, 2008). But the overall results are still inconclusive, in part because analysts are working with poor or insufficiently detailed data.

These studies represent the first steps towards providing solid policy- and programme-relevant

FIGURE 4.10 Ratio of homicide rates in major cities and rest of country, 2005



evidence on the patterns and distribution of non-conflict violence. Greater information on the effectiveness of criminal justice systems, and on who is at risk, from what kind of violence, from what source, and where and when they are vulnerable are all important keys to improving the ability of the international community to design practical policies to reduce the global incidence of armed violence. 

Abbreviations

GDP	gross domestic product
HDI	Human Development Index
UNDP	United Nations Development Programme
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organization

Endnotes

- 1 The most recent date for which comprehensive global data is available is 2004.
- 2 The world's regions are subdivided as follows: *Africa*: East Africa, North Africa, Southern Africa, West and Central Africa; *Americas*: Caribbean, Central America, North America, South America; *Asia*: Central Asia and Transcaucasia, East and South-east Asia, Near and Middle East/South-west Asia, South Asia; *Europe*: East Europe, South-east Europe, West and Central Europe. *Oceania* is not subdivided.
- 3 An on-line appendix (<http://www.genevadeclaration.org>) also provides a comprehensive account of the methodology used to arrive at the figures given in this chapter, including an explanation of data sources and the calculations of subregional estimates, homicide trends, major city/rest of country homicide ratios, and the percentage of homicides committed with firearms.
- 4 In official public health statistics, important differences may arise among cause-of-death recording systems. The individual responsible for determining the cause of death and the manner in which such decisions enter official statistics may also vary. In one country, doctors may enter a cause of death on a death certificate; however, in another country, a medico-legal coroner may be required to certify the cause of death. Most importantly, the public health

system cannot determine the legal existence of an intentional homicide, merely the fact that a person has been killed by an act of violence that appears to have been carried out intentionally. Sometimes, doctors may even be reluctant to classify a death as a homicide for social reasons or as a result of pressure from the victim's family.

- 5 Described in the on-line appendix at <http://www.genevadeclaration.org>.
- 6 The results represented in Map 4.1, and also in Figure 4.1, correspond to population weighted averages. As a result, they are sensitive to the distorting effect of countries with particularly high or low homicide rates (outliers). An alternative method of calculation of subregional figures is the use of median values. These are available for comparison in the on-line appendix at <http://www.genevadeclaration.org>.
- 7 Countries in Africa have an average HDI of 0.53. See UNDP (2008, <http://hdrstats.undp.org/indicators/1.html>).
- 8 Countries in Africa have an average gross domestic product per capita just over one-third that of countries in the Americas and around one-sixth that of countries in Europe. See UNDP (2008, <http://hdrstats.undp.org/indicators/5.html>).
- 9 On average, the richest 10 per cent in Africa earn 28 times more than the poorest 10 per cent. See UNDP (2008, <http://hdrstats.undp.org/indicators/145.html>).
- 10 Forty-three per cent of the population are under the age of 15. See UNDP (2008, <http://hdrstats.undp.org/indicators/44.html>).
- 11 $R^2 = 0.2$, for 176 countries.
- 12 This figure accounts for 21 armed conflicts in Africa in 2004 (see Chapter 1).
- 13 See UNDP (2008, <http://hdrstats.undp.org/indicators/1.html>); <http://hdrstats.undp.org/indicators/5.html>).
- 14 Richmond, Cheney, and Schwab (2005) estimate total non-conflict-related firearm mortality at between 196,000 and 229,000; Small Arms Survey (2004, p. 200) estimates it to be between 180,000 and 250,000.
- 15 In the 12 'boom' countries identified, rates were reported to have increased from around 2 homicides per 100,000 population in 1956 to nearly 3 per 100,000 population in 1998, and from just below 4 per 100,000 population in 1956 to 7 per 100,000 by 1995 in developing countries. Over all 34 countries, while 30 were reported to show an upward trend direction, this was characterized as 'sustained' in only 15 countries, including the 12 considered to show a homicide boom (LaFree and Drass, 2002).
- 16 Insufficient data was available to enable reliable trend analysis in Africa, Oceania, and Asia, with the exception of Central Asia and Transcaucasia. In the remaining eight subregions, however, sufficient national-level data was available for trend analysis between 1998 and 2002 in

- the Americas, and between 1998 and 2005 in Europe, and Central Asia and Transcaucasia.
- 17 In West and Central Europe, some 8 countries demonstrated significant fluctuations of up to 50 per cent from year to year, with no overall upward or downward trend in homicide levels.
- 18 During the early to mid-1990s, for example, both the Russian Federation and Ukraine adopted significant legislative acts aimed at providing a modern framework for policing. This was followed in the mid-1990s by the adoption of 'Concept of Development' Programmes for the reform of police in the Russian Federation and Ukraine, which included short-, medium-, and long-term plans relating to police activity, resulting in changes to police legal status, organizational structure, operational police forces, work patterns, and supervision and control (Robertson, 2004).
- 19 Figures on Colombia based on data provided by the Colombian National Police.
- 20 Figures on Jamaica based on data provided by the Jamaica Police Constabulary.
- 21 South African Police Service statistics received through written correspondence with Angelica Pino from the Centre for Study of Violence and Reconciliation, (<http://www.csvr.org.za/>).
- 22 These datasets include the WHO mortality database (WHO, n.d.); the WHO *World Report on Violence and Health* (WHO, 2002); the PAHO mortality database (PAHO, n.d.); the PAHO age-standardized mortality rate (PAHO, n.d.); WHO (forthcoming); and projected deaths by WHO region, age, sex, and cause (WHO, 2006).
- 23 See UNDP (2008, <http://hdrstats.undp.org/indicators/41.html>).



CHAPTER FIVE What's in a Number? Estimating the Economic Costs of Armed Violence

ARMED VIOLENCE IMPOSES costs across multiple levels of society and especially on the poorest and most vulnerable.

Although armed violence can benefit a small minority of the population—some gain from (new) employment opportunities and (often illicit) wealth transfers—there is overwhelming evidence of the ways it diminishes development prospects for the majority and hinders achievement of the Millennium Development Goals.¹

The annual global economic costs of armed violence run into the hundreds of billions of dollars. These financial, fixed, and human capital costs need to be considered in any estimate of the global burden of such violence. The precise dimensions of this economic burden depend, however, on how 'costs' are measured. The 'costs' of armed violence are here defined as the short- and long-term measurable effects that are convertible to welfare losses. Although there are many ways to calculate the economic costs, their true extent is ultimately shaped by the duration, severity, and spatial distribution of armed violence.

Specifically, this chapter finds that:

- Non-conflict armed violence produces direct and indirect economic effects that can exceed the costs of armed conflict. The economic costs of non-conflict armed violence in just 90 countries—measured in terms of lost productivity—is USD 95 billion and may reach as high as USD 163.3 billion, or 0.14 per cent of the annual global gross domestic product (GDP) in 2004.
 - The overall costs of armed violence escalate higher still when the consequences of armed conflict are taken into consideration. Violent civil conflict decreases the GDP growth of an average economy by at least two per cent per year.²
 - The subjective experience of armed violence generates tremendous economic costs. Using contingent valuation approaches, the global cost of 'insecurity' generated by conflict amounts to up to USD 70 per person, or a global annual burden of USD 400 billion.
- This chapter adopts a broad approach to measuring the economic costs of armed violence. Looking beyond the narrow financial costs, it finds that the negative economic impacts of armed violence are more extensive than often assumed and include:
- *fiscal effects* (macroeconomic instability, increases in inefficient military and policing expenditures, and decreases in welfare spending);
 - *losses in productive capital* (destruction of infrastructure, land, houses, and assets);
 - *depleted financial capital* (capital flight, soaring inflation and depreciating investments, and rising transaction costs);
 - *eroded human capital* (due to communicable disease, reduced nutrition, diminished edu-

cation, displacement, and out-migration measured as a function of years of life lost);

- *rising transaction costs* (lowered consumer and investor confidence, particularly in cities); and
- *the reallocation of development assistance* (to less risky environments).

It is only in accounting for all of these costs that one can achieve a genuinely global picture of the economic consequences of armed violence.

PHOTO ▼ An Iraqi man mourns the death of his family and destruction of his home in fighting in Baghdad, 2003.
© Q. Sakamaki/Redux



Developing a better estimate of the economic burden of armed violence is essential for prioritizing, designing, financing, and implementing effective interventions. The Geneva Declaration on Armed Violence and Development emphasises how measurement of the economic costs of armed violence can encourage investment in preventive action and hedging against future losses.³ Demonstrating who loses what, where, when, and under what circumstances, can assist policy-makers, activists, and researchers in identifying constituencies to support armed violence reduction in the public and private sectors.

Unfortunately, most efforts to calculate the costs of armed violence at the global or even national level have been frustrated by the absence of a unified conceptual framework, complementary methodologies, or the availability of data over time. As discussed below, there are consequently extreme variations in estimates.⁴

The importance of documenting the economic dimensions of armed violence is today widely appreciated. But research is often narrowly focused on two core manifestations of armed violence—war and crime—with issues such as intimate partner and sexual violence often left hidden from view. In the case of war, researchers frequently adopt a case study or cross-country comparative approach, measuring economic effects as a function of GDP losses in absolute or relative terms.⁵ Such costs imply a loss of income (and purchasing power) that, in most developing countries, would otherwise be devoted to the acquisition of basic needs, such as food, shelter, and clothing.

These studies reveal that the annual burden of war-related violence ranges from 2 to 20 per cent of a country's GDP.⁶ While the studies have limitations and contradictions, they overwhelmingly

observe that war has negative effects on economic growth and well-being.⁷ As for criminal violence, researchers frequently account for public spending on law enforcement and the judicial sector, together with foregone investment and non-productive expenditures. A review of these studies suggests that, in developing countries, public expenditures on law enforcement consume 10–15 per cent of GDP, as compared to 5 per cent in developed states (IADB, 2006; Londoño and Guerro, 1999). There is ample evidence that criminal violence also undermines human welfare and, ultimately, social development (UNODC, 2007a; 2007b).

This chapter examines different approaches to measuring the economic costs of armed violence, in order to increase our awareness of its broad implications for development. The first section of the chapter introduces a three-fold approach to costing armed violence by drawing on accounting, modelling, and contingent valuation methodologies. The second section considers the economic costs of armed violence in a selection of countries for which there is adequate data and draws explicitly on all three approaches. The third section provides a short overview of the distributional effects of armed violence. The fourth section discusses the possible positive effects of armed violence. The chapter closes with some brief conclusions and considers next steps for development policy-makers and practitioners.

Approaches to costing armed violence

The earliest assessments of the costs of war were undertaken by Werner Sombart (1913) and John Maynard Keynes, particularly in the latter's seminal *The Economic Consequences of Peace* in 1919

(Keynes, 2005). As mainstream economists became interested in the issue, they sought to demonstrate whether investment and destruction arising from armed conflict had the potential to generate new efficiencies and release productive energies.⁸

Following the Second World War, however, emerging research highlighting the negative consequences of collective armed violence gained more credence, particularly in the context of civil wars. By the end of the 20th century, contemporary analysis of the negative economic consequences of civil wars and criminal violence began to grow in breadth and sophistication.⁹ Evidence began to mount of the way upward shifts in military and policing spending constituted unproductive expenditure and detracted from welfare spending. The primary metrics of these negative costs consisted of macroeconomic functions such as GDP growth or simply government revenue.¹⁰

This chapter considers three ways of measuring the economic burden of armed violence: accounting, modelling, and contingent valuation. Each of these approaches adopts different assumptions, methods, and data sources, and they are not necessarily comparable. But each offers important insights into the scale and magnitude of the economic burden of armed violence. A first step to generating a realistic estimate of the economic costs of armed violence, then, is to recognize the differences among the approaches.¹¹

The *accounting approach* is essentially a balance sheet of the accumulated costs of specific factors to the economy. Whether determined from a macro or micro perspective, it requires reliable data and the ability to identify appropriate cost factors associated with fatal and non-fatal injury rates. This is the principle methodology applied by public health economists associated with the



PHOTO ▲ An ex-combatant receives carpentry skills training at a UNICEF-funded rehabilitation centre, DRC. © Giacomo Pirozzi/Panos Pictures

World Health Organization (WHO) and other agencies (Butchart et al., 2008; Muggah, 2008).

The *modelling approach* requires establishing a credible counter-factual situation and then determining the difference between expected and actual economic growth. It is most often measured as a function of GDP losses. This is the principal method

applied to generate estimates of the costs of civil wars (Collier, 1999).

The *contingent valuation* approach seeks to capture the amount theoretically assigned by the ‘market’, or individuals’ willingness to pay to improve their security and reduce the incidence of armed violence.

It is useful to recall that armed violence is not necessarily bad for everyone. There are winners and losers in situations of war and crime-related violence. But, in economic terms, those who profit from violence are gaining from inefficient and unproductive activities. Put another way, those doing well out of armed violence simply reallocate wealth and do not increase the productive capacity of an economy (on the contrary, they often destroy value). While the development of war-related technologies can theoretically increase overall economic productivity, there is comparatively less evidence that this is the case in practice. In order to shed light on the externalities generated by armed violence, the chapter considers the ‘distributional costs’ that shape the transfer of assets and income arising from armed violence.

Accounting for armed violence

The accounting approach first identifies different categories of armed violence and then tabulates an overall burden. Categories include ‘direct costs’ arising from medical and rehabilitation services, policing, criminal justice, and private security; ‘indirect costs’, including lost earnings, reduced savings, and losses in investment and human capital; and ‘social multipliers’ relating to loss of social capital and reduced political participation. One way of accounting for multiple categories is by assessing the bottom-up distribution of external mortality from national surveillance systems (see Box 5.1).

Box 5.1 Accounting for the costs of violence: a typology and examples

Health economists often distinguish between the direct and indirect costs of armed violence. Direct costs arise directly from acts of intentional violence and require payments by individuals or institutions. They can be further subdivided into medical and non-medical costs. Indirect costs refer to lost resources and opportunities resulting from armed violence. Studies tend to emphasize the tangible costs (e.g. reduced productivity of survivors, lost investment in social capital, and reduced productivity of perpetrators), together with reduced quality of life. While these costs likely only reveal the tip of the iceberg, they can be accounted for and are reproduced in the typology given in Table 5.1.

WHO, the Centers for Disease Control, and the Small Arms Survey recently elaborated economic costing guidelines to assess the direct and indirect burden of violence (Butchart et al., 2008).

These guidelines were subsequently tested to assess the costs of armed violence in 'non-conflict' contexts: Brazil, Jamaica, and Thailand. The preliminary assessment drew primarily from national surveillance data for the most recent years available.

In Brazil, the direct medical costs of interpersonal violence in 2004 totalled USD 235 million (BRL 382 million— more than three-quarters of which were attributed to injuries among men). Indirect costs exceeded more than USD 9.2 billion (BRL 15.4 billion).¹² Taken together, the direct medical costs of injuries amounted to 0.4 per cent of the total health budget, while indirect costs amounted to 12 per cent of all health expenditures, or 1.2 per cent of GDP.¹³

In Jamaica, the direct medical costs of interpersonal violence in 2006 totalled some USD 29.5 million (JMD 2.1 billion)—the vast majority of which was concentrated among young males. Indirect medical costs were ten times higher, exceeding USD 385 million (JMD 27.5 billion). Direct medical costs accounted for approximately 12 per



TABLE 5.1 A typology for costing armed violence

Cost category	Type of cost	Components
Direct	Medical	<ul style="list-style-type: none"> ■ Hospital inpatient ■ Hospital outpatient ■ Transport ■ Physician ■ Drugs/tests ■ Counselling
	Non-medical	<ul style="list-style-type: none"> ■ Policing and imprisonment ■ Legal services ■ Foster care ■ Private security
Indirect	Tangible	<ul style="list-style-type: none"> ■ Loss of productivity (earnings and time) ■ Lost investment in social capital ■ Life insurance ■ Indirect protection
	Intangible	<ul style="list-style-type: none"> ■ Health-related quality of life (pain and suffering) ■ Other quality of life (reduced job opportunities, access to public services, and participation in public life)

SOURCE: Butchart et al. (2008)

cent of Jamaica's total health expenditure, while the combined direct and indirect impacts were equivalent to four per cent of GDP.

In Thailand, the direct medical costs of interpersonal violence in 2005 amounted to approximately USD 40.3 million (THB 1.3 billion).¹⁴ Indirect medical costs were an order of magnitude higher at USD 432.7 (THB 14.4 billion). During 2005, the direct medical costs of both interpersonal and self-directed violence accounted for four per cent of the country's health budget, while the indirect costs accounted for approximately 0.4 per cent of GDP.

The annual direct costs of firearm injuries in Brazil and Colombia, for example, are an estimated USD 88 million and USD 38 million per year, respectively.¹⁵ When extrapolated to account for indirect costs arising from morbidity, foregone earnings, and policing, however, the costs skyrocket: they reach as high as USD 10 billion in Brazil and USD 4 billion in Colombia—or 0.5 and 1 per cent of their respective GDPs for a single year (Small Arms Survey, 2006, p. 207). In Guatemala, the direct and indirect costs of armed violence-related injuries in 2005 amounted to some USD 2.4 billion, or 7.3 per cent of GDP. In El Salvador, the accumulated direct and indirect costs of armed violence rise to some 14 per cent of GDP (UNDP, 2006).¹⁶

Box 5.2 Modelling the economic costs of civil war

A recent study by Chauvet, Collier, and Hegre (2008) estimates the range of ‘core’ costs of a ‘typical’ civil war as USD 60–250 billion. These authors claim that the economic costs averaged about USD 123 billion per year over the past four decades. Likewise, coups were associated with core and total costs of USD 4–16 billion per annum.

Although these are only estimates based on a simple model, they do offer important insights into how economists determine the economic costs of war. Such estimates assume that the (economic) ‘feasibility’ of war is, ultimately, a key determinate of its onset. Countries predisposed to war therefore face low income, sluggish growth, high dependence on commodity exports, and (geographically) rough terrain.

Likewise, social characteristics—small populations, large share of youth, and social fractionalization—are also connected to war onset. Finally, and much more controversially, ‘democracy’ appears to have a benign effect—but, in some cases, even increases rather than decreases the risk of war onset (Chauvet, Collier, and Hegre, 2008). This latter finding is challenged by Elbadawi (2008) and Bodea and Elbadawi (2007), who see robust democracies as mitigating conflict recurrence.

More importantly, efforts by Chauvet, Collier, and Hegre to model the economic costs of civil war offer a number of straightforward and compelling policy prescriptions. They suggest that aid packages provided to a ‘typical’ post-conflict country of about USD 4 billion could potentially generate an overall benefit of USD 10.7–13.8 billion over a ten-year period, depending on the discount rate and cost of conflict (Chauvet, Collier, and Hegre, 2008, pp. 61–63).

Modelling armed violence

Economists studying war commonly adopt a modelling approach to measuring the economic costs of collective armed violence. They estimate the costs of armed conflict by undertaking growth simulations in countries affected by civil wars. Such estimates should take account of the social and geographic concentration of the effects of war (particularly among the poor), the opportunity costs for development, the persistence of the economic costs of war over time, and spillover effects, such as crime, disease, and terrorism.

A variety of researchers have shown that a civil war of five years can reduce the annual average growth rate of a country by approximately 2–2.2 per cent (Collier, 1999; Hoeffler and Reynal-Querol, 2003).¹⁷ Drawing on more recent data and estimation techniques, researchers show that civil conflict likely decreases the growth of GDP for an average economy by 2.17 per cent (Restrepo et al., 2008).¹⁸

Put in straightforward country terms, a ‘typical’ civil war is estimated to cost a country at least USD 64 billion.¹⁹ This includes an estimated USD 49 billion in military expenditure and economic losses, USD 10 billion in post-conflict effects, and USD 5 billion in national healthcare costs above what might have been expected had war not taken place (Collier and Hoeffler, 2004b).

Recent modelling of armed conflicts in Africa between 1990 and 2005 estimated economic losses at approximately USD 284 billion (Oxfam-GB, 2007). By focusing on GDP losses, the modelling approach accounts for reduced growth and finds that these effects can persist long after wars come to an end (Bates, 2008).

Modelling can provide an especially robust account of the costs of armed violence at the country or sub-national level. Estimates of the economic costs

of conflict and collective armed violence reveal significant GDP losses. During a protracted cross-border conflict with Iraq in 1979–81, for example, Iran experienced a cumulative loss of some 48 per cent of GDP. Iraq was also significantly affected, having lost an estimated 11 per cent of GDP over two conflicts (1977–93). Internal or civil wars also generate significant losses. For example, Ethiopia lost approximately four per cent of expected GDP (1977–93), Liberia nearly two per cent (1984–95), and Sri Lanka 2–16 per cent, depending on the periods under review (1983–87 and 1983–94) (Stewart, Huang, and Wang, 2001, p. 96).

The modelling approach also suffers from limitations in comparability since methodologies and datasets often differ significantly among studies. In Nicaragua, for example, models estimating lost GDP range from 0.8 to 90 per cent (Stewart, Huang, and Wang, 2001; Lopez, 2001). In countries not affected by armed conflict, modelling armed violence reveals a tremendous array of hidden costs. For example, the estimated costs of interpersonal violence in the United States range from USD 1.8 billion to USD 507 billion depending on how violence and its consequences are measured (WHO, 2004, pp. 13–14). Likewise, in the United Kingdom and Wales, the costs of criminal violence were estimated at between USD 40.2 billion and USD 63.8 billion per year (Brand and Price, 2000).

Contingent valuation of armed violence

Contingent valuation or ‘willingness-to-pay’ approaches are also commonly employed to estimate the costs of armed violence. Such techniques measure what individuals and households are prepared to pay in order to improve their safety from, or live free of the threat of, armed violence.

As with the two other methods, the contingent valuation approach requires a number of basic



PHOTO ▲ A women's work brigade paid by the Russian federal authorities to sweep the streets of war-ravaged Grozny, Chechnya. © Martin Adler/Panos Pictures

assumptions. It assumes that people (or individuals, households, and firms) seek to avoid uncertainty and are prepared to give up some degree of their consumption permanently in order to live in a less uncertain world.²⁰ Contingent valuation does not necessarily address all the possible economic costs of armed violence. For example, material impacts associated with lost assets and inefficiencies generated by changes in behaviour (induced by criminal violence, for example) are not easily captured by this method (Merlo, 2004). Even so, there is evidence that suggests that non-monetary costs of armed violence and crime are at least as important as material ones (Soares, 2006).

Recent analysis indicates that individuals living in conflict-affected countries would be, on average, prepared to contribute the equivalent of eight per cent of their annual consumption (per annum) to live in a more peaceful environment. If extrapolated on the basis of international datasets, the average global cost of ‘insecurity’ generated by armed violence amounts to roughly USD 70

Box 5.3 Measuring the health dimensions of violence using contingent valuation

The economic costs of armed violence extend beyond material losses to longer-term welfare losses arising from higher mortality. Mortality rates and their distribution across age groups can determine reductions in life expectancy that can then be valued using a marginal willingness-to-pay approach.

A seminal work by Soares (2006) examines the health dimensions of the welfare costs of violence in 73 countries. It is the first comprehensive cross-country estimate of the non-monetary costs of violence and a first attempt at using the 'value of life' methodology to estimate the social value of violence reduction.²¹ Together with the age distribution of a population, the willingness-to-pay approach can be used to estimate the social value attached to violence reduction—or the welfare costs of violence.²²

The study finds that the reduction in life expectancy due to homicidal violence represents a substantial welfare loss—in the same order of magnitude of the direct material costs of crime.²³ On average, one year of life expectancy lost due to violence is associated with a yearly social cost of 3.8 per cent of GDP. Taking account of all related health dimensions increases the estimated social costs of violence by 40 per cent in the United States and 57 per cent in Latin America (Londoño and Guerrero, 1999).

Figure 5.1 reveals the social value attached to violence reduction as a share of GDP for all countries sampled by Soares (2006), ordered from highest to lowest. Of the top ten countries, eight are found in Latin America.²⁴ The 11 remaining countries that complete the top 20 are all in Latin America and the Caribbean or are former Communist regions. At the other extreme of the distribution, the ten lowest values are for Western European countries and Japan (Soares, 2006).

FIGURE 5.1 Social value of violence reduction, % of GDP, selected countries, 1995

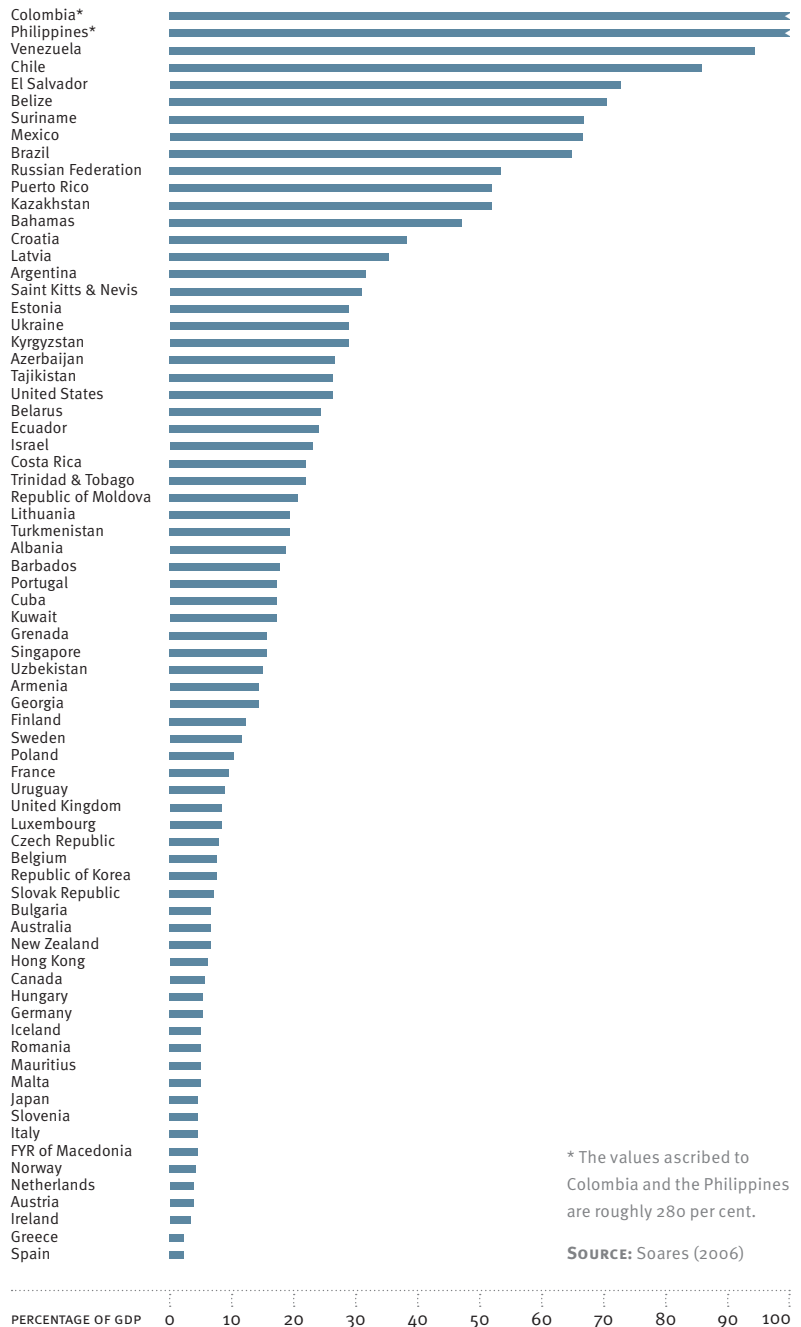


TABLE 5.2 The social value of violence reduction in selected WHO regions, 1990s*

WHO region	Life expectancy (years)	Homicide rate (per 100,000)	GDP per capita (USD)	Expected years of life lost	Social value, future generation (USD billions)	Social value as % of GDP
Latin America and the Caribbean	71.4	21.8	7,708	0.6	49.8	57
North America	76.1	6.5	25,672	0.2	456.14	15
Western Europe	76.2	4	11,383	0.1	7.23	7
Former Communist	68.9	17.2	6,009	0.4	6.59	20
Western Pacific	76	7.8	17,839	0.2	82.3	46

* Regional statistics are unweighted averages. Due to data availability, the only African country included in the sample is Mauritius, and the only eastern Mediterranean country is Kuwait (these regions are not included in the table).

SOURCE: Soares (2006)

per person, or a global annual ‘cost’ of USD 400 billion (Hess, 2003). Such general estimates must, however, be treated with caution.

More common, however, are studies that focus on the willingness of people to live free of certain forms of criminal violence. One recent contingent valuation assessment examines the value of permanent reductions in homicide for individuals in more than 70 countries (see Box 5.3).²⁵ In examining the health dimensions of the costs of violence, the study reveals that homicide alone contributed to a reduction of approximately 9.7 per cent of Colombian GDP in 1995 and 0.9 per cent of US GDP in the same year.²⁶

Costing armed violence in a sample of countries

There are comparatively few cases in which the economic burden of armed violence has been carefully measured using various types of methods.

Part of the reason for this relates to the relative novelty of the study of the economic costs of armed violence. Investment in such research can, however, illustrate the huge economic costs of conflict and non-conflict armed violence.

This section considers four countries—Uganda, Sri Lanka, Nicaragua, and Guatemala—for which there is data that offers important insights into the applicability of a multi-method approach to estimating the economic burden of armed violence. In all four countries, a combination of accounting, modelling (counterfactual), and contingent valuation approaches were attempted by various researchers to generate comprehensive estimations of the costs of armed violence for society. It finds that the economic burden depends in large part on the duration, severity, and geographic spread of armed violence, as well as the types of indicators used and quality of available data. The section also considers the costs of armed violence that are often obscured from view, including violence against women (see Box 5.4).

Box 5.4 The economic costs of intimate partner and sexual violence during war

Though often hidden from view, the economic costs of intimate partner and sexual violence against women act as a development disabler. Although there are no comparative assessments of the economic burden of intimate partner violence, a number of case studies exist in high- and medium-income country contexts. According to UNIFEM (2007) and CDCP (2003), the direct medical costs of intimate partner assault, rape, and related victimization amounts to at least USD 5.8 billion per annum, while the indirect costs total some USD 1.8 billion.

In less-developed countries, particularly those affected by war, sexual violence directed against women undermines formal and informal economic productivity. Female single-headed households are often confronted with the pain and suffering related to missing relatives, as well as economic uncertainties. In many cases, missing or killed male relatives served as the primary breadwinners and/or the household property owner. In Chechnya, (northern) Kenya, Liberia, Nepal, Somalia, and Sri Lanka, a noticeable rise in female-headed households was observed in the wake of armed violence (CICS, 2005).

In both war and peace, female-headed households face an increased workload. They also regularly find themselves excluded from formal

economic activities, thus leading to reduced earning options. Such households make up a disproportionate share of the poor. In southern Sudan, for example, where women outnumber men, widow-headed households represent up to 50 per cent of the poor and poorest quintiles (Burns-Mackenzie and Buchanan-Smith, 2005). In Bosnia and Herzegovina, women-headed households (16 per cent of all households in 1998) often live in precarious conditions, with some members resorting to prostitution to make ends meet (Bastick, Grimm, and Kunz, 2007).

Women also face a range of additional challenges tied to discrimination and social exclusion. The economic condition of displaced women may further deteriorate due to a decline in access to formal and informal credit from their social networks (Brück and Vothknecht, 2007).

During bouts of intense collective violence, gender roles can change and adapt. The protracted absences of male family members and the destruction of productive assets can force women and girls into the labour market in new ways. In Nepal and Kenya, for example, large numbers of women are involved in farm management and labour migration, work traditionally reserved for men. Others have observed an increase of the share of women in the formal and informal labour force in Bosnia and Herzegovina, Cambodia, El Salvador, Georgia, Guatemala, and Rwanda in the aftermath of war (Brück and Vothknecht, 2007).

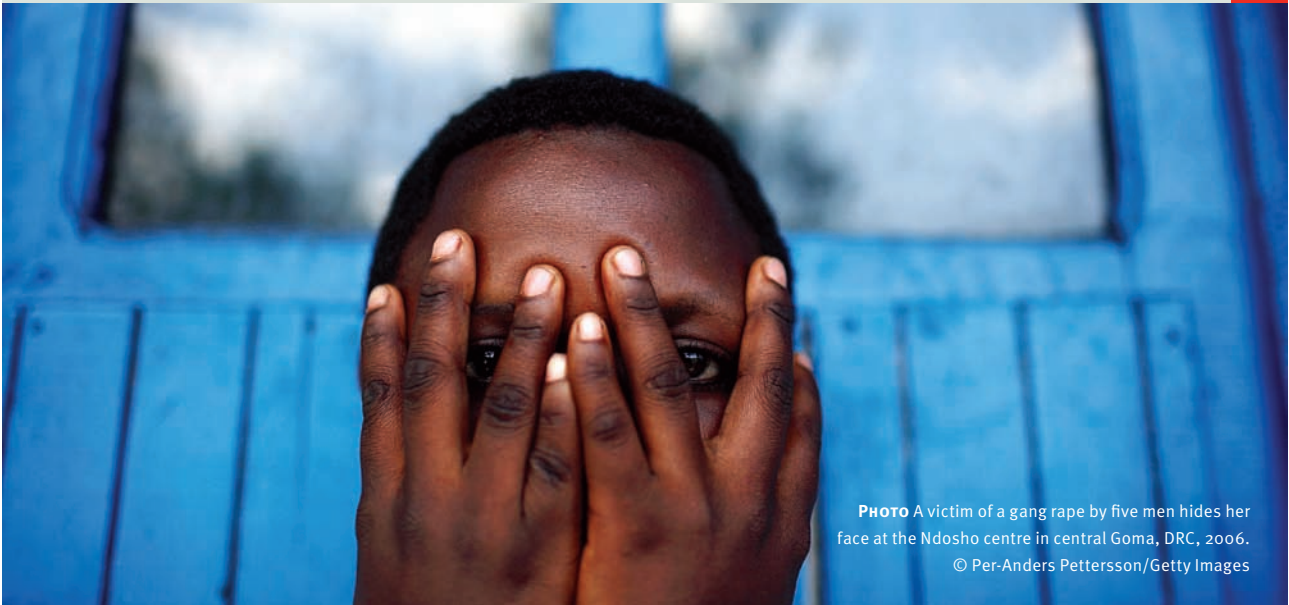


PHOTO A victim of a gang rape by five men hides her face at the Ndoshoo centre in central Goma, DRC, 2006.

© Per-Anders Pettersson/Getty Images

In Uganda, a protracted armed conflict between the Lord's Resistance Army (in the north) and the Ugandan People's Defence Forces reveals the heavy economic costs of mass violence. In examining a range of variables from the mid-1980s to 2002 and data from national and sub-national sources, it appears that the economic costs of more than two decades of war in northern Uganda accounted for at least USD 1.3 billion. These effects are primarily related to direct military expenditure (28 per cent), loss of income from cash crops (27 per cent), and reductions in tourism revenue (14 per cent) (Dorsey and Opeitum, 2002). Drawing on additional variables and country data, the estimated total rises threefold to more than USD 3.5 billion (Bozzoli et al., 2008).

More than two decades of armed conflict in Sri Lanka has stimulated a range of analyses of its economic consequences.²⁷ Data generated by the state, the national bank, and international agencies such as the World Bank allow for robust accounting and modelling. Depending on the period under consideration, the independent variables assessed, and the regions of the country that are considered, the economic costs of collective armed violence in Sri Lanka range from USD 333 million to USD 1.93 billion per year. These costs are attributed primarily to lost earnings arising from foregone foreign investment (42 per cent), military expenditures (27 per cent), lost tourism revenue (10 per cent), depleted infrastructure (8 per cent), and other factors (Bozzoli et al., 2008, p. 19).

In the wake of an insurgency in Nicaragua launched in 1980, several econometric studies were undertaken to examine the extent of the costs of mass armed violence.²⁸ Drawing on data from the Nicaraguan government and international agencies such as the UN and the World Bank, it is possible to examine the economic implications of external embargoes, military expenditures,

and even changes in the behaviour of economic actors (shifts in propensity to import and consume). The overall estimated costs of civil war range from USD 80 million to more than USD 1.1 billion (FitzGerald, 1987; DiAddario, 1997; Stewart, Humphreys, and Lea, 1997). The primary impacts were reported in relation to export revenues, fiscal deficits, and inflation rates, and easily rivalled official development flows to the country.

More than a decade after a protracted internal conflict, Guatemala continues to suffer from one of the highest rates of armed violence in the world. The UN Development Programme has estimated that the costs of armed violence amounted to almost USD 2.4 billion in 2005, or 7.3 per cent of GDP (UNDP, 2006). The estimate incorporates health sector costs, institutional costs, private security expenditures, impacts on the investment climate, and material losses.

Estimating the global economic costs of non-conflict armed violence

There are comparatively few attempts to estimate the global costs of homicidal violence. The Conflict Analysis Resource Center (CERAC) in Colombia recently generated a global estimate on the basis of the lost product due to violent deaths (LPVD) in more than 90 countries. The use of the LPVD method highlights the cost of lethal intentional violence above 'normal' or 'expected' rates. 'Normal' is defined levels observed in countries with a low or very low incidence of homicides.²⁹

The approach first considers the potential gains in life expectancy that would be achieved by reducing the risk of violent death. This is represented by the added years of life expectancy the population would gain if deaths from armed violence were reduced or eliminated. Estimating

potential gains in life expectancy for a country requires mid-year population estimates by age and gender, data on all causes of mortality by age and gender, an estimate of total homicides, purchasing power parity (PPP) indices, GDP per capita, and GDP per capita growth rates.

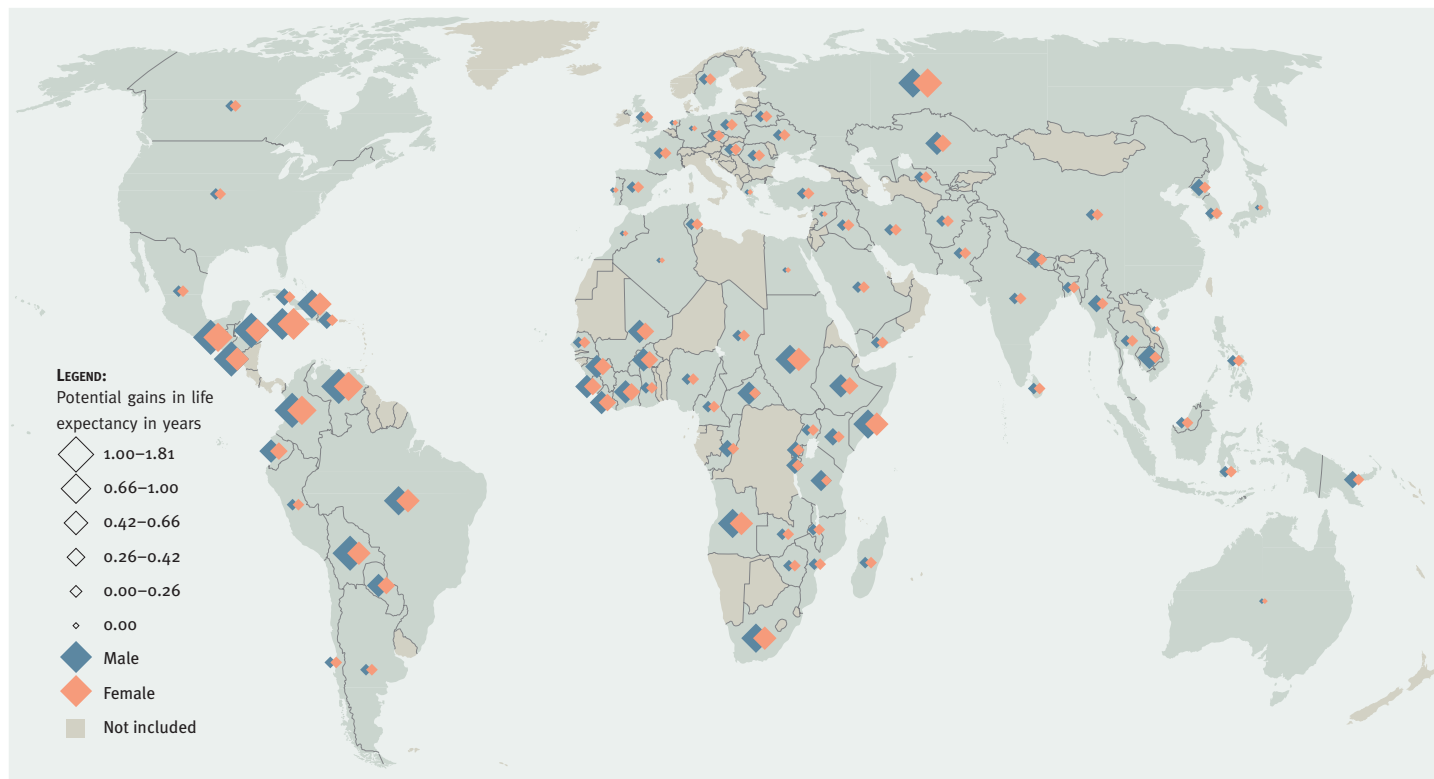
The assessment generated a range of insights into the global economic burden of homicidal violence. Of the more than 400,000 reported homicides in 2004 (from 90 countries), the lost product due to violent deaths per homicide amounted to USD 85,000–363,000 (2007 US dollars), depending on the rate at which future earnings are discounted (ten and three per cent, respectively).³⁰

Box 5.5 What is a discount rate?

A discount rate is the deduction that is applied to a future value when brought back to the present in order to make it comparable to current values. It is equivalent to what a given investment would yield if put to productive uses.

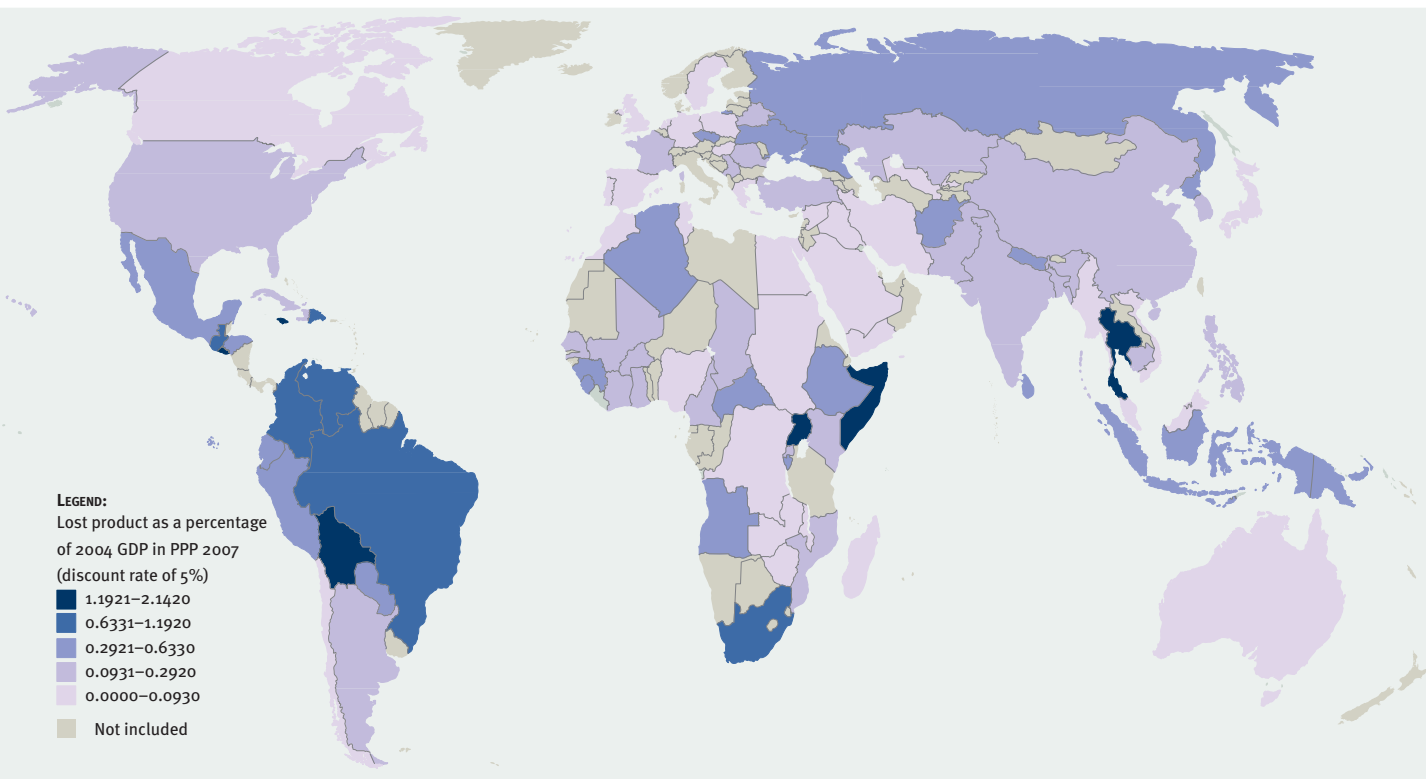
Overall, the annual lost productivity from lethal non-conflict armed violence is roughly USD 95 billion per year. These losses could range from as high as USD 163.3 billion (at a ten per cent discount rate) to as low as USD 38.3 billion (if a three per cent discount rate is used). This amounts to between

MAP 5.1 Potential gains in life expectancy in years in the absence of non-conflict armed violence, by country, 2004



SOURCE: CERAC

MAP 5.2 Global lost product due to violent deaths, 2004



SOURCE: Restrepo et al. (2008)

0.03 and 0.14 per cent of global GDP. Put another way, the annual global LPVD is equivalent to the GDP of Chile, Hungary, or Romania, and 47 times that of Burundi, in 2004 (Restrepo et al., 2008).

There are considerable regional variations in the economic costs of non-conflict armed violence. North America features the highest loss of life expectancy and lost economic productivity in the world. In this region, homicide reduces male life expectancy by 0.44 years and females by 0.26 years. Likewise, North America experiences the highest loss of GDP when compared with other

regions, though Latin America and Africa feature a larger share of GDP lost to homicidal violence. Indeed, Latin America and the Caribbean region feature the highest rates of homicide per 100,000 population, and the lost product due to violent deaths is USD 79,000–304,000 per homicide, again depending on the discount rate (ten or three per cent) (Restrepo et al., 2008).

Reviewing homicidal violence in 15 countries also highlights the national variations in lost productivity. For example, Jamaica, Colombia, Angola, South Africa, and Bolivia experienced among the highest homicide rates in 2004.³¹ Not surprisingly,

TABLE 5.3 Lost product due to violent deaths, USD million (2007) and % of GDP (2004)

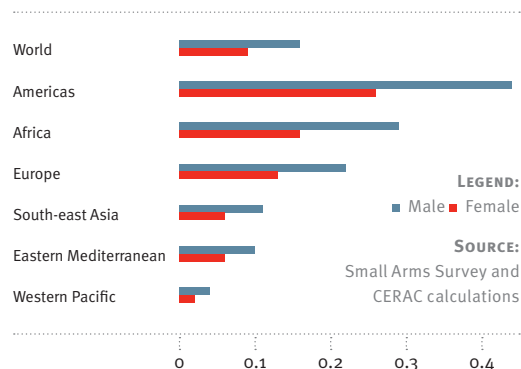
Region	Lost product due to violent deaths, USD million (2007)			Lost product due to violent deaths as % of GDP (2004)		
	Discount rate			Discount rate		
	3%	5%	10%	3%	5%	10%
South-east Asia	24,540	14,513	5,765	0.03	0.02	0.01
Western Pacific	35,068	18,510	6,179	0.27	0.14	0.05
North America	46,760	26,756	10,417	0.37	0.21	0.08
Eastern Mediterranean	1,870	1,236	590	0.12	0.08	0.04
Europe	9,946	5,963	2,513	0.10	0.06	0.03
Africa	6,404	4,771	2,750	0.41	0.30	0.17
Latin America and the Caribbean	38,762	23,694	10,133	1.21	0.74	0.32

SOURCES: Small Arms Survey and CERAC calculations

Jamaica experienced the highest potential gains in life expectancy if such violence had not occurred, at 1.81 years for males and 1.0 for females, followed by Colombia, El Salvador, Guatemala, Venezuela, Bolivia, and Honduras—all of which are in the Latin American and Caribbean region. The United States experienced the highest total lost product due to violent deaths with a value of USD 45.1 billion (at a discount rate of three per cent), followed by China, Colombia, Indonesia, India, and the Republic of Korea (see Figure 5.3 and Table 5.4).

Positive effects of armed violence?

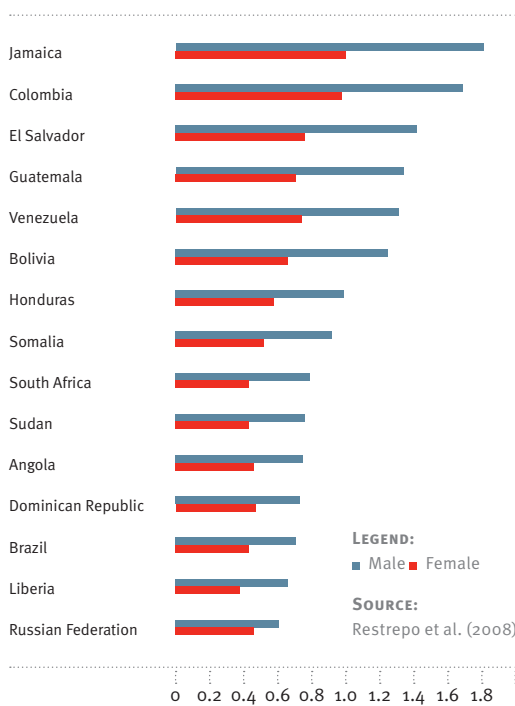
Armed violence generates effects in all directions. It can result in the loss of capital and opportunity costs, but can also redistribute wealth and build

FIGURE 5.2 Potential gains in life expectancy (years) in the absence of violent deaths by region, 2004**TABLE 5.4** Aggregate lost product due to violent deaths, selected countries, 2004

Country	Discount rate, USD million (2004)		
	3%	5%	10%
United States	45,112	25,846	10,080
China	24,620	12,992	4,232
Brazil	23,140	13,815	5,656
Indonesia	6,376	3,495	1,092
Colombia	6,231	3,935	1,766
India	6,179	3,803	1,277
Korea	5,586	2,499	607
Thailand	5,503	2,931	964
Nepal	4,723	3,161	1,525
South Africa	4,435	3,289	1,878
Mexico	4,110	2,575	1,155
Philippines	2,247	1,417	629
Canada	1,648	910	338
United Kingdom	1,477	824	308
Russian Federation	1,358	942	492

SOURCE: Small Arms Survey and CERAC calculations

FIGURE 5.3 Potential gains in life expectancy (years) in the absence of violent deaths, top 15 countries, 2004



state capacity.³² Certain benefits arising from organized armed violence, including official recruitment into armies or armed groups and the reshuffling of opportunities within an unequal society, are more obvious than others.³³ In both cross-border and civil wars, for example, armed violence can lead to political and economic transformations that result in new monopolies, cartels, and other forms of informal resource accumulation (Cramer, 2006).

Actors who successfully control economic niches and opportunities often become powerful and may perpetuate violence to extend their economic reach. Groups ranging from gangsters and mafia in the Balkans to warlords in West Africa, Colombia, and Afghanistan may also seek to transform themselves into legitimate political actors and

find ways of laundering their newly acquired resources into the formal economy (Keen, 1998; Reno, 1999). But these gains are offset by losses in other areas: every resource spent or destroyed in armed conflict is a resource that would be more efficiently used for purely productive purposes. Nevertheless, the motivations, interests, and outcomes among those who ‘profit’ from armed violence are still critical to explain the onset and perpetuation of armed violence.

The dynamics of the informal and illicit economies are often not captured in formal statistics. The boundaries between the criminal and the informal economies are, in some cases, blurred. This blurring is especially significant in lower- and middle-income countries. For example, armed violence may generate opportunities for involvement in informal activity, such as narcotics production, ‘conflict diamonds’, or trade in contraband. While such activities may undermine the legitimacy of the state, they can also contribute to household incomes and local markets and spill over into the formal economy.³⁴

Armed violence may also result in the transfer of assets from one set of actors to another. The extent to which such redistribution is ‘progressive’ must be carefully scrutinized. When armed groups with no clear political agendas redistribute the spoils of conflict, it is likely that armed violence negatively affects the most vulnerable. It is the elite who most often benefit from such redistribution (Collier and Hoeffler, 2004a; 2004b). Though the costs frequently outweigh the benefits, there may nevertheless be benign transfers, particularly when armed violence yields more ‘neutral’ transfers of goods from wealthy to wealthy or from poor to poor.³⁵

While debate over the potentially positive economic effects of armed violence persists, there is evidence that intense bursts of violence are

bad for an economy. Even the nominal growth accompanying a ‘post-conflict’ transition is unlikely to help a society catch up quickly to levels experienced prior to the conflict. The ‘peace dividend’ is more akin to an ‘efficiency dividend,’ as previously inefficiently mobilized resources are redirected to productive ends. After a long guerrilla war in Uganda culminated in victory in 1986, for example, Uganda’s National Resistance Movement presided over the country’s longest period of economic development since independence (Gutierrez, 2008; Mutebi, 2008a). Similarly, the Rwandan Patriotic Front also presided over sustained economic development after it came to power following the genocide in 1994. More controversially, in Somaliland, protracted armed violence led to the formation of a (largely unrecognized) state that appears to ensure a degree of economic security for its residents (Gutierrez, 2008; Ahmed and

Green, 1999). Ultimately, determining who prevails after bouts of collective armed violence may inform a country’s possible ‘trajectories’. Some countries may rise from the ashes, while others may remain in limbo.

While often neglected, some actors in the private sector can do well in situations of armed violence. The assumption that foreign direct and local investment always tumbles in contexts of acute armed violence does not hold (see Box 5.6) (Mihalache, 2008). It is often the case, however, that the private sector profits due to monopolies or inefficiencies. But it is important to recall that the private sector is both heterogeneous and expanding rapidly in lower- and middle-income countries. In some instances, extractive and smaller-scale companies can rapidly develop specific niches in societies severely compromised by armed violence (Ballentine and Sherman, 2003). For example, in Guatemala, high profits were accumulated in the post-war period by a modest number of business elites who effectively secured rents through tight connections with the government (Joras, 2007). In some other countries, however, due in large part to the opportunity costs and uncertainties generated by armed violence, companies can also help broker peace, such as in South Africa or Northern Ireland.³⁶

The effects of armed violence on the business climate—whether due to homicide, kidnapping, extortion and the destruction of physical infrastructure or in relation to the prospects of international sanctions and heavily conditioned loans and credits—are severe. In some cases, these economic costs may render active or tacit complicity in armed violence unbearable. In such environments, private sector actors may support preventive initiatives and mobilize networks to reach out to national stakeholders. In El Salvador, Brazil, Colombia, and Nicaragua, the private sector can play or is

Box 5.6 Armed violence and investment

Does armed violence universally deter foreign direct investment (FDI) (Mihalache, 2008)? While armed violence may increase transaction and transport costs, disrupt labour and commodity markets, and put a company’s assets and personnel in danger, the relationship is not as straightforward as it may appear. For example, in Algeria, Eritrea, the Democratic Republic of the Congo, and Sri Lanka, FDI actually peaked during periods of intense collective violence (Mihalache, 2008). One of the reasons for this is that investors are not homogeneous or equally sensitive to risk, including the risk of armed violence.

The real and relative effects of armed violence on investors will depend in part on the characteristics of the investor and the nature of the risk. Characteristics include the scale of physical assets, the expected costs of an exit strategy, and whether outputs are directed to foreign or domestic consumption. The energy and natural resource sectors tend to be more vulnerable to targeted armed violence than the finance, service, telecommunications, or construction sectors. The nature of the risk is tied to the geographic distribution of armed violence: if a company is based primarily in a capital, but violence occurs in remote areas of the country, then there will be comparatively fewer effects on routine operations (Fielding, 2003).



playing a role in promoting an end to armed conflict and criminal violence (UNODC, 2007a).³⁷

Conclusion

Agreement on the meaning and use of different approaches to measuring the economic costs of such violence is a core priority. Drawing on accounting, modelling, and contingent valuation to understand the economic burden of armed violence are important steps forward. Designing and investing in reliable data collection and analysis tools to monitor and measure these costs is another critical pillar to generate consensus on priorities, entry points for action, and benchmarks of success.

Developing comprehensive longitudinal assessments of the economic burden of armed violence requires the generation of reliable and continuous

data. Current datasets are highly dispersed, piecemeal, and poorly funded. Investment in data generation must be commensurate with the real challenges on the ground. The development of a network of standardized information gathering mechanisms on armed conflict and criminal violence and the pooling of data for public use are of clear value.


Quantifying the costs of armed violence is critical to draw attention to the way such violence impedes development. While this will not by itself improve the livelihoods of those affected, a better understanding of the factors contributing to armed violence onset and severity; the temporal, demographic and spatial relationships between armed violence and human development; the role and motivations of armed violence entrepreneurs; and the ways in which armed violence affects growth can potentially enhance preventive and reduction initiatives. 

PHOTO ▲ Police officials patrol the impoverished neighbourhood of El Milagro, Guatemala City, 2004. © Rodrigo Abd/AP Photo

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Abbreviations

BRL	Brazilian real
CERAC	Conflict Analysis Resource Center
FDI	foreign direct investment
GPD	gross domestic product
JMD	Jamaican dollar
LPVD	lost product due to violent deaths
PPP	purchasing power parity
THB	Thai baht
USD	United States dollar
WHO	World Health Organization

Endnotes

- In situations of war or organized crime, the poor often have the opportunity to join the ranks of fighters or private security agents. Enlistment may be an opportunity for upward social mobility and the acquisition of status (Small Arms Survey, 2006, pp. 189–213).
- In a random effects model, a 2.53 per cent decrease per year was detected (Restrepo et al., 2008).
- For more information on the Geneva Declaration, see <<http://www.genevadeclaration.org>>.
- The wide discrepancies in estimates are often due to non-comparable cost factors, different time periods of analysis, distinct ‘contexts’ shaping collective or interpersonal violence, and different levels of analysis (from the international to the local level) (Sköns, 2006, pp. 172–73).
- In some cases, studies also account for international spillover effects, as well as long-lasting consequences (Murdoch and Sandler, 2004; Arunatilake, Jayasuriya, and Kelegama, 2001). More advanced assessments also seek to account for the role of the informal economies of the countries concerned, which are often left out of official GDP estimates (Bozzoli et al., 2008).
- In Africa alone, the cost of conflict is estimated at USD 284 billion (1990–2005) and approximately 15 per cent of continental GDP (Oxfam-GB, 2007).
- Single case studies tend to lack comparable and consistent frameworks and contain inconsistencies caused by double counting and latent biases (Bozzoli et al., 2008). Cross-country studies tend to draw on conventional econometrics and do not sufficiently account for different types of conflicts.
- This ‘creative destruction’ or ‘phoenix factor’ resulted from, it was argued, enhanced state control over key industries, replacement of obsolescent capacities with more efficient infrastructure, technological innovation, and other factors (Sombart, 1913).
- FitzGerald’s (1987) analysis on the US-backed destabilization of Nicaragua by the right-wing Contras is considered by experts to be the first contemporary analysis of the economic costs of mass violence. The assessment by Stewart and FitzGerald (2001) is also the first comprehensive account of the relationships between mass violence and economic development in non-Organisation for Economic Co-operation and Development countries. Considering the economic costs at the macro-, meso-, and micro-levels, they assess the impacts of armed violence in relation to average rates of income, share in the agricultural subsistence sector, foreign exchange effects, flexibility of the economic system, monetary aspects of poverty, education and literacy, health and nutrition, coping strategies, and other factors.
- Although some of these studies extend beyond GDP and government revenues, key assessments include Grobar and Gnanaselvam (1993), Stewart, Humphreys, and Lea (1997), Stewart, Huang, and Wang (2001), Hess (2003), Hoeffler and Reynal-Querol (2003), and Chen, Loayza, and Reynal-Querol (2007).
- The various approaches are potentially connected. The modelling approach should provide a statistical estimate of what a society has lost economically as a result of armed violence. Contingent valuation should, in turn, inform the accounting approach in identifying potential imbalances. Where there may be major differences in the outcomes of the two approaches, the accounting specialists may need to refine their core variables. Applying all of these approaches together helps to elaborate a more sophisticated assessment by emphasizing the ways in which armed violence affects different sectors of society.
- A recent study by the Institute for Applied Research found that the estimated cost of violence in Brazil amounted to more than USD 56.5 billion (BRL 92.2 billion), of which roughly one-third was linked to public sector expenditures and the remainder tied to tangible and intangible costs paid by the private sector (Cerquiera et al., 2007).
- By way of comparison, the annual costs of road accidents in Latin America and the Caribbean (including Brazil) are estimated to be about one per cent of GNP (Butchart et al., 2008).
- A further USD 17.1 million was attributed to self-directed violence.
- These medical costs appear relatively consistent with those of other developing countries, e.g. El Salvador and South Africa (Small Arms Survey, 2006, p. 196).

- 16 Specifically, the health and years lost in Guatemala amounted to an estimated three per cent of GDP. Institutional costs relating to police and justice provision were between one and two per cent of GDP. Costs associated with private security amounted to between two and three per cent of GDP, while foregone tourism ranged from 0.2 to one per cent (UNDP, 2006, p. 11; 2007).
- 17 Collier (1999) found that the annual growth rate is reduced by 2.2 per cent using a sample of 92 countries for the period 1960–89. Hoeffler and Reynal-Querol (2003) draw on data for more than 200 countries (for the period 1960–90) and note a reduction of 2 per cent.
- 18 This rises to as high as 2.53 per cent, if random effects are taken into consideration (Restrepo et al., 2008).
- 19 This figure assumes certain temporal parameters relating to conflict and post-conflict duration. Collier and Hoeffler (2004a; 2004b) define these parameters as 7 ‘war years’ and 14 ‘post-conflict years’.
- 20 Soares (2006), for example, assumes that violence affects life expectancy. The extension of one’s expected lifetime by a small amount yields a marginal utility benefit that can be measured. The equivalent consumption value to achieve this benefit can be calculated.
- 21 Data on the number and cause of deaths is derived from WHO statistics in order to determine the age-specific reduction in survival probabilities. Contingent valuation is then applied in order to estimate the monetary value of the reductions in survival probabilities for individuals at a given age.
- 22 The value of violence reductions is described by Soares (2006) as ‘the marginal willingness to pay of an 18-year-old individual, as the lifetime aggregate social value for the current population and for the future generations, and as the sum of these aggregate values as percentages of the 1995 GDP’ (Soares, 2006, p. 830).
- 23 Crime and justice expenditures are expected to amount to 2.1 per cent of GDP per annum in the United States and 3.6 per cent in Latin America (Londoño and Guerrero, 1999).
- 24 These include Colombia (281 per cent), followed by the Philippines (280 per cent), Venezuela (95 per cent), Chile (86 per cent), El Salvador (73 per cent), Belize (71 per cent), Suriname (67 per cent), Mexico (67 per cent) and Brazil (65 per cent) (Soares 2006).
- 25 Homicidal violence generates extraordinary welfare costs across countries: from Colombia, where it contributes to the reduction of 2.2 years in life expectancy at birth, to the United States and Western Europe, where violence reduces life expectancy at birth by 0.3 and 0.1 years, respectively (Soares, 2006).
- 26 In Western Europe, on the other hand, the average social value of violence eradication measured in terms of yearly income corresponds to only 0.24 per cent of the 1995 GDP. These findings do not necessarily imply that additional expenditures on armed violence reduction should be pursued. As Soares (2006, p. 829) notes, ‘the desirability of increased investments in public safety depends on whether further reductions in violence can be achieved at a cost lower than the social willingness to pay’.
- 27 See, for example, Grobar and Gnanaselvam (1993); Harris (1997); Richardson and Samarsinghe (1991); Kelegama (1999); Arunatilake Jayasuriya, and Kelegama (2001).
- 28 The first study was undertaken by FitzGerald (1987) as evidence for a case brought to the International Court of Justice. A second study was done by DiAddario (1997) and was later supplemented by others.
- 29 ‘Normal’ levels are defined as the average homicide rate of two groups of countries (classified as having low-level and very low-level rates of homicide) that report mortality statistics to the WHO. The average homicide rate for these 27 countries was 1.24 per 100,000 population in 2004.
- 30 The total number of homicides used to calculate this—449,865—is about ten per cent lower than the figure presented in the chapter on non-conflict armed violence (NON-CONFLICT ARMED VIOLENCE), but is drawn from the only country-level data that is available (Restrepo et al., 2008).
- 31 Measured as per 100,000 population, homicides rates were as follows: Jamaica (53), Colombia (48), Angola (47), South Africa (36), and Bolivia (43) (Restrepo et al., 2008).
- 32 Tilly (1992; 2003) describes the pro-growth and inherently developmental functions of collective armed violence in the growth of modern European states.
- 33 As Keynes (1978) notes, wars do not only produce destruction, but also change the baseline. Keynesian policies emphasize military production, infrastructure and transport construction, technological innovation, the transformation of women’s roles in the labour market, and the overall strengthening of the state.
- 34 Natural resources played an important function in financing a number of African conflicts, as evidenced in recent reports of the UN Security Council Sanctions Monitoring Mechanism in Angola, the Democratic Republic of the Congo, and Sierra Leone (Smillie, Gberie, and Hazleton, 2000). But such resources were only one of many financing options for armed violence (Jean and Rufin, 2006). As such, interventions focusing exclusively on single commodities through sanctions or even multistakeholder initiatives, such as the Kimberley Process and anti-terrorist financing, may only address one part of the problem.
- 35 Gutierrez (2008) observes that a distributional analysis should take into account (1) programming effects (i.e. the take-over of assets, income, or political rights of adversaries

or third parties); (2) incentive systems (i.e. the distribution of prizes and punishments to mobilize different sectors of the population); (3) patterns of action (i.e. the possibilities for massive redistribution); (4) organizational structures (i.e. the type of organization can have long-term implications for patterns of redistribution); and (5) baselines (i.e. the ability to recruit and promote high-risk collective action depends on disaffected and/or risk-prone critical mass) (Gutierrez, 2008, p. 16).

- 36 See, for example, Portland Trust (2007); Ben-Porat (2005); Charney (1999); Wennmann (2007).
- 37 See, for example, UNODC (2007a), which describes how, throughout Central America, crime and corruption are considered leading problems for business leaders. More than 80 per cent of 455 Guatemalan businesses polled said they saw crime as a major problem, as compared to the global weighted average of 23 per cent (UNODC, 2007a, p. 18).



ARMED VIOLENCE AFFECTS women, men, girls, and boys in different ways—as both perpetrators and targets of armed violence. Across cultures, most acts of violence are committed by men, and men and boys also account for the majority of firearm-related deaths and injuries. In Rio de Janeiro, for example, young men are 24 times more likely than women to be killed by armed violence, while men between the ages of 15 and 29 are twice as likely to die from armed violence as the rest of the male population (Dreyfus et al., 2003; CICS, 2005, p. 14).

The present report has focused on the main indicators used to capture and quantify the burden of armed violence and its impact on development, including homicide, direct conflict deaths, indirect conflict deaths, and economic costs. While these indicators provide valuable information on the burden of armed violence at the population level, they are limited when we turn our attention to women’s experience of armed violence.

Women and girls are affected by armed violence in different ways, including by direct and indirect conflict violence, and by lethal and non-lethal non-conflict violence. They are also more likely than men and boys to die through intimate partner violence (IPV). The World Health Organization (WHO) suggests that 40–70 per cent of all female homicides are committed by an intimate partner (Krug et al., 2002, p. 93).

A number of forms of gender-based violence specifically target women and girls because of their

sex; this chapter refers to them as ‘violence against women’. Such violence, including rape, domestic violence, murder, and sexual abuse, is a significant cause of female mortality and a leading cause of injury for women aged 15 to 44 years (UNIFEM, 2007). The severe impact of violence against women has prompted the United Nations Development Fund for Women (UNIFEM) to describe it as ‘a universal problem of epidemic proportions’ (UNIFEM, n.d.). And violence against women, in its many forms, is responsible for ‘more than 100 million missing women’ due to ill-treatment, lack of access to food and health care, and gender-based violence such as female infanticide and sex-selective abortion (Sen, 1990).

This chapter examines some of the specific gender dimensions of the global burden of armed violence and provides an overview of forms of violence specifically directed at women. It complements the examination of gender issues in previous chapters. Its main findings are:

- The majority of victims of IPV are women, and IPV is the most common form of violence against women.
- A number of forms of violence specifically target women and have significant physical, psychological, social, and economic costs.
- Data collected on violence against women is sparse and unsystematic; significant investments in improved data collection and analysis should be made.

- A gender approach broadens conventional understandings of ‘arms’ and ‘armed violence’ because conventional definitions provide only a partial picture of how women experience armed violence.

To assess the burden of armed violence on women, it is more useful to focus on the broader question of *violence against women* rather than *armed violence* in order to understand broader patterns of violence ranging from the abuse of women in intimate partner violence to the impact of armed conflict on women.

PHOTO ▼ This 35-year-old woman was shot in the face. The bullet entered her eye and exited behind her ear. Abunduruk, Sudan, near the Chadian border. © Lynsey Addario



The gender dimensions of armed violence

Different experiences of armed violence are determined by gender roles. Gender (as opposed to sex) refers to the construction of social roles that operate through various mechanisms, such as institutions or stereotypes. Gender constructions reflect deeply rooted relations of power and determine the roles, behaviour, values, and relationships associated with *masculinity* and *femininity*. These are the roles and behaviour that a man or a woman is expected to adopt in a given setting. These roles vary between and within different cultures and are learnt behaviour acquired through socialization (Connell, 1995, p. 44).

A gender approach is useful to account for the different ways in which armed violence affects women and men. Focusing on gender rather than women allows one to include gender-based violence against men and boys as well as gay, lesbian, transgender, and transsexual people. This is important because violence is not only used by men to claim and assert power over women, but it is also instrumental in enforcing the gender hierarchy of power among men. A gender-sensitive approach highlights the power relations inherent in much armed violence. Finally, such an approach does not limit women to the role of victims and men to the role of perpetrators, since it recognizes that women can also be the perpetrators of armed violence, while men are also among the victims.

Gendered power relations and forms of violent masculinities are key underlying factors shaping the dynamics of armed violence. In many societies, violence and weapons use by boys and men are socially expected or accepted (Widmer, Barker, and Buchanan, 2006). Boys are socialized into violent behaviour through weapon-related rites of passage from boyhood to manhood

(Myrttinen, 2003, p. 38). The media and popular culture often link violence, arms, and masculinity, reinforcing images of conventional gender roles. In some cases violence becomes an expression of masculinity.

There is, however, not just one form of masculinity and femininity in any given society: different types of masculinities exist and are interlinked by relationships of power, hierarchy, and exclusion. The hierarchy of different forms of masculinity is an important source of conflict and violence among men, as challenges to one's masculinity are common sources of disputes and injuries or even murder (Connell, 2003, pp. 1–2). Gang turf wars, for example, are often linked to honour-related issues and challenges to 'status', 'toughness', and 'manhood'.

Perceived threats to one's masculinity can also arise from economic dislocation, unemployment, or social transformations. In societies where the male gender role is intricately tied to being the main 'breadwinner', unemployment can leave men feeling 'emasculated' and powerless, and wanting to demonstrate that they are 'real men' (Widmer, Barker, and Buchanan, 2006, p. 3). The resort to armed violence is often linked to a crisis of masculinity and a 'fear of loss of power and privilege' (Messner, 1990) through social transformations. Weapons can also be used as status symbols, as tools to achieve economic and social gain, or to acquire power over unarmed persons in order to reassert one's masculinity (Myrttinen, 2003, p. 37).

Although men are the main perpetrators of acts of armed violence, women and children also use armed violence (Bennett, Bexley, and Warnock, 1995). During the armed conflict in El Salvador, for example, women held 40 per cent of leadership and 30 per cent of combatant roles (Schroeder,

2005, p. 1), and women and girls are involved in gangs in Haiti (OTHER FORMS OF ARMED VIOLENCE). In the armed conflict in Liberia, child soldiers as young as nine years old reportedly committed killings and atrocities often under the influence of drugs and alcohol used to induce aggression and suppress fear (HRW, 2004, pp. 2–3).

Gender roles influence not only who perpetrates armed violence but also who becomes the victim. This is especially so with gender-based violence, 'an umbrella term for any harm that is perpetrated against a person's will, and that results from power inequities that are based on gender roles' (RHRC, 2003, p. 9). Gender-based violence may be physical, sexual, psychological, economic, or socio-cultural, such as intimate partner violence, sexual assault, honour killings, dowry-related violence, or trafficking. Categories of perpetrators include intimate partners, family members, community members, and those acting on behalf of cultural, religious, or state actors.

The distinction between victim and perpetrator of gender-based violence does not necessarily follow gender fault lines: while men are the main perpetrators, women also commit acts of gender-based violence, and even though women are the main victims, men, boys, and transgender/transsexual people are also among the victims. Forms of gender-based violence specifically directed against men include sex-selective killings, forced conscription, and sexual violence (Carpenter, 2006). For example, in the armed conflicts of the Central African Republic and the Democratic Republic of the Congo (DRC), numerous cases of sexual violence against men and boys were reported (INDIRECT CONFLICT DEATHS). Among non-combatants in the former Yugoslavia, adult civilian men were the most likely to be massacred by enemy forces (Carpenter, 2003). Such sex-selective killings of



PHOTO ▲ This woman was only 13 years old when she was raped during the 1992–95 war in Bosnia. © Robin Hammond/Panos Pictures

men are rooted in the assumptions of male war-time roles, reproducing gendered hierarchies (Carpenter, 2006, pp. 88–89).

The experience of armed violence is influenced not only by gender but also by other factors, such as age, race, ethnicity, class, or religion. During the civil war in Guatemala, for example, women and children of ethnic Mayan origin were specifically targeted (Commission for Historical Clarification, 1999, §85–88, §91). In the Rwandan genocide, sex-selective killings targeted specifically Tutsi men, whereas Tutsi women frequently became the victims of sexual violence (Carpenter, 2006, p. 89; Ward, 2002; HRW, 1996).

Acts of gender-based violence do not necessarily involve the use of weapons. However, arms are often directly or indirectly linked to violence, either through their presence or as the indirect consequences of armed violence. Surveys have shown, for example, that the presence of a gun in the household generally increases threefold the risk of becoming a homicide victim (Kellermann et al., 1993).

‘He was very angry and he took his Kalashnikov . . . The neighbours said: “Leave her alone” . . . But then he didn’t stop, he shot my legs, I could not feel them, they were numb, the sun was setting, I was looking at the sky, I said to the men: “I don’t want to die.” They took me to the hospital.’

— Fatima, 19 years old, shot by her husband in Iraq in 2003 (AI, 2004)

Attitudes and roles shaped by armed violence, for example through army training or the experiences of war, also contribute to gender-based violence. A study on domestic violence in Bosnia and Herzegovina shows that men returning from war face a ‘masculinity crisis’, which increases the likelihood of male violence and the abuse of women (CARE and ICRW, 2007, p. 8).

Violence against women in conflict settings

Women also die on the battlefield as combatants or members of fighting forces. Women have actively participated in armed conflicts in at least 57 countries since 1990 (Williams, 2005), including in Chechnya, El Salvador, Eritrea, Ethiopia, Liberia, Mozambique, Nepal, Nicaragua, Sierra Leone, South Africa, Sri Lanka, and Uganda (Barth, 2002; Peimani, 2004; McKay and Mazurana, 2004, pp. 21–23). In most cases, little data is available on the proportion of female combatants in armed forces or armed groups.

The percentage of female soldiers in NATO countries’ armed forces varied between 0.5 and 20 per cent in 2005 and 2006 (Office on Women in the

NATO Forces and The Women's Research & Education Institute, n.d.). In non-state armed groups, however, the proportions can be much higher. More than 30 per cent of the fighters in the following non-state armed groups were observed to be women: the Liberation Tigers of Tamil Eelam (LTTE), the Communist Party of Nepal–Maoists, the Fuerzas Armadas Revolucionarias de Colombia (FARC), and the Sandinista National Liberation Front.¹

Fatality figures for armed groups with a high representation of women are not often available. However, during Eritrea's war of independence, historians estimated that one-third of the 65,000 combat fatalities were women (Clodfelter, 2002, p. 612). The Iraq Coalition Casualty Count reports, as of 2 August 2008, 108 female fatalities among the Coalition Forces (including US forces) in Iraq, representing 2.4 per cent of a total 4,452 casualties. With increased gender equality in many armed forces, more women will be deployed to war theatres and the share of female combatant battle deaths may be expected to increase.

While more men get killed on the battlefield, women and children are often disproportionately targets of other forms of potentially lethal violence during and after conflict. These include sexual violence, secondary violence against survivors of sexual violence (such as honour killings), and death from pregnancies or sexually transmitted infections resulting from rape. The scope and nature of the violence vary tremendously between conflicts (Wood, 2006).

Women and girls are also likely to disproportionately suffer from the indirect consequences of armed conflict, such as reduced access to food, clean water, and health care (Plümper and Neumayer, 2006; Ghoborah, Huth, and Russett, 2003, p. 189). This leads both to indirect conflict deaths of women

and girls, and to women and girls bearing the burden of others' deaths and injuries, destroyed infrastructure, and the breakdown of law and order.

This gendered burden is often neglected in assessments of the impact of armed conflict. It is not reflected either in conflict or battle death figures or in narrow calculations of costs of armed conflict to the economy. Little quantitative evidence is available. This section therefore looks at various health-related and socio-economic aspects of the gendered burden of armed conflict on women to highlight some areas relevant to the global burden of armed violence.

PHOTO ▼ FARC soldiers march in a military parade at the main square of San Vicente del Caguan, Colombia, 2001. © Ricardo Mazalan/AP Photo



The impact of armed conflict on women's health is difficult to ascertain as relevant and reliable data is sparse in developing countries and even less available during armed conflict. Mortality studies tend to focus on age groups rather than male and female mortality. For example, an analysis of 37 datasets on conflict-related mortality (Guha-Sapir and von Panhuis, 2004) compares the risk of dying for children younger than five years old and persons older than five years during armed conflict with the pre-conflict risk. Findings show very high vulnerability for children under five, and increased mortality due to diarrhoeal diseases, severe malnutrition, respiratory infections, and measles.

Maternal mortality, defined as the annual number of deaths from pregnancy-related causes per 100,000 live births, is a good indicator of women's health condition, and can be used to assess the indirect impact of armed conflict on women.² The findings in Table 6.1, from a study assessing the impact of armed conflict on maternal mortality and under-five mortality, showed increased maternal and under-five mortality rates in countries that had recently experienced armed conflict (O'Hare and Southall, 2007). The maternal and under-five mortality rates are both 44 per cent higher than the baseline rates.

TABLE 6.1 Comparison of maternal mortality and under-five mortality in 42 sub-Saharan countries

Mortality rates	Countries with recent armed conflict	Countries without recent armed conflict
Maternal mortality rate (median)	1,000/100,000 births	690/100,000 births
Under-five mortality rate (median)	197/1,000 live births	137/1,000 live births

SOURCE: O'Hare and Southall (2007). The study covered 42 sub-Saharan countries, of which 21 have experienced armed conflict since 1990.

Box 6.1 Armed conflict and HIV/AIDS

A common assumption is that armed conflict increases HIV infections, and that refugees and internally displaced people are particularly at risk and likely to experience a higher incidence of HIV infections. This assumption has been fuelled by increased reporting on widespread rape of women and girls during armed conflict and high levels of HIV/AIDS in some armed groups. However, the findings of a recent study by UNHCR and the University of Copenhagen on the incidence of HIV infections among conflict-affected and displaced people in seven sub-Saharan African countries³ could not confirm these assumptions at the population level due to insufficient data (Spiegel et al., 2007). Further research is thus needed.

News and NGO reports on the armed conflicts in Darfur or the DRC frequently refer to horrifying stories of sexual violence, especially rape, against women and girls. Data on the scope and magnitude of sexual violence is, however, scarce, making it impossible to estimate the overall extent of sexual violence in armed conflicts (INDIRECT CONFLICT DEATHS, Box 2.2). Evidence from a WHO survey on women's experience of violence during and after the conflict in Liberia found that 81.6 per cent of 1,216 randomly selected women and girls had been subjected to one or multiple violent acts during and after the conflict. The most commonly reported violent acts were detention against a woman's will, being threatened by a weapon, beating, kicking, and rape (of which more than 70 per cent were gang rapes) (Omanyondo, 2005).

Beyond battle, armed conflict has many disruptive consequences for women's lives. Women carry the burden of family displacement and of becoming the sole breadwinner when male relatives join fighting forces, are detained, are taken hostage,

go missing, or are killed. In such situations, women take on additional responsibilities of income generation and of caring for their children and wounded, disabled, sick, and elderly people. Women face these challenges in environments that are not only war-torn but contain social and legal obstacles that may seriously hamper women's livelihood and other opportunities.

Discrimination against women and gender inequality are the main reasons why 'indirect negative consequences on health and mortality are likely to affect men and women differently' (Plümper and Neumayer, 2006). In situations of scarce resources and deteriorated health services, the lower socio-economic status of women and girls exacerbates the negative consequences of armed conflict for women's health.

Non-conflict violence against women

The UN General Assembly's *Declaration on the Elimination of Violence against Women* (1993) defines violence against women as:

any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.

Article 2 of the Declaration makes clear that violence against women takes many forms:

- physical, sexual and psychological violence occurring in the family, including battering, sexual abuse of female children in the household, dowry-related violence, marital rape, female



genital mutilation and other traditional practices harmful to women, non-spousal violence and violence related to exploitation;

- physical, sexual and psychological violence occurring within the general community, including rape, sexual abuse, sexual harassment and intimidation at work, in educational institutions and elsewhere, trafficking in women and forced prostitution;
- physical, sexual and psychological violence perpetrated or condoned by the State, wherever it occurs. (UNGA, 1993)

PHOTO ▲ A Tamil woman stays at her war-torn house in Jaffna, Sri Lanka. © Q. Sakamaki/Redux

While men are the main perpetrators of violence against women, women also commit such violence: female infanticide, for example, is often

Box 6.2 The costs of violence against women

Violence against women, like all forms of violence, creates a wide range of economic and development costs, some direct and some indirect. Yet the true cost of this violence remains unknown.

Most attention has been paid to the costs of intimate partner or domestic violence in developed countries, where attention to the issue of violence against women is greatest. Table 6.2 summarizes the findings of several different studies that used various definitions and methods. It cannot be used to make comparisons, but it does highlight the potential scope of the socio-economic costs that violence against women imposes on communities and societies.

TABLE 6.2 Selected studies on costs of intimate partner violence and/or domestic violence

Country	Year	Area of study	Categories analysed	Costs (USD)
Australia	2002–03	National	Health, production, consumption, administration, second-generation costs	6.1 billion (excluding pain and suffering)
Canada	2002	National	Direct medical	1.1 billion
Chile	1999	310 women in Santiago	Lost productivity	1.7 billion
Colombia	2003	National	Prevent, detect, and offer services to survivors of family violence	73.7 million
Netherlands	1997	National	Direct medical, costs of legal services, costs of incarceration, other monetary costs, costs of policing	142.2 million
USA	2002	National	Legal and medical services, judicial system costs and lost productivity	12.6 billion

SOURCES: Australia: Access Economics (2004); Colombia: Sánchez et al. (2004); all others: Waters et al. (2004)

practised by women. Despite its variety, violence against women is a manifestation of unequal power relations between men and women—an asymmetric relationship that is also reflected in the lower social and economic status of women in many cultures and societies across all regions.

Gender-based violence does not necessarily involve physical strength or armed violence but can nevertheless be lethal. It does not always involve ‘arms’ as conventionally defined, but can involve tools that are turned into arms for the purpose of violence against women. This includes such things as the use of acid in attacks, the practice of sex-selective abortion, or female infanticide. Examining these different forms of violence against women forces us to broaden our understanding of ‘arms’ and ‘armed violence’, since conventional definitions often only partially account for women’s experience of violence.

Even when it is not lethal, violence against women—especially such forms as sexual violence in conflict (INDIRECT CONFLICT DEATHS)—can have severe and long-lasting health (physical and psychological) and socio-economic consequences for the victims. Beyond the impacts on the individual survivor, violence against women also has serious consequences for the family and the community of the victim, and for society as a whole. Victims are often unable to care for their families, which has serious implications in societies with weak social and support services. In addition, violence against women affects the productivity of women and represents a considerable burden on the health system. There are as yet, however, no good cross-national studies that demonstrate systematically the scope and scale of these consequences.

Despite its grave consequences, violence against women often goes unreported and remains hidden from view. Comprehensive and comparative sex-

disaggregated data is still not available for most forms of violence against women. For example, studies of violent and coerced sex by intimate or non-intimate partners are rare. Intimidation and the taboo and stigma attached to violence against women prevent victims from reporting such crimes, which leads to a high rate of under-reporting, including in official crime statistics. In many countries incidents remain unreported because victims fear the consequences of the perceived ‘soiling’ of the family honour (UNIFEM, 2007).

Often tolerated as part of cultural or historical tradition, sexual violence tends to be improperly reflected in victimization surveys and datasets, and such datasets often do not contain sex-disaggregated data. For instance, reliable data on homicide of women is still rare. While accurate data is available for certain subregions, for many regions—especially Africa—data is either non-existent or incomplete. International efforts to improve our understanding of violence against women are, however, under way (Johnson, Ollus, and Nevala, 2008).

Intimate partner violence

Intimate partner violence is the most common form of violence against women, and the majority of its victims are women (Krug et al., 2002, p. 89). IPV, also known as ‘domestic violence’, is perpetrated by a current or former intimate partner or spouse. It can take many forms, both lethal and non-lethal, including acts of physical aggression—such as slapping, battering, hitting, kicking, and beating—or psychological abuse—such as intimidation and humiliation. Intimidation can be such that the victim does not search for help or report domestic violence, but rather endures an ongoing abusive relationship. It has been estimated that



it takes as many as 35–37 repeated incidents over an average period of seven years before women report IPV to an agency (Hall and Wright, 2003).

While gender-based violence committed by strangers is considered a crime in many countries, intimate partner violence is often regarded as a ‘private matter’ and therefore not adequately reported and penalized. Crimes of IPV against men are even less reported, as the stigma for men is even higher than for women. Studies on the relationship between small arms availability and intimate partner violence show that, even without the direct use of armed violence, intimate partner violence can be linked to the presence of arms).³

Studies on IPV have been conducted in 71 countries, according to the UN General Assembly’s study on all forms of violence against women. For each year, between 13 and 61 per cent of the women interviewed reported being physically assaulted by an intimate male partner at some

PHOTO ▲ Three years after her divorce, this victim of domestic violence still shares an apartment with her ex-husband. Yekaterinburg, Russia. © Olivia Arthur/Magnum Photos

point in their lives (UNGA, 2006, §114). Often, IPV is not an isolated event, but includes multiple acts of aggression over a long period of time. There appears to be no difference in the prevalence of IPV between high, middle, and low-income countries: women in developed countries are as much exposed to IPV as are women in less developed countries (García-Moreno et al., 2005, pp. 27–41, 83–84).

IPV often involves sexual violence (Krug et al., 2002, p. 151). Figure 6.1 shows the percentage of

women experiencing any form of sexual violence by a current or former spouse or partner in selected countries. Although reporting rates vary widely, the incidence of any form of sexual violence ranges from less than 5 per cent to more than 50 per cent.⁵

The International Violence against Women Survey conducted in a number of countries found varied experience of intimate partners using a gun or a knife among the women interviewed. In Hong Kong, the Philippines, and Switzerland one per cent of the women interviewed reported such an experience, two per cent in Denmark and Mozambique, three per cent in the Czech Republic and Poland, five per cent in Australia, and up to eight per cent in Costa Rica (Johnson, Ollus, and Nevala, 2008, pp. 44–45).

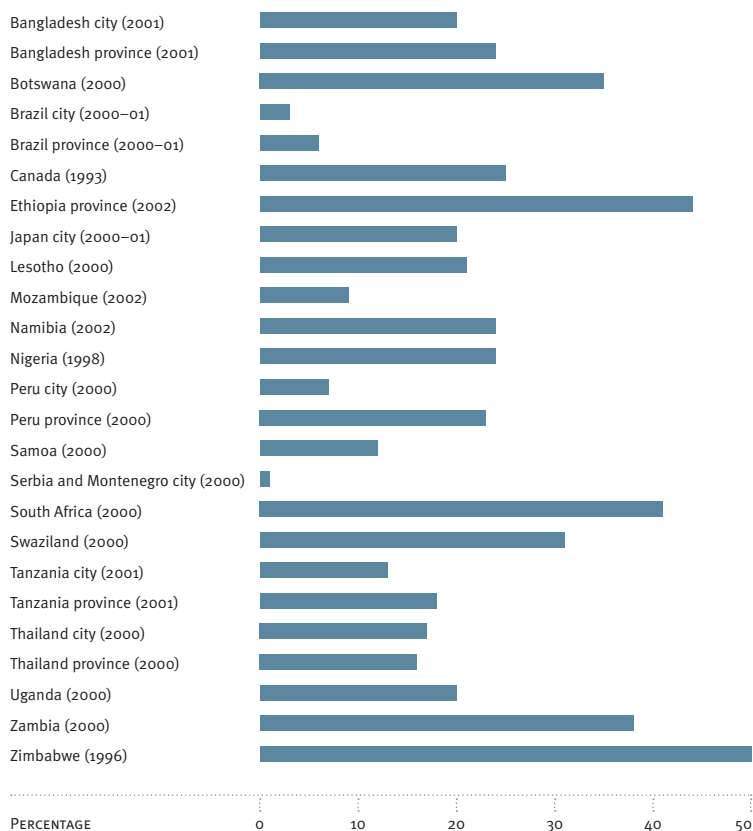
Sexual violence

Sexual violence is a form of gender-based violence that occurs in many different settings, with a variety of motives, perpetrators, and victims. Sexual violence is commonly defined as:

any sexual act, attempt to obtain a sexual act, unwanted sexual comments or advances, or acts to traffic a person's sexuality, using coercion, threats of harm or physical force, by any person regardless of relationship to the victim, in any setting, including but not limited to home and work. (IASC, 2005, p. 8)

Sexual violence takes many forms, including sexual harassment, sexual abuse and exploitation, rape, gang-rape or attempted rape, sexual slavery, forced pregnancy, abortion, sterilization or contraception, and trafficking for the purpose of sexual exploitation (IASC, 2005, p. 8; RHRC, 2003, pp. 8–11).

FIGURE 6.1 Percentage of surveyed women reporting on IPV, selected cases



SOURCES: García-Moreno et al. (2005, p. 28); Naudé, Prinsloo, and Ladikos (2006, p. 107); Federal-Provincial-Territorial Ministers Responsible for the Status of Women (2002)

Acts of sexual violence occur in many different contexts, including at home or in the workplace, during armed conflict, or in refugee or post-conflict settings. Sexual violence is not limited to women and girls; men, boys, and transsexual/transgender people may also be victims of sexual violence, as has been reported in the armed conflicts in the Central African Republic, the DRC, and in Liberia (Bastick, Grimm, and Kunz, 2007, pp. 35, 42, 49). While women and girls are the majority of victims of acts of sexual violence, the main perpetrators are men and boys. However, women and girls have also been reported to incite and commit sexual violence, for example in the Rwandan genocide (Bastick, Grimm, and Kunz, 2007, p. 55).

Sexual violence is not about sex but about power relations: ‘rape is not an aggressive expression of sexuality, but a sexual expression of aggression . . . a manifestation of anger, violence and domination . . .’ (Seifert, 1992). The specific motives for such acts vary according to the context. In intimate partner violence, acts of sexual violence are common as a form of domination. During armed conflict, sexual violence may be used as an explicit strategy to achieve military objectives, to punish and humiliate an enemy group, or even to destroy a particular social or ethnic group, such as in the Rwandan conflict. Within armed forces and groups, sexual violence may serve to affirm aggression and brutality, and it may be used as a ‘morale booster’ or a ‘reward.’

Sexual violence often has grave health implications, both physical (such as direct injuries, infections or infertility, and sexually transmitted diseases including HIV/AIDS) and psychological (such as severe trauma and depression, sometimes leading to suicide). In some cases, victims may be re-victimized, or even murdered through honour killings. Sexual violence can also have severe

socio-economic implications, whereby survivors are rejected by their partners, stigmatized and sometimes excluded from the family or the community, and unable to find work or to care for their families (Bastick, Grimm, and Kunz, 2007, p. 15). However, acts of sexual violence often remain unreported and hidden due to the victims’ shame and the stigma attached to such forms of violence.

The *WHO Multi-country Study on Women’s Health and Domestic Violence against Women* reports the prevalence of women having experienced attempted or completed forced sex by an intimate partner in their lifetime as ranging from 6.3 per cent in Serbia and Montenegro up to 49.7 per cent of women in Bangladesh (García-Moreno et al., 2005, p. 167). A UN Interregional Crime and Justice Research Institute study comparing ‘sexual incidents’ (rape, attempted rape, indecent assault, or offensive behaviour) across regions finds that 10 per cent of women in Asia, 15 per cent of women in Latin America, and 33 per cent of women in Africa are victimized in this manner (Zvekic and Alvazzi del Frate, 1994). For any such analysis, however, one must acknowledge that in many societies sexual violence perpetrated by known or unknown individuals remains unreported.

Box 6.3 Gang rapes

Gang rapes of women—an extreme form of sexual violence—are commonly reported in countries including South Africa, Papua New Guinea, and the United States (Watts and Zimmerman, 2002). A rape is classified as ‘gang rape’ when it involves at least two perpetrators (Krug et al., 2002, p. 153). A South African surveillance study for the inner-city of Johannesburg found that one third of all rapes are gang rapes (Vetten and Haffejee, 2005, p. 33). In the United States about one out of ten acts of sexual assault is committed by multiple perpetrators (Greenfeld, 1997, p. 4). Gang rapes are mostly committed by people unknown to the victim (Krug et al., 2002, p. 153).

Honour killings

A so-called ‘honour killing’ is a murder committed by (male) relatives in reaction to a perceived violation of the community, family, or individual honour (Vlachová and Biason, 2005, p. 27; UNIFEM, 2007). Most honour killings are perpetrated against women and girls, based on cultural perceptions of women as bearers of the family honour. In some cultures, women are subjected to strict social norms of behaviour; perceived ‘immoral’ behaviour in breach of such norms is blamed on women and can lead to honour killings. The most common reasons for honour killings are perceived ‘provocative’ behaviour, the refusal of an arranged marriage, extra-marital affairs, demanding a divorce, or being a victim of sexual violence.

PHOTO ▼ A Turkish woman at the grave of a woman who was stoned to death in 2003 in an honour-related crime.
© Lynsey Addario/Corbis



Honour killings are a global phenomenon but have mainly been reported in Egypt, Iran, Jordan, Lebanon, Morocco, Pakistan, Syria, Turkey, Yemen, and other Mediterranean and Gulf states (UNIFEM, 2007). Through migration, incidents of honour killings have been exported to western European countries and North America. The United Nations Population Fund estimates that worldwide 5,000 women fall victim to honour killings every year (UNFPA, 2000).

In Pakistan, 4,000 women and men were reportedly killed between 1998 and 2003 ‘in the name of honour’, with women representing more than half of the victims. After the fall of Saddam Hussein’s government in Iraq, 400 women and girls were reportedly raped between April and October 2004, of which more than half were later killed for ‘honour-related’ reasons (MADRE, 2007, p. 16). The perpetrators of honour killings are often male family members. In Jordan and Lebanon, 70–75 per cent of all perpetrators of honour killings are the girls’ or women’s brothers (UNIFEM, 2007).

In addition to gendered notions of honour, discriminatory laws contribute to the persistence of such crimes by granting impunity to perpetrators, thus allowing honour killings to go unpunished. In Haiti, for example, the penal code states that the murder by a husband of his wife and/or her partner immediately upon discovering them *in flagrante delicto* in the conjugal residence is pardonable. A wife who kills her husband upon discovering him in the act of adultery is not excused. The Syrian penal code grants immunity or a significantly reduced sentence to a man who murders a female relative. Human Rights Watch reports that in Guatemala and elsewhere in Latin America police rarely investigate hundreds of murders of women each year because they are assumed to be ‘crimes of passion’ (GCSKSW, n.d.).

Dowry-related violence

A dowry is the money, goods, or estates that are given by the bride's family to her husband at marriage. The practice of dowry payment is particularly common in some South Asian countries but also occurs in other countries. Dowry disputes, which may arise due to an unsatisfactory dowry or the husband's wish to pursue another marriage in order to receive an additional dowry, can lead to gender-based violence including the killing of the woman. Some women also commit suicide after continuous harassment by their husbands or in-laws.

In certain societies, the future husband instead pays a 'bride wealth' to the bride's family, often leading to the belief that the spouse becomes his 'property'. Families sometimes refuse to 'take back' their daughter even in cases where she is being maltreated, out of inability, or fear of being obliged, to pay back the bride wealth.

According to UNIFEM, 6,822 women were victims of dowry-related killings in 2006 (UNIFEM, 2007). The same year 2,276 Indian women were reported to have committed suicide as a result of dowry

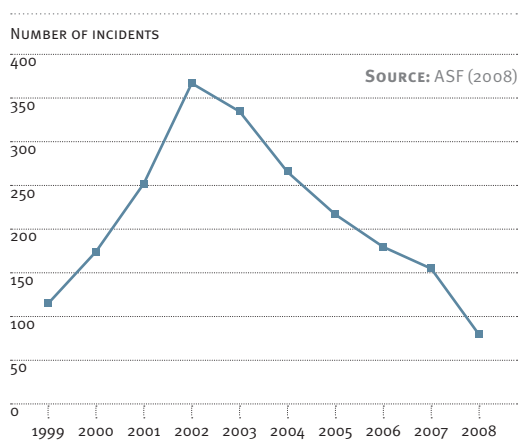
disputes with their husbands. The figures were even higher in 2005 and 2004: 2,305 and 2,585 suicides, respectively (Niazi, 2008). It cannot be ruled out that a certain percentage of these suicides may actually have been homicides committed by the husband or in-laws.

Acid attacks

Acid attacks are a form of gender violence occurring mainly in Bangladesh, Pakistan, India, and other Asian countries. While men and boys may be victims of acid attacks, girls and women represent the majority of victims. The Acid Survivors Foundation estimates that about 68 per cent of acid attacks in Bangladesh are directed against girls and women (ASF, 2006, p. 7).

In this form of gender violence, acid is thrown at the victim's body, especially at the face and genitalia of women. Acid attacks are usually motivated by conflicts over land, property and money, by refusal of love, marriage, or sexual services, or by family or dowry-related disputes (ASF, 2006, p. 8).

FIGURE 6.2 Reported incidents of acid attacks in Bangladesh, May 1999–July 2008



Box 6.4 Acid attacks in Bangladesh

Bangladesh reports a relatively high level of acid attacks—up to one incident every two days (ASF, 2006, p. 3). Such attacks have grown in prominence since the early 1990s, coinciding with a trend of women's growing financial power and increased social standing, notably through micro-credit development strategies (Woolf, n.d.). Acid attacks peaked in 2002, when 490 people were injured, and have since declined (ASF, 2008).

The Acid Survivors Foundation has launched public awareness-raising campaigns to encourage victims to report incidents. It also provides guaranteed legal assistance, promulgates the existence of laws against acid crimes, offers free medical care—such as burn treatment, nursing, plastic surgery, physical therapy, and psychotherapy—and ensures access to counselling and rehabilitation for victims. These efforts also help to reintegrate victims into their families and communities, avoiding their isolation (Scholte, 2006).

Consequences include permanent marks on the body, disfigurement, potential blindness, loss of hearing, and sometimes death. Social isolation is a further indirect effect. Victims of acid attacks rarely marry, thus remaining a burden to their families.

Female infanticide and sex-selective abortion

Female infanticide has likely accounted for millions of sex-selective deaths throughout history. The UN Children's Fund defines female infanticide as the killing of a girl child within the first few weeks of her birth. Infanticide is practised as a method of family planning in societies where boys are

PHOTO ▼ This 45-year-old woman was left blind after an acid attack in 1998. Dhaka, Bangladesh, 2006. © Olivier Hanigan/WPN



valued, economically and socially, above girls. Methods of ending a baby girl's life can be cruel, including poisoning, smothering, or feeding her unhulled rice to puncture the infant's windpipes. While infanticide of newborn girls still takes place, ultrasound technology has given female infanticide a modern face in the form of sex-selective abortion.

Substantial disparities between the numbers of girls and boys born suggest the extent of sex-selective abortion. The ratio of girls to boys born in Europe and North America is approximately 95:100, but in countries such as China, Taiwan, South Korea, India, and Pakistan, as well as some sub-Saharan African countries, the ratio is lower. China and India show the most extreme disparities (Watts and Zimmerman, 2002).⁶

In China, approximately 84 girls are born for every 100 boys (UNFPA, 2007, p. 5), and in some regions female birth is even lower. The practice of killing or abandoning female infants markedly increased in China during the 1980s and is generally attributed to China's strict 'one couple, one child' policy. It is estimated that by 2020 China could be 'missing' around 30 million women. China's State Population and Family Planning Commission recently predicted that within 15 years one in every ten men aged between 20 and 45 will be unable to find a wife (Macartney, 2007; UNFPA, 2007, pp. 5–7). Already, a shortage of brides is seen as the cause of increased kidnapping and slave trade of women, wife selling, and prostitution (Manthorpe, 1999).

In 1996 India's census showed there to be only 929 females to every 1,000 males. In India's 1901 census figures, there were 972 females to every 1,000 males. The selective killing of female foetuses is suggested by research that shows that fewer females are born as second or third children to families that have yet to have a boy. The 'most plausible explanation for the low female-to-male

sex ratios reported at birth is prenatal sex determination followed by selective abortion' (Jha and Oster, 2006).

Female infanticide and sex-selective abortion are driven by both economic and cultural forces. In a traditional South Asian family, a son is expected to earn an income, inherit property, and care for his parents, while a daughter requires a dowry to be paid, often incurring substantial debt. However, the practice cannot be explained by income level alone. Cultural factors also seem to play an important role. In India, for example, it has been observed that abortion of female foetuses is most prevalent in some of the poorest *and* in some of the richest states (Sen, 2003).

Conclusion

Using a gender approach reveals the full extent of the direct and indirect impact of the global burden of armed violence. This is crucial to understanding the gender-specific impacts of armed violence, and the forms of violence specifically targeted against women. Such an analysis is also important in terms of policy-making and programme development, allowing for the development of policies that take into account the specific needs of different groups.

Analysing the gender dimensions of the global burden of armed violence demonstrates the great variety of forms of violence and their multiple physical, psychological, social, and economic impacts. It becomes clear that the picture is highly complex, defying simplistic notions of women as victims and men as perpetrators. Finally, a gender approach broadens understandings of 'arms' and 'armed violence' since conventional definitions often only partially account for women's experience of violence.

In times of conflict and social upheaval, women suffer from lethal, non-lethal, direct, or indirect armed violence. However, paradoxically, such situations have sometimes offered a space for women's emancipation, be it through women's participation in armed groups, or through women taking on new responsibilities and asserting their rights. This contradictory relationship is worthy of further research.

Violence against women is one of the most common but least punished categories of crime in societies around the world. Inadequate data, discriminatory laws or ineffective implementation, widespread immunity for perpetrators, and a lack of political will to condemn such crimes all contribute to this situation. There is a need to review existing data collection methods and indicators in order to present a more balanced picture of the gendered experiences of violence, which make up an important part of the global burden of armed violence. 📌

Abbreviations

DRC	Democratic Republic of the Congo
IPV	Intimate partner violence
UNIFEM	United Nations Development Fund for Women

Endnotes

- 1 Bouta, Frerks, and Bannon (2005, p. 11); Gyawali and Shrestha (2006, p. 147); Marón (2003); and Karame (1999).
- 2 The definition of maternal death (by WHO): 'The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.'
- 3 These countries include the DRC, (southern) Sudan, Rwanda, Uganda, Sierra Leone, Somalia, and Burundi.

- 4 See AI, IANSA, and Oxfam (2005); Jackson et al. (2005); Greenfeld (1997); Kellermann et al. (1993); WomenWar Peace.org (n.d.).
- 5 The definition of sexual violence by an intimate partner includes the following elements: the woman was physically forced to have sexual intercourse when she did not want to; she had sexual intercourse when she did not want to because she was afraid of what the partner might do; she was forced to do something sexual that she found degrading or humiliating (WHO, 2005, pp. 13–16).
- 6 It should be noted, however, that different studies produce different data.



CHAPTER SEVEN Other Forms of Armed Violence: Making the Invisible Visible

THE GLOBAL BURDEN of armed violence extends well beyond acute death and injury rates arising during war or as a consequence of crime. Other forms of social and predatory violence are routinely committed through such acts as intimidation and assaults, extortion and kidnapping, or gang violence. Similarly, political violence is often deployed against citizens in the form of extrajudicial killings and disappearances. The effects of armed violence are routinely experienced by women afraid to walk in certain neighbourhoods at night; by partners in abusive relationships; and by children in slums that lack adequate lighting, safe schools, and public security.

Throughout the world's rapidly urbanizing cities and shanty towns, many citizens are beginning to fill these 'protection gaps' with alternative means of security provision at the community level. From the Americas and Africa to the South Pacific, gangs and vigilante groups are a major, if poorly understood, security concern. In the absence of legitimate military and policing authorities, civilians are increasingly investing in private security companies, barbed wire and higher protective walls, neighbourhood watch associations, and even gun-free zones.

This chapter considers 'other forms' of armed violence that are not easily classified under the rubric of war or crime. It finds that while largely hidden from view and rarely discussed, such violence can be present in ostensibly 'peaceful' contexts. Likewise, these other forms of armed

violence may contribute to or result in direct conflict deaths or homicide. While such violence defies easy description or categorization, the chapter nevertheless finds the following:

- Armed violence perpetrated by armed groups and gangs is under-studied and contributes to insecurity in urban settings, with 70,000–200,000 gang members in Central America alone.
- A high proportion of armed violence by agents of the state is concentrated in just over 30 countries (in 2006). Disappearances are difficult to calculate but appear to be common in a similar number of countries.
- More than 50 extrajudicial killings were registered in 2006 for at least 12 countries unaffected by war, with most not being captured in typical surveillance systems.
- Recorded enforced disappearances declined from an annual average of 1,442 cases between 1964 and 1999 to the annual average of 187 cases between 2000 and 2003, and 140 between 2004 and 2007.
- There was an annual global average of 1,350 reported kidnapping for ransom cases from 1998 to 2002. These appeared to have increased to 1,425 in 2007.
- The five countries registering the most kidnapping cases in 2007 included Mexico, Venezuela, Nigeria, Pakistan, and Colombia.

- The violent death rate for aid workers is 60 per 100,000 workers per year, and a considerable proportion of these killings are carried out using arms.

The chapter seeks to enhance the understanding of other forms of armed violence around the world. It offers a general overview of their different manifestations and considers various risk factors that contribute to their onset and duration. The first section considers specific agents responsible for armed violence in urban and peri-urban areas. It focuses on the role of gangs, especially *maras* and *pandillas* in Central America, as symptoms of larger political, economic, and social processes. The second section focuses on extrajudicial vio-

PHOTO ▼ Children in one of the slum areas in the centre of Kathmandu, Nepal.
© Espen Rasmussen/
Panos Pictures



lence and enforced disappearances, categories of illegitimate state-led violence that frequently are poorly recorded or ignored. It also considers kidnapping—a tactic adopted by armed groups, gangs, and common criminals alike—and another source and outcome of armed violence. The third section considers the incidence of armed violence against aid workers.

Armed groups and gangs

Armed groups—including rebels and organized gangs—do not emerge in a political vacuum. They reflect a complex combination of economic and ideological interests. While certain groups reportedly mobilize out of greed or profit, researchers are discovering that motivations for recruitment are much more multifaceted than narrow monetary interest.¹ Although prospects for loot clearly provide a motivation for some, in many situations there are multiple factors that shape the resort to violence. For example, political elites may have long-established systems of personal rule and patronage, and may draw on armed groups to shore up their authority. Similarly, members of armed groups may join out of the more routine and pragmatic desire to protect their neighbourhoods or communities from violence.

Armed groups are highly heterogeneous and exhibit tremendous dynamism and enterprise. In some cases, members may be popularly described as ‘thugs’ or ‘bandits’, while in others they may be seen as heroes in their communities. Gang members may be viewed with apprehension, particularly if recruits were forcibly removed from their families and social milieu. In situations where political institutions and public security providers suffer from weak governance, alternative forms of political authority and security delivery

will likely emerge. Armed groups may therefore be widely regarded as more legitimate than state institutions in the eyes of the community (Moser and McIlwaine, 2006; Moser, 2004).

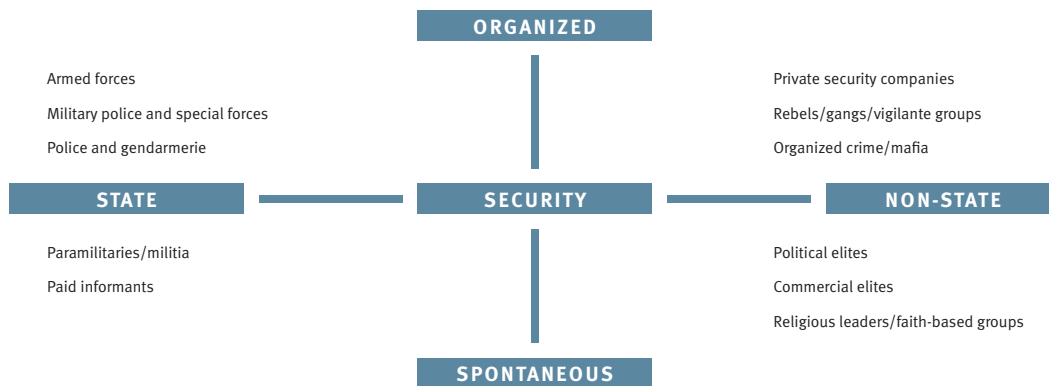
Armed groups are also frequently connected through power, patronage, and political affiliation. Groups include both formal and informal actors such as soldiers, police, paramilitaries, rebel groups, and ex-combatants and their dependents, together with mercenaries, militia groups, criminal and predatory gangs. Figure 7.1 presents a stylized typology of different types of organized armed groups and the ways in which they are potentially interlinked.

In many cases, armed groups emerge in the context of a wider social crisis or malaise, itself potentially shaped by macroeconomic distortions and political disorder. Armed group members and their backers may coalesce as a reaction to social and economic exclusion rather than as a direct political project, as was the case of the Bakassi Boys or O’odua People’s Congress of Nigeria.

Likewise, the Mai Mai militia of the Democratic Republic of the Congo (DRC) and former diamond miners in Sierra Leone initially banded together to defend their communities from predation, though their motives changed over time (Weinstein, 2007). The domestic (and in some cases international) legitimacy bestowed on such groups is linked in large measure to their capacity to provide public goods such as security and services otherwise lacking to ordinary civilians (Muggah and Jütersonke, forthcoming).

While not a new phenomenon, gangs are emerging as a major concern for policy-makers and practitioners around the world. Gangs are found in all societies, with the vast majority constituting little more than ephemeral groups of youth engaged in behaviour labelled ‘anti-social’ or ‘delinquent’. Gangs in the more formal sense are defined social organizations that display institutional continuity independent of their membership. They exhibit fixed conventions and rules that may include, for example, initiation rites, ranking systems, induction

FIGURE 7.1 A typology of armed groups and related actors



SOURCE: Muggah and Jütersonke (forthcoming)

Box 7.1 Gender and gang violence

The gender dimensions of gang violence are complex and contradictory. Armed gang violence is mostly a male phenomenon, and victim rates are highest for young men. However, women are also affected by gang activities in a number of ways. Gang violence can have oppressive or protective implications for women. In some cases, women are exposed to homicide, robbery, and sexual assault; in others, they are protected from attacks by other gangs (UNODC, 2007).

Women also participate in gang activities and have multiple roles. They often act in support roles such as cooking and washing for male gang members, or providing logistical assistance like hiding guns, or transporting drugs or weapons from one point to another. However, women and girls also sell stolen goods, drugs, and weapons and use armed violence themselves in some circumstances.

In general, female gang members are responsible for less serious, sporadic delinquencies than male gang members (Miller and Decker, 2001). While gang membership may present an opportunity for some women to break out of traditional gender roles, these roles are often reproduced within gangs. Independent of their role, participation in gangs makes women a target for violent acts between gangs.

A study on the participation of women and girls in gang violence in Haiti reveals the complex gender dimensions of gang activities (Loutis, 2006). An overview of the variety of female roles within the different gangs and armed groups in the townships of Cayes, Port-au-Prince, and Gonaïves—the main urban centres of violence—highlights that women and girls are perpetrators, dependents, supporters, and victims of gang violence. Activities differ from one group to another, but mostly they entail support functions such as cooking and washing, and transmitting messages, news, and warnings of incursions of rival gangs. Women gang members may be forced to deliver sexual services or be used as human shields during gang disputes.

Women also commit acts of violence. One female gang in Haiti, composed of young women, reportedly participates in the kidnapping and raping of girls, sometimes in concert with male gangs. In some cases, they were also reported to surrender the kidnapped girls to other groups to be raped again. It is not clear whether members of this female gang are armed, but there is evidence that the male groups they act with are armed. Other groups, such as the 'Brigades de Vigilance' in Gonaïves, unified to protect their neighbourhood against raids and attacks by criminals and gangs. The members of this group are mainly women; they do not possess firearms but fight with stones and machetes (Loutis, 2006).

ceremonies, rules of conduct, or specific behaviour patterns. Gangs are often associated with a particular territory, and relationships with local communities can be either oppressive or protective.

Current estimates of the proportion of all regional violence in Central America committed by gangs vary from 10 to 60 per cent, suggesting that the range may be more a question of inclusion and exclusion criteria than violence itself (UNODC, 2007, p. 64). Gangs are regularly accused of committing (and more rarely prosecuted for) crimes ranging from delinquency, mugging, theft, and harassment to rape, assault, and drug dealing. In other cases, gangs are linked to insurrections and global terrorism. They are described as a kind of 'new urban insurgency' with the objectives of deposing or controlling the governments of certain countries through 'coups de street'. For example, the US government recently announced that gangs constituted the greatest problem for national security in Central America and Mexico (Rodgers, 2007; Bruneau, 2005).

State responses to armed groups tend to reproduce violent behaviour rather than contain it (Small Arms Survey, 2007). Such interventions generate localized conditions of insecurity and symbolically demonstrate the power of the state. The most visible manifestation of this is the 'war on gangs' launched by Central American governments (and others) in the past decade (Muggah and Stevenson, forthcoming). While anticipating a major deterrent effect, the war on gangs—or *mano dura*—has led instead to the fracturing of gangs and their adopting more violent tactics. While this is interpreted by some officials as the state 'winning' the war, it also seems likely that gangs have adapted and become less conspicuous in their activities.

Gangs in Central America

Central America is a region in which gangs constitute a real contemporary concern from the regional to the community level. However, their interests and activities remain relatively poorly understood. Reliable data and analysis of gangs are limited, and official statistics are especially problematic owing to chronic under-reporting, deficient data collection, and issues of political interference. Although official figures suggest there are some 70,000 gang members operating in Central America, the estimates of NGOs and certain scholars suggest that the number could be as high as 200,000 (UNODC, 2007, p. 60). Even using the low estimate suggests that there are at least as many gang members as there are military personnel in Central America (World Bank, 2008).

There is a great diversity of gangs among countries in Central America. For example, El Salvador, Guatemala, and Honduras are experiencing considerably higher rates of gang violence than Costa Rica and Nicaragua. The distribution of armed violence attributed to gangs therefore varies considerably, although the overwhelming majority of such activity is urban, including in capital cities. This is not entirely surprising: gangs are an urban phenomenon, partly because they require a critical mass of youth to allow them to emerge and be sustained over time. Recent studies suggest that as many as 15 per cent of all youth within gang-affected communities can end up joining a gang (Rodgers, 2004; 2007). They remain tight-knit and small-scale, with between 15 and 100 members (although average sizes tend to be 20–25 members).

One of the strongest predictors of gang membership and related violence relates to demographic factors, including so-called youth bulges (ARMED VIOLENCE AFTER WAR). The vast majority of gang



members are young urban males, often unemployed and from lower-income segments of a given community. Although female gang members exist (all-female gangs are operating in Nicaragua and Guatemala), perpetrators and victims are most frequently boys and young men (see Box 7.1). While the age of gang members ranges from 7 to 30 years, the average entry into gangs is approximately 15 years of age (Muggah and Stevenson, forthcoming).

Although there is a tendency to treat Central American gangs generically, a distinction can be made between *maras* and *pandillas* (see Box 7.2). Specifically, *maras* are a phenomenon with transnational roots, while *pandillas* are more localized and home-grown. In contrast to the many sensa-

PHOTO ▲ Honduran police officers stand above three Mara Salvatrucha gang members after an anti-gang operation in Tegucigalpa, Honduras, 2005. © Ginnette Riquelme/AP Photo

tionalist claims linking Central American gangs to migrant trafficking, kidnapping, and international organized crime, it appears that most *maras* and *pandillas* are involved in small-scale localized crime and delinquency, such as theft and muggings (Rodgers, 2006).

While there is some evidence that certain *mara* groups in El Salvador, Guatemala, and Honduras are involved in extortion and racketeering, these often extend no further than the territories they physically control. There are, however, growing risks of their assuming a more prominent role in the drug trade in the coming decade, owing to the way in which Central America is assuming an important transit function in the trafficking of narcotics from South America to North America.

Box 7.2 *Maras* and *pandillas* in Central America

Maras are organizations that can be directly linked to specific migratory patterns. Formerly, there were just two *mara* groups—the Dieciocho and the Salvatrucha, which today operate in El Salvador, Guatemala, Honduras, and southern Mexico. The gangs find their origins in the gangs of Mexican, Salvadoran, and Guatemalan refugees and migrants in the United States during the 1960s, 1970s, and 1980s. Following the imposition of strict anti-gang laws and immigration reform in the United States, however, many gang members were repatriated back to Central America. Between 1998 and 2005, the United States deported almost 46,000 convicts to Central America—with El Salvador, Guatemala, and Honduras receiving more than 90 per cent of the total. These gang members reproduced many of the structures and functions they exhibited in the United States (Rodgers, 2006).

Pandillas have their origins in the Central American peace processes of the 1990s. Demobilized former combatant youths in Nicaragua, El Salvador, and Guatemala returned home to situations of heightened insecurity and socio-economic uncertainty. Many eventually formed localized vigilante-style self-defence groups in an effort to provide safety for themselves and their families. From relatively organic beginnings, however, they rapidly expanded and developed semi-ritualized patterns of behaviour, including gang warfare. Some acquired new names—Los Dragones, Los Rampleros, and Los Comemeuertos in Nicaragua—and assumed strict hierarchies.

SOURCE: Muggah and Stevenson (forthcoming)

Extrajudicial killings, disappearances, and kidnapping

A number of forms of armed violence perpetrated by individuals acting in the name of the state can be classified as illegitimate. Two described here include *extrajudicial killings* and *enforced disappearances*. Owing to their political nature, they often remain purposefully hidden from view. It is, of course, important to recognize that not all uses of force are illegitimate. International norms and, in most cases, domestic laws recognize a state's legal monopoly of the legitimate use of armed force to protect and safeguard citizens, institutions, and core values.

But states are also bound by international law and human rights principles, together with national laws, to exercise only legitimate force. Excessive or inappropriate uses of force can contravene international and domestic laws, and can thus be declared illegitimate. In certain cases, the illegitimate use of force by public actors against the population—ranging from extortion and harassment to extrajudicial killings and disappearances—can undermine the legitimacy of the state and its institutions and generate negative socioeconomic impacts. As a result, many multilateral and bilateral assistance programmes are seeking to build effective and accountable security institutions.

Extrajudicial killings

Human rights groups, such as Amnesty International and Human Rights Watch or trade unionists and local NGOs, have long decried the use of extrajudicial armed violence. Until recently, little data existed to compare the severity of such violence among countries and over time. Activists and others are frequently unable to disclose precise information on extrajudicial violence for legal and ethical reasons. Similarly, owing to international

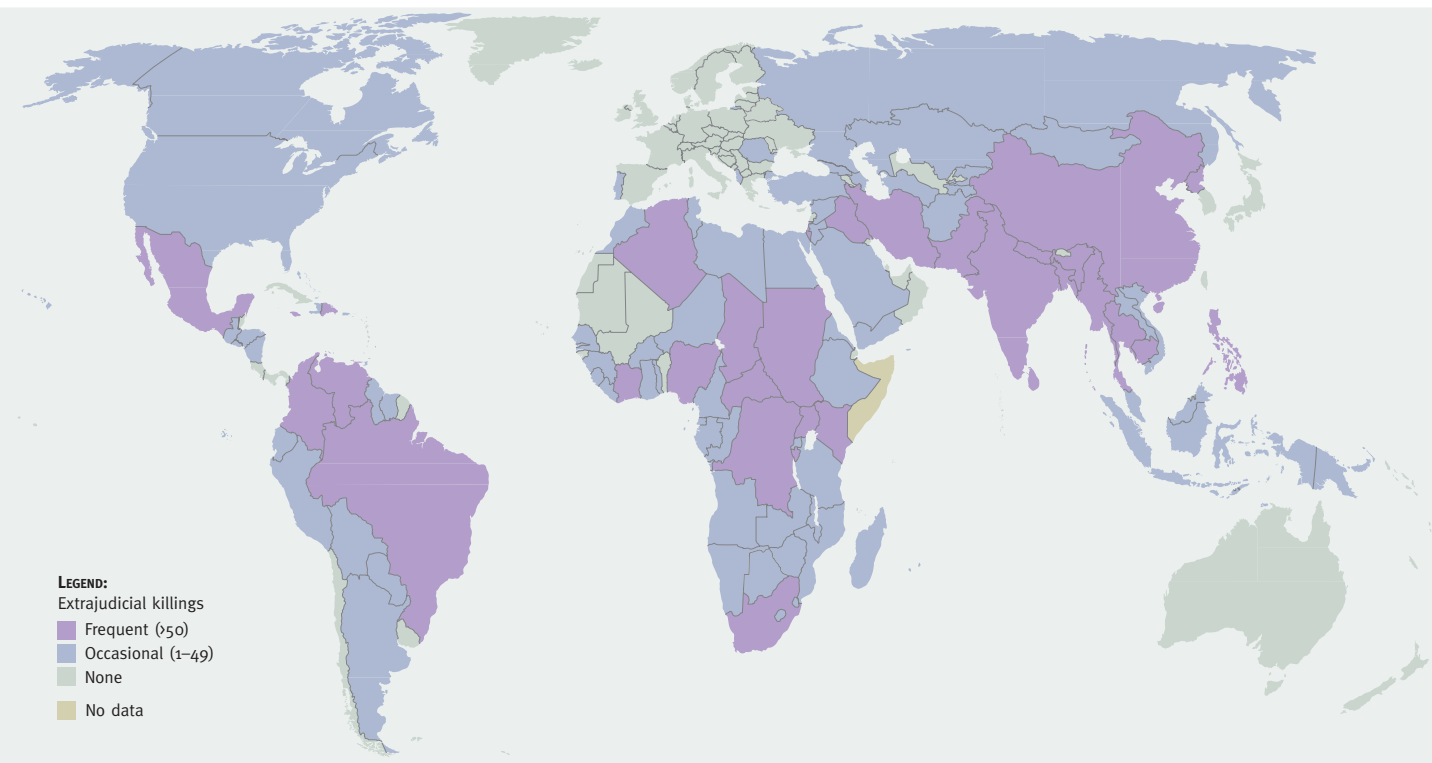
norms condemning such violence, states are seldom prepared to volunteer such information for public consumption.²

One crucial source is the Cingranelli–Richards (CIRI) Human Rights Data Project, which features cross-country data on extrajudicial killings. Such killings are broadly defined as the illegitimate use of fatal armed violence by agents of the state against its citizens. They may result from the deliberate, illegal, and excessive use of force by the police, security forces, or other state actors against criminal suspects, detainees, prisoners, or other

individuals or groups, and can also include murders committed by private groups, if instigated by the government (Cingranelli and Richards, 2008b, p. 7).

The CIRI Human Rights Data Project collects data on extrajudicial killings along with other human rights variables. Data is drawn from reports of the US State Department and Amnesty International. They are coded in three categories that capture whether extrajudicial killings occur not at all (0 deaths), occasionally (1–49 deaths), or frequently (more than 50 deaths). When available, numerical

MAP 7.1 Global extrajudicial killings, 2006



NOTE: Data for Somalia is not available in this map as there was no central political authority in the country in 2006.

SOURCE: Cingranelli and Richards (2008a)

counts of extrajudicial killings are used to classify countries into the three categories (Cingranelli and Richards, 2008b, pp. 7–10).³

In 2006 there were at least 31 countries⁴ in which extrajudicial killings occurred frequently (more than 50 deaths) and 73 countries⁵ in which they occurred occasionally (between 1 and 49 deaths) (see Map 7.1). These figures serve as a reminder that the burden of other forms of armed violence requires more investigation and attention.

Comparison of the distribution of extrajudicial killings to maps generated by Uppsala's Conflict Database displaying the distribution of direct conflict deaths for 2006 shows that at least 12 countries register more than 50 extrajudicial killings but are not considered to be in 'conflict'. These countries include Cambodia, China, Côte d'Ivoire, the Democratic People's Republic of Korea, the Dominican Republic, the DRC, Jamaica, Kenya, Mexico, Nigeria, South Africa, and Venezuela.

PHOTO ▼ A man holds up a picture of his son, who has been on death row for more than a decade as a result of a confession he made under torture.
© Ian The/Panos Pictures



Although certain national human rights agencies can provide confidential information to international organizations, there are few monitoring mechanisms to track trends and investigations in this area over time. In 1982 the UN established a special rapporteur on extrajudicial, summary, or arbitrary executions, with a mandate to perform country visits. In a recent report on Brazil, for example, the special rapporteur found that many killings registered by on-duty police were classified as 'acts of resistance' or cases of 'resistance followed by death', suggesting that such events were under-diagnosed. Indeed, in 2007 in Rio de Janeiro, the police recorded 1,330 resistance killings, a figure that accounts for 18 per cent of the total number of killings in the city (HRC, 2008a, para. 10).

There are a number of reasons why comprehensive statistics on extrajudicial killings have not been tabulated and publicized. Existing human rights practice tends to focus on individual cases rather than cross-country comparisons. As a result, few comprehensive databases exist within the human rights community. Similarly, the UN special rapporteur was issued a mandate to investigate 'situations' rather than establish global or even national datasets on extrajudicial killings.

It is thus extremely difficult to verify and validate extrajudicial killings. In many cases, human rights agencies render assessments on the basis of information transferred to them by local people or local NGOs. Allegations frequently contradict official accounts, and legal cases can take years, even decades, to build. Equally challenging is the fact that instances of such killing frequently go unreported, for the simple reason that there is nobody to report them or a lack of awareness about reporting practices and a fear of the legitimacy of relevant institutions.

The absence of data makes it difficult to compare extrajudicial killings across time and space. One element of violence reduction policies, however, could include improving reporting rates, enhancing access to legitimate justice mechanisms, and providing meaningful protection. At the most basic level, the pooling of information on extrajudicial killings by the special rapporteur and human rights organizations could be one step forward in generating awareness of the frequency and magnitude of this form of armed violence.

Disappearances

Typically described as ‘enforced disappearances’, such acts constitute yet another facet of illegitimate armed violence. In certain cases, disappearance may include the eventual killing of the person who is abducted. In many cases, the victim’s family does not know whether the disappeared person is alive, contributing to their pain and suffering. Disappearances are also frequently linked to criminal violence, including social cleansing; executions; displacement; and, in certain circumstances, rape, sexual violence, and forced recruitment.

The category of ‘enforced disappearances’ is invoked by human rights specialists to describe violence by state officials. While exceptions exist, the term does not usually refer to disappearances committed by non-state actors.⁶ The illegitimacy of such actions is enshrined in a number of legal instruments, including the 2006 International Convention for the Protection of all Persons from Enforced Disappearances. Included in the definition are those who suffer:

arrest, detention, abduction or any other form of deprivation of liberty by agents of the State or by persons or groups of persons acting with the authorization, support or acquiescence of the

Box 7.3 Gender-based violence by state officials

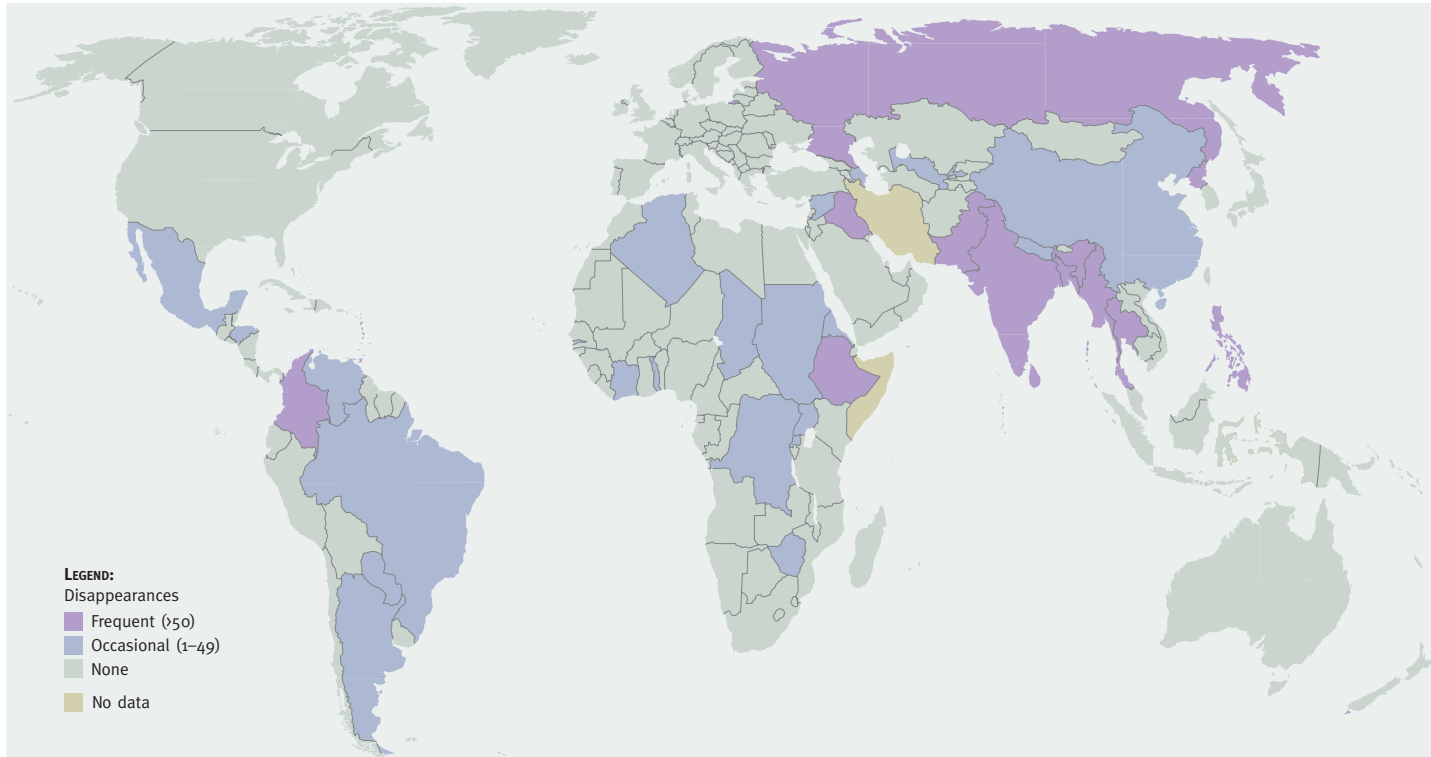
State security and justice agencies bear the responsibility to protect citizens and to ensure the protection of human rights and the maintenance of public order. However, all too often, these agencies are involved in gender-based violence (GBV) in the execution of their tasks. GBV occurs either through discriminatory laws and policies, their inadequate implementation, or granting impunity for acts of GBV committed by state officials, including police officers, prison guards, and soldiers.

The absence of an impartial and effective criminal justice system often protects delinquent state officials. GBV includes, for example, the abuse of persons in custody by supervising authorities or other detainees. As required by Rule 8 of the United Nations Standard Minimum Rules for the Treatment of Prisoners, men and women should be detained separately. But due to a lack of facilities or inadequate policies, women and girls share facilities with men in many countries. This exposes women to a high risk of sexual violence by other detainees.

In the United States, at least two-thirds of imprisoned women have experienced violence, sexual harassment, and abuse by male guards, and at least one out of four women has been sexually assaulted while in state custody (Vlachová and BIASON, 2005, pp. 96–97; HRW, 1996). The police can also perpetrate acts of GBV through the mistreatment and revictimization of survivors, or their unwillingness to investigate such crimes. In Haiti and Zimbabwe, for example, ‘political rapes’ against women were committed by government officials in retaliation for supporting political opposition groups (Bastick, Grimm, and Kunz, 2007, pp. 67, 79).

State, followed by a refusal to acknowledge the deprivation of liberty or by concealment of the fate or whereabouts of the disappeared person, which place such a person outside the protection of the law (UNGA, 2006, art. 2).

The distribution of enforced disappearances around the world suggests that they are highly concentrated (see Map 7.2). Although probably an undercount, there appear to be at least 12 countries where such disappearances are frequent (defined as 50 or more cases annually) and another 22 countries where such actions are more occasional (defined as fewer than 49 cases annually).⁷

MAP 7.2 Enforced and involuntary disappearances, 2006

NOTE: Data for Somalia is not available in this map as there was no central political authority in the country in 2006. No information was available for Iran.

SOURCE: Cingranelli and Richards (2008a)

The global magnitude of enforced disappearances remains poorly understood. The Working Group on Enforced or Involuntary Disappearances of the UN Office of the High Commissioner for Human Rights recorded a total of 51,763 cases between 1964 and 2007. At least 41,257 of these cases—some 80 per cent—remain unresolved in 2008 (HRC, 2008b, pp. 104–6). It should be noted, however, that most of these reported incidents occurred before 2000. In Iraq, for example, 15,853 out of 16,517 cases occurred before 1989. In Sri Lanka, 9,443 out of 12,085 cases were recorded in 1989 and 1990.⁸

Indeed, between 2000 and 2007, the Working Group recorded just 1,307 cases, which represent approximately 2.5 per cent of all recorded cases.⁹ While this represents only a small proportion of global enforced disappearances, it provides insight into recent figures of recorded enforced disappearances, and suggests that these have declined from an annual average of about 187 between 2000 and 2003 to 140 between 2004 and 2007 (see Table 7.1). Comparing these to the annual average of 1,442 for the period 1964 to 1999¹⁰ further highlights the dramatic decrease of recorded enforced disappearances.

TABLE 7.1 Recorded cases of enforced or involuntary disappearances, selected countries, 2000–03 and 2004–07

Country	2000–03		2004–07	
	Total cases	Annual average	Total cases	Annual average
Algeria	15	3.75	8	2
Argentina	9	2.25	0	0
China	15	3.75	6	1.5
Colombia	80	20	34	8.5
Ethiopia	0	0	4	1
Guatemala	1	0.25	0	0
Honduras	0	0	2	0.5
India	54	13.5	10	2.5
Indonesia	43	10.75	1	0.25
Iran	1	0.25	2	0.5
Iraq	1	0.25	0	0
Lebanon	3	0.75	0	0
Mexico	16	4	2	0.5
Morocco	1	0.25	0	0
Nepal	307	76.75	153	38.25
Pakistan	6	1.5	31	7.75
Peru	2	0.5	0	0
Philippines	13	3.25	38	9.5
Russian Federation	105	26.25	23	5.75
Sri Lanka	17	4.25	185	46.25
Sudan	54	13.5	61	15.25
Turkey	4	1	0	0
Total/average	747	186.75	560	140

SOURCE: Calculations based on HRC (2008b, pp. 107–20)

Developing a more robust capacity to monitor and track enforced disappearances is a priority, since many cases still go unreported due to factors such as illiteracy, fatalism, fear of reprisal, weaknesses in the policing and judicial system, ineffective reporting channels, or a culture of impunity. These factors do not encourage a victim's kin or family to file a case with local prosecutors, human rights bodies, or ombudspersons, much less with the UN Working Group or other international mechanisms. As in the case of all reported indicators of armed violence, high reporting rates may reveal a higher awareness of reporting practices or a robust surveillance system rather than actual incidence.

Kidnapping

Unlike disappearances, which are ostensibly 'political', kidnapping is primarily criminally motivated. Kidnapping is frequently undertaken by

armed groups or individuals and involves a high degree of coercive force. Although most kidnapping victims are ultimately freed, the physical and psychological consequences are serious and persist long after the event. Pain and suffering extend to the victim's family, who suffer considerable emotional duress during the period of captivity. In certain cases, the relationships between the victims and their families may also alter permanently, depending on the trauma experienced. Similarly, from Colombia and Haiti to the United States and Western Europe, the financial expenditures associated with freeing victims from kidnappers are frequently substantial. These include ransom payments that deplete household savings, lost income due to the protracted detention of income earners, and protection costs of other family members.

Kidnapping rates—like those of extrajudicial killings and disappearances—are notoriously difficult to monitor. While there are no multilateral agencies devoted exclusively to the task, the firm Control Risks has collated a unique global database on kidnapping extending back to 1975 that includes records for more than 35,600 unique kidnapping cases.¹¹ 'Kidnap for ransom' cases are defined by Control Risks as 'the abduction of a person or persons with the intent of their detention in an unknown location until a demand is met'. Further, Control Risks determines that 'cases include political and criminal perpetrators and political or financial demands must be met prior to release of the victim'.¹²

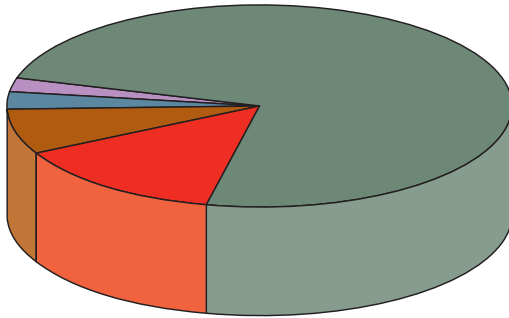
There were at least 1,350 reported cases of kidnapping per year between 1998 and 2002, or some 6,753 cases reported over the entire period. While undoubtedly an undercount, this figure offers insight into the changing patterns and dynamics of kidnapping worldwide. Three-quarters of all kidnap for ransom incidents (74 per cent)

Box 7.4 The burden of kidnapping in Venezuela

Between 1996 and 2006 approximately 1,732 kidnapping events were recorded in Venezuela. Kidnapping progressively shifted from an isolated activity to a well-planned and -organized industry. Gangs devoted to kidnap and ransom usually include 10–20 people who are specialized in activities such as identifying victims, researching their movements, valuing their possessions, carrying out the kidnapping, guarding the victim, and negotiating the ransom.

Kidnapping targets include wealthy male executives but also middle-class businesspeople and children. Middle-class victims tend to be viewed as easier targets, since they usually feel less at risk of kidnapping and do not adopt preventive measures. In the first six months of 2007, 147 kidnappings were registered, of which 20 per cent were foreign nationals. In 36 per cent of these cases, victims were released without ransom, while 20 per cent were rescued by the police. Just 19 per cent were released after payment, and three per cent were ultimately murdered. Only three per cent escaped from their captors, while the remainder are still in captivity.

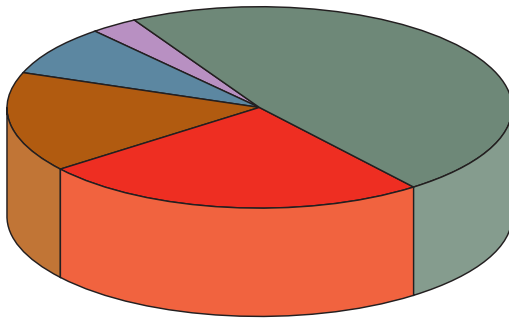
SOURCE: Armour Group (2007)

FIGURE 7.2 Kidnap for ransom cases worldwide, by region, 1998–2002**LEGEND:**

- Latin America (74%)
- Asia (14%)
- Europe and the FSU (7%)
- Africa and the Middle East (3%)
- US, Canada, and the Caribbean (2%)

SOURCE:

Control Risks estimates

FIGURE 7.3 Kidnap for ransom cases worldwide, by region, 2007**LEGEND:**

- Latin America (48%)
- Asia (25%)
- Africa and the Middle East (16%)
- US, Canada, and the Caribbean (8%)
- Europe and the FSU (3%)

SOURCE:

Control Risks estimates

took place in Latin America, another 14 per cent of all reported kidnap for ransom events occurred in Asia, and 7 per cent in Europe and the Former Soviet Union (FSU) (see Figures 7.2 and 7.3 and Tables 7.2 and 7.3).¹³

TABLE 7.2 Kidnap for ransom cases by region, 1998–2002

	1998–2002	Annual average
Latin America	4,997	999
Asia	945	189
Europe and the FSU	473	95
Africa and the Middle East	203	41
US, Canada, and the Caribbean	135	27
Total	6,753	1,350

SOURCE: Control Risks estimates**TABLE 7.3** Kidnap for ransom cases by region, 2007

	2007
Latin America	684
Asia	356
Africa and the Middle East	228
US, Canada, and the Caribbean	114
Europe and the FSU	43
Total	1,425

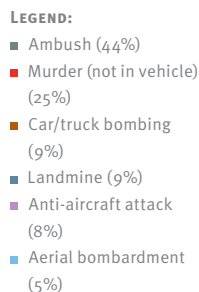
SOURCE: Control Risks estimates

Patterns of kidnapping also appear to be dynamic. In 2007 the global total of recorded kidnap for ransom cases increased slightly to 1,425. Although half of all reported cases occurred in Latin America, there appears to be a growing tendency for kidnapping in Asia and Africa (see Figure 7.3). It appears that the overall decline in Latin America can also be attributed to a general decline in kidnappings in Colombia, despite moderate increases in Mexico and Venezuela. The surge of kidnapping in Afghanistan, Pakistan, India, Iraq, and Nigeria accounts for the growth in other regions. The top ten countries for kidnap for ransom cases in 2007 were Mexico, Venezuela, Nigeria, Pakistan, Colombia, India, Haiti, Afghanistan, Brazil, and Iraq.

Armed violence and aid workers

Aid workers provide humanitarian assistance to millions of people around the world. They are a group specifically exposed to armed violence, because most of their work occurs in conflict or post-conflict environments. In this context, the organizations involved in humanitarian assistance find themselves weighing difficult choices between interrupting life-saving relief activities and safeguarding the security of their staff. Violence against aid workers has captured the attention of the media, and various researchers have set out to develop a better understanding of the dynamics of this type of armed violence.

FIGURE 7.4 Types of fatal attacks against aid workers, 1997–2003



SOURCE:
Fast and Rowley (2008)

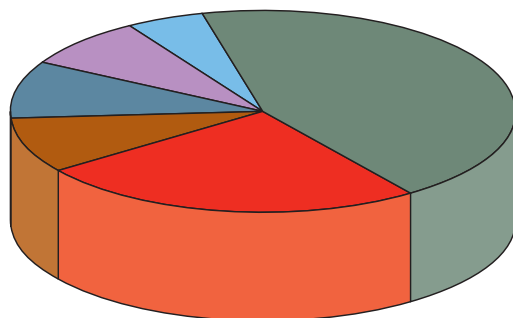
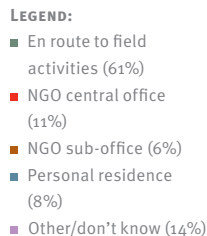
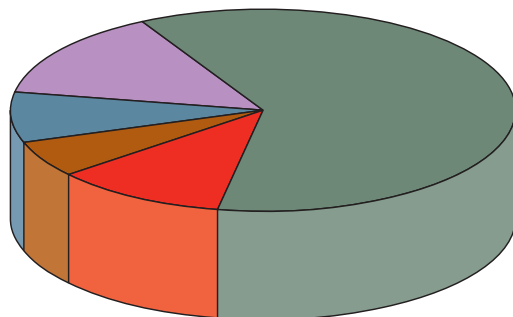


FIGURE 7.5 Location of intentional violence cases against aid workers, 2002–05



SOURCE:
Fast and Rowley (2008)



Intentional armed violence is one of the leading causes of death for aid workers around the world. A recent estimate by researchers at Johns Hopkins University estimated the violent death rate of relief personnel at 60 per 100,000 aid workers per year (Fast and Rowley, 2008). This figure—higher than the intentional homicide rate for almost all countries—shows that aid workers face a high risk of victimization. Although international and local personnel regularly face various threats to their health and well-being, research points to the role of arms availability and misuse as a critical risk factor (Buchanan and Muggah, 2005; Beasley, Buchanan, and Muggah, 2003) (see Figure 7.4).


It is difficult to predict with certainty regional or country-level risks. Nevertheless, it appears that Africa remains the site of most relief worker deaths and injuries. While intentional violence is a threat to aid workers, criminality and other manifestations of routine interpersonal violence also impact on morbidity, stress, and mental health. The most dangerous activity for aid workers is travelling between sites (home and office), while road ambushes—often involving the use weapons—are the most frequently reported type of armed violence (see Figure 7.5). Finally, national (and not international) staff bear the largest brunt of intentional violence, particularly drivers, guards, and those working directly in the field (Fast and Rowley, 2008).

The present evidence base does not necessarily suggest that the overall incidence of intentional violence is increasing, but rather that it has kept pace with the expansion in the number of humanitarian personnel working on the ground. Nevertheless, there is a need to enhance monitoring of these trends in order to develop a better understanding of the risks aid workers face in specific countries. Aid worker deaths have not been fully incorporated into the global cost of

armed violence, since, beyond the direct casualties suffered by aid workers, interruptions to the delivery of assistance have major consequences for conflict-affected populations in terms of their access to food, water, shelter, and other forms of life support. The costs of armed violence against aid workers are therefore high both for those who need the assistance *and* for those who provide it.

Conclusions

The various forms of armed violence reviewed in this chapter warrant special attention, if only because they are often hidden from view. The violence from armed groups and gangs, extrajudicial killings or forced disappearances, kidnappings, and the victimization of aid workers are part of the global burden of armed violence and need to be recognized as such. However, much remains to be done to develop a better understanding of the magnitude and distribution of these types of armed violence.

The forms of armed violence discussed in this chapter do not lend themselves to simple policy interventions. Gang violence, for example, may be met with robust force, or with policies designed to stem recruitment into gangs and erode their economic foundations. Few policies, either forceful or preventative, have been systematically tested. Similarly, responding to extrajudicial killings is often complicated by competing accounts of the circumstances that led to the killing of an individual or group. But by broadening the optic beyond a simple count of fatalities, the chapter signals how different forms of armed violence generate effects that extend out from victims, to families, households, communities, and society at large. 

Abbreviations

CIRI	Cingranelli–Richards (Human Rights Data Project)
DRC	Democratic Republic of the Congo
FSU	Former Soviet Union
GBV	gender-based violence

Endnotes

- 1 See, for example, Marchal (2006); Esser (2004); Rodgers (2004); Hillier, Greene, and Gesyllas (2000).
- 2 The legal doctrine on extrajudicial killings is based on the ‘right to life’ as enshrined in the 1948 Universal Declaration of Human Rights and the 1966 International Covenant on Civil and Political Rights. In 1982 the UNOHCHR underlined that states are required to prevent and punish deprivation of life by criminal acts, as well as by killings committed by their own security forces (UNOHCHR, 1982, para. 3). In 1982 the UN Commission on Human Rights established a special rapporteur on extrajudicial, arbitrary and summary executions with a mandate to investigate situations of extrajudicial killings around the world by holding governments to account when state agents were responsible for killings, or when the state has not done everything in its power to prevent or respond to killings committed by others. Article 4 of the 1989 Principles on the Effective Prevention and Investigation of Extra-legal, Arbitrary, and Summary Executions further enshrines the protection of the right to life.
- 3 Thresholds were determined from the CIRI database. In cases without numerical estimates, categorization relies on the wording within the reports. In cases where extrajudicial killings occur frequently, language describing the violations includes adjectives such as ‘gross’, ‘widespread’, ‘systematic’, ‘epidemic’, ‘extensive’, ‘wholesale’, ‘routine’, or ‘regularly’. In cases in which extrajudicial killings occur occasionally, adjectives include ‘numerous’, ‘many’, or ‘various’ (Cingranelli and Richards, 2008b, pp. 7–10).
- 4 Countries in which extrajudicial killings occur frequently include Algeria, Bangladesh, Brazil, Burundi, Cambodia, Central African Republic, Chad, China, Colombia, Democratic People’s Republic of Korea, DRC, Côte d’Ivoire, Dominican Republic, India, Iran, Iraq, Israel, Jamaica, Kenya, Mexico, Myanmar, Nepal, Nigeria, Pakistan, Philippines, South Africa, Sri Lanka, Sudan, Thailand, Uganda, and Venezuela.

- 5 Countries in which extrajudicial killings occur occasionally include Afghanistan, Angola, Argentina, Azerbaijan, Bahamas, Barbados, Bolivia, Botswana, Burkina Faso, Cameroon, Canada, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Georgia, Ghana, Guatemala, Guinea, Guyana, Haiti, Honduras, Indonesia, Jordan, Kazakhstan, Kyrgyz Republic, Laos, Lesotho, Liberia, Libya, Madagascar, Malawi, Malaysia, Mauritius, Mongolia, Morocco, Mozambique, Namibia, Nicaragua, Niger, Papua New Guinea, Paraguay, Peru, Portugal, Republic of the Congo, Romania, Russian Federation, Rwanda, Saint Lucia, São Tomé and Príncipe, Saudi Arabia, Senegal, Sierra Leone, Suriname, Swaziland, Syria, Tajikistan, Tanzania, Timor-Leste, Togo, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, United States, Vietnam, Yemen, Zambia, and Zimbabwe.
- 6 The Rome Statute of the International Criminal Court is an exception, since it makes reference to political groups as potential perpetrators and to 'the intention of removing [the victim] from the protection of the law for a prolonged period of time'.
- 7 This information is based on the CIRI Human Rights database, which codes annual reports from the US State Department and Amnesty International (Cingranelli and Richards, 2008b, pp. 13–17). Countries in which disappearances occur frequently include Bangladesh, Colombia, Democratic People's Republic of Korea, Ethiopia, India, Iraq, Myanmar, Pakistan, Philippines, Russian Federation, Sri Lanka, and Thailand. Countries in which disappearances occur occasionally include Algeria, Argentina, Azerbaijan, Brazil, Burundi, Chad, China, DRC, Côte d'Ivoire, Eritrea, Gambia, Honduras, Mexico, Nepal, Paraguay, Sudan, Syria, Togo, Uganda, Uzbekistan, Venezuela, and Zimbabwe.
- 8 A statistical analysis is presented in the online methodological appendix at <http://www.genevadeclaration.org>.
- 9 This figure is based on counting together all cases from 22 countries presented in Table 7.1 amounting to 1,307 cases and relating them to the total of 51,763 cases as reported in HRC (2008b, pp. 104–6).
- 10 This figure is based on 50,456 recorded enforced disappearances for the 35 years between 1964 and 1999, resulting in an annual average of 1,441.6.
- 11 The kidnapping database is maintained by a team of four analysts who carry out daily searches for such cases worldwide using a variety of sources and who update the database accordingly.
- 12 This is Control Risks' working definition of 'kidnap for ransom' cases (correspondence, 10 June 2008).
- 13 The distribution of this relative weight was stable over the five years. The Former Soviet Union includes the Russian Federation as well as Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.



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