

Lives and Statistics: Are 90% of War Victims Civilians?

Adam Roberts

Throughout the post-Cold War period there has been a widespread view that war has changed radically since the early twentieth century to the point where some 80–90% of war victims are now civilians. This view was reflected in the European Union's European Security Strategy, adopted by the European Council in Brussels in December 2003, which stated as fact that 'since 1990, almost 4 million people have died in wars, 90% of them civilians'.¹ Many other individuals and institutions have made similar statements.

This proposition rightly draws attention to the terrible impact that certain wars have had on civilian populations, but as a generalisation about all wars since 1990 it is based on shaky foundations. A range of sources provide evidence of a lower percentage of civilian casualties in certain recent wars. Moreover, generalising about war in this way is damaging, not least because of the capacity of bad statistics to drive out good and to be believed by international bodies, governments and publics alike. Major controversies such as that over the high figures for Iraqi war deaths published in *The Lancet* in October 2006 serve as a reminder that rigour is needed in the compilation of statistics in this field.

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Problems of assessing civilian war casualties

Generating reliable assessments of casualties of war is a notoriously complex process. Civilian casualties present particular difficulties. One problem is that the attribution of the label 'civilian' is contested in some cases. On the surface, the definition of a civilian, at least in the context of international armed conflicts, is relatively simple: a civilian is any person who does not belong to the armed forces of a party to the conflict and is not among the categories entitled to prisoner-of-war status.² In practice, however, there are debates about whether, say, civilian contractors working with the military, or terrorists, or certain part-time participants in a civil war, should be considered civilians. A more serious problem arises from the variety of ways in which civilians may become casualties. To make effective use of such statistics as there are about civilian casualties of war, it is necessary to be explicit about the criteria for inclusion. All too often, there is a lack of clarity about which of the following categories of civilian casualties are included in any given set of figures:

1. Those killed as a direct effect of war;
2. Those injured as a direct effect of war;
3. Those dying, whether during or after a war, from indirect effects of war such as disease, malnutrition and lawlessness, and who would not have been expected to die at such rates from such causes in the absence of the war;
4. Victims of one-sided violence, such as when states slaughter their own citizens in connection with a war;
5. Victims of rape and other forms of sexual violence in connection with a war;
6. Those uprooted in a war – that is, refugees and Internally Displaced Persons (IDPs);
7. Those who, even after a war is over, die prematurely from injuries sustained in war.

The inclusion of people in each of these categories may be defensible, but needs to be explicit. Each category presents its own methodological problems. In the case of people dying from indirect effects (category 3), much careful work is needed to distinguish between 'expected' and 'excess' levels

of mortality. In the case of victims of sexual crimes (category 5) there could be an argument for including not only direct crimes by combatants, but also 'indirect' crimes due to general social collapse. In the case of those uprooted in war (category 6), the implication that refugees and IDPs always count as war victims is too simple. Some may be fleeing one-sided violence from a repressive state apparatus, natural calamity, or general social breakdown. Moreover, in certain episodes, such as the India–Pakistan War of 1971, the Kosovo War of 1999 and the Afghanistan War of 2001, military campaigns have enabled large numbers of refugees to return home. Indeed, in the 1971 and 1999 wars, refugee return was a stated reason for launching hostilities. Yet this key observation finds remarkably little reflection in the literature about the casualties of contemporary war. A focus on the numbers of those uprooted in war is especially problematic as those who are trapped in conflict zones may in fact be worse off than those uprooted, but seldom feature in statistics. Figures for war deaths and for war-related migration should be presented separately, not amalgamated.

How to find reliable statistics? This can be a difficult task. As Milton Leitenberg, a veteran specialist in military statistics, has observed, governments may distort or conceal figures, and in some cases information may be genuinely hard to obtain.³ Moreover, estimates can differ greatly due to different criteria, to decisions about which wars – and which periods and parts thereof – are considered, and to different methodologies of data collection. The latter can include use of census data, media reports, official records of injuries and deaths, and records of surgical activities. Where, as in some contemporary conflicts, registration systems are incomplete or non-existent, or records have been destroyed, the generation of statistics may require the use of a range of sampling methods as used, for example, in epidemiological and demographic studies.

The most common such method is cross-sectional sample surveys of war-affected populations. This widely used approach has several merits, including the fact that the survey questionnaire can record data on other health outcomes, such as levels of nutrition. The various forms, strengths

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and weaknesses of sample surveys of crisis-affected populations have been noted in a number of studies, including some with a particular focus on civilian casualties in war.⁴ Although in some instances they are the best available method, sample surveys need to be conducted to high professional standards to ensure that sampling processes provide accurate and reliable data. It is crucial, for example, to ensure that surveys are representative of the population of interest, especially when (as is often the case) the effects of war are varied both between and within different regions of a country.

Another statistical method is ‘capture–recapture analysis’. This uses multiple information sources to estimate the completeness of reporting, with the aim of making an estimate of total deaths. This method depends on the existence of a range of sources, however, and of common identifiers for each death between the sources. These conditions can be challenging to meet, and such analysis is technically demanding.

The problem of assessing civilian deaths remains difficult. It is especially so when figures for overall mortality are sought, taking into account indirect as well as direct deaths from war. There continues to be much professional discussion of methods of documenting mortality in complex emergencies of all kinds.⁵ In general, despite extensive investigations in many war zones, and significant methodological development, there is still a shortage of reliable data on civilian victims of war.⁶

Origins of the 90% claim

There are several possible origins of the proposition that 90% of victims of modern war are civilians. One is the 1991 report on *Casualties of Conflict* prepared by the Department of Peace and Conflict Research at Uppsala University. This contained a table showing figures for deaths and refugees/IDPs since the start of 36 major armed conflicts said to be ongoing in 1988–89, which was summarised as follows:

Table 3 shows that over five million people were killed in the major armed conflicts active at least once between 1988–1989. Of these five million fatalities, about 4.4 million—or almost 90%—died in internal armed conflicts. The total number of victims amounts to at least 32 million people.

Three out of four deaths are civilian in the conflict locations where distribution of civilian and military deaths is listed (i.e. 13 locations, covering about 50 per cent of all deaths).

For the other 23 locations with no available figures, a 'conservative' assumption (lower than in the 13 locations) of an equal distribution between civilian and military deaths can be made.

This gives the result that nine out of ten of all victims (dead and uprooted) are civilian.⁷

Five observations can be made regarding these statements. Firstly, the number of deaths in the armed conflicts as shown in the table adds up to over six million, not five million. Secondly, the figure for deaths covers the entire duration of certain long-running armed conflicts that were said to be continuing in 1988–89. Yet many of these conflicts, including the one in Cambodia, were winding down by 1988–89. A figure for deaths in 1989 alone is given elsewhere in the report as 'at least 50,000'.⁸ This is up to 100 times lower than the five million figure provided in the table summary. Thirdly, the claim that, in 13 ongoing armed conflicts, three out of four deaths were civilians is based on figures for deaths in these armed conflicts that are evidently estimates.⁹ Fourthly, the assumption of an equal distribution of military and civilian deaths in the other conflicts is just that: an assumption. Finally, the amalgamation of all victims into a global total of 32 million people is particularly questionable. If those uprooted are excluded, the figures in the report would lead to a conclusion that just over 60% of deaths in these wars were civilians. The inclusion of all those uprooted significantly changes the civilian to military ratio: indeed, it would actually change it to a higher figure than the 'nine out of ten' figure cited.

It was over the inclusion of uprooted persons that the greatest misunderstanding appears to have occurred. The back cover of *Casualties of Conflict* stated in large type: 'Nine out of ten victims of war and armed conflict today are civilians'. The omission here of any reference to the uprooted meant that the statement could be misinterpreted as referring only to the dead or injured, as distinct from those uprooted.¹⁰

A second origin of the 90% proposition appears to have been the section on deaths in war in Ruth Leger Sivard's annual compilation on *World Military and Social Expenditures*. Even before 1989, Sivard's figures had often been cited by authors concerned about what they saw as a trend toward ever higher civilian casualties in war.¹¹ In the 1991 issue she stated that 'in the decade of the 1980s, the proportion of civilian deaths jumped to 74 percent of the total and in 1990 it appears to have been close to 90 percent'.¹² Sivard's figures for war-related deaths, which include victims of war-related famines, appear to be guesstimates, whose sources and methodology are far from clear, especially as there appear to be no global data on deaths caused by war-related famine.¹³

The proposition gains traction

On the basis of such statements, the idea that up to 90% of the victims of recent and ongoing wars were civilians gradually gained traction. *Casualties of War* was cited to this effect in the 1991 *SIPRI Yearbook*.¹⁴ Terrible events such as those in Rwanda in 1994 and at Srebrenica, Bosnia, in 1995 lent credibility to the claim. In 1996 a UNICEF report stated: 'In recent decades, the proportion of war victims who are civilians has leaped dramatically from 5 per cent to over 90 per cent'.¹⁵ The UN Development Programme stated in its *Human Development Report 1998*: 'Civilian fatalities have climbed from 5% of war-related deaths at the turn of the century to more than 90% in the wars of the 1990s'.¹⁶ No source for these statements was cited in either report. UN Secretary-General Kofi Annan said more cautiously in 1999 that 'in many of today's conflicts civilians have become the main targets of violence. It is now conventional to put the proportion of civilian casualties somewhere in the region of 75 per cent.'¹⁷

From 1997 onwards a number of publications from academic institutions offered similar generalisations. Dan Smith, Director of the International Peace Research Institute in Oslo, claimed that three-quarters of war deaths in the first half of the 1990s were civilians. He offered no detailed breakdown to back up this assertion, however, and also urged caution regarding data on war deaths.¹⁸ In a 1997 essay on new wars, Mary Kaldor of Sussex University wrote that in the post-Cold War period 'the nature of wars has

changed. Overall casualties and direct participation in wars tend to be lower, but the ratio of civilian to military casualties appears to have risen quite dramatically.¹⁹ This claim was backed up with a table containing some figures for battle-related deaths, but there was no detailed breakdown, and Kaldor stated that as regards the ratio of civilian deaths 'other estimates are lower'.²⁰ In her 1999 book *New and Old Wars*, she spelt out at greater length her view of the 'new wars' of the post-Cold War period, claiming that in many cases, belligerent parties sought to mobilise extremist politics based on fear and hatred, leading to expulsions, mass killings and intimidation. In short, the civilian was not merely the accidental casualty in such wars, but the intended victim. She stated:

At the turn of the twentieth century, the ratio of military to civilian casualties in wars was 8:1. Today, this has been almost exactly reversed; in the wars of the 1990s, the ratio of military to civilian casualties is approximately 1:8. Behaviour that was proscribed according to the classical rules of warfare and codified in the laws of war in the late nineteenth century and early twentieth century, such as atrocities against non-combatants, sieges, destruction of historic monuments, etc., now constitutes an essential component of the strategies of the new mode of warfare.²¹

She went on to state that this pattern of warfare was 'confirmed by the statistics':

The tendency to avoid battle and to direct most violence against civilians is evidenced by the dramatic increase in the ratio of civilian to military casualties. At the beginning of the twentieth century, 85–90 per cent of casualties in war were military. In World War II, approximately half of all war deaths were civilian. By the late 1990s, the proportions of a hundred years ago have been almost exactly reversed, so that nowadays approximately 80 per cent of all casualties in wars are civilian.²²

Kaldor's general view of contemporary wars, and her implied assumption that most earlier wars were direct struggles between military forces, has

been criticised,²³ but there has been less focus on the statistical generalisations that form part of her analysis.

Figures similar to those offered by Kaldor have appeared in numerous other publications and reports in the last ten years. A characteristic example can be found in a 2003 statement by Randolph Martin, the former senior director for operations of the New York-based International Rescue Committee, who said that

civilian population displacement and casualties have increasingly become the purpose rather than a by-product of war. Civilian casualties of war have increased from 10 percent in the nineteenth century, to 50 percent in the Second World War, to anywhere between 75 and 90 percent in contemporary conflicts. Since 1980, the number of refugees has increased from 2.4 million to 14.4 million, while internally displaced persons have increased from 22 million to 38 million.²⁴

Also in 2003, the Oxford economist Paul Collier stated in a World Bank research report that, taking fatalities and population displacements together, in modern civil wars ‘nearly 90 percent of the casualties resulting from armed conflict were civilian’.²⁵ That same year, as noted above, the European Union’s European Security Strategy stated that since 1990, 90% of deaths in war were civilians. It is remarkable that none of the 15 governments comprising the EU at that time appears to have questioned this statement, to which they collectively subscribed.

Doubts creep in

The fact that such figures have appeared in so many places does not make them true. There were inconsistencies between them as to whether they referred only to deaths, or also encompassed injured and displaced people. Even though injuries had not always featured in ‘nine out of ten’ claims, the issue received some scrutiny. In 1999, a publication of the International Committee of the Red Cross (ICRC), on the basis of its own surgical records, questioned figures suggesting that 80–90% of those injured in war were civilians, and commented that ‘these estimates are almost always provided with

no indication of how they have been arrived at'.²⁶ Some broader surveys, taking into account a wide range of effects of war, also raised doubts. In 2002 an article by four officials of the World Health Organisation and one well-known academic specialist in public-health issues addressed the adverse consequences of war for civilians, including not just 'deaths and injuries on the battlefield, but also health consequences from the displacement of populations, the breakdown of health and social services, and the heightened risk of disease transmission'. Their conclusion on the specific subject of direct civilian deaths from war was cautious. Analysing certain conflicts in the year 2000, they stated that 'for every one military death there is at least one direct civilian death'.²⁷

The *Human Security Report 2005* cast doubt on the theory that there had been a general increase in the ratio of civilian to military deaths. Claiming to be 'the most comprehensive annual survey of trends in warfare, genocide, and human rights abuses', the report suggested that, after nearly five decades of increase, the number of genocides and violent conflicts had dropped rapidly in the aftermath of the Cold War. It stated that wars had become not only less frequent, but also less deadly.²⁸ It even went so far as to say that 9:1 civilian–military death ratios, far from being based on hard statistics, had become an 'urban myth' of contemporary warfare.²⁹

Some of the conclusions in *Human Security Report 2005* have been challenged. Milton Leitenberg, while not taking issue with the report's criticisms of the 9:1 ratio, did question its claim that 'all forms of political violence, except international terrorism, have declined worldwide since the early 1990s'.³⁰ Similarly, Ziad Obermeyer and two other proponents of survey-based estimation methodologies, in a statistical analysis of casualties of war drawing on household surveys in post-conflict countries, questioned the proposition that 'the number of deaths related to war has declined consistently since the mid-20th century and that recent wars have killed relatively few people'.³¹ Their article was criticised in turn by four academics who supported the proposition that there had been a decline in war deaths since the 1950s, and who defended the (comparatively lower) figures for casualties that had been compiled (mostly by collating reports on fatalities from

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a wide variety of sources) by the International Peace Research Institute in Oslo.³² Obermeyer's methodology and conclusions were also criticised by specialists on the wars in the former Yugoslavia.³³ But none of these articles explicitly addressed the question of civilian–military death ratios. Thus they contained no challenge to the statements in *Human Security Report 2005* suggesting that the 9:1 ratio was an 'urban myth'.

Evidence from particular wars

The main ground for scepticism about generalised claims of an 8:1 or 9:1 civilian–military casualty ratio is that evidence from particular wars, while highly varied, suggests a lower figure. A few examples, focusing on death rates, follow.

Bosnia-Herzegovina, 1991–95

The 1991–95 war in Bosnia-Herzegovina, often seen as archetypal of the 'new wars', is a case in point. Research based on counting the number of individuals who died or disappeared as a direct result of the war indicates that the proportion of civilian to military casualties does not even approach 8:1. In 2007 a team in Sarajevo produced a figure for war-related deaths of 97,207 (which it called 'an approximation of a minimum'), of which 39,684 (41%) were civilians and 57,523 (59%) were soldiers. (The team did state that its methodology may have resulted in some over-representation of soldiers and under-representation of civilians.³⁴) In 2010 a summary of the extensive work of the Demographic Unit of the International Criminal Tribunal for the former Yugoslavia (ICTY), using the capture–recapture method of statistical analysis, concluded with an estimate for war-related deaths of 104,732, of which 42,106 (40%) were civilian and 62,626 (60%) were military.³⁵

Iraq from 2003

The different estimates of deaths of Iraqis following the 2003 invasion illustrate the difficulties that can arise in any search for definitive figures for civilian casualties. The Iraq Body Count, which emphasises that, because only known cases have been counted, its figures are underestimates, lists 48,400 Iraqi civilian deaths from violence between March 2003 and June 2006

(a period used here for purposes of comparison).³⁶ The Brookings Institution Iraq Index, which uses data from the Iraq Body Count and certain other sources, and which has slightly different methodological assumptions, provides figures indicating that 58,700 Iraqi civilian deaths were caused by acts of war and other violent means in the same period.³⁷ Both of these numbers are broadly in line with an investigation published in the *Los Angeles Times* in June 2006, based on death-certificate and other official data, and showing an overall figure of about 50,000 Iraqi deaths (including some security forces and insurgents) for roughly the same period.³⁸

Studies based on household surveys (and which include both combatants and civilians) have resulted in higher figures for deaths in Iraq in the same 40-month period. One of these, suggesting an extraordinarily high figure, attracted worldwide attention. In *The Lancet* in October 2006 Dr Gilbert Burnham, a faculty member at the Johns Hopkins Bloomberg School of Public Health, along with several colleagues, estimated that there had been approximately 600,000 violent Iraqi deaths.³⁹ Questions were promptly raised about the methodology on which this figure was based.⁴⁰ In February 2009, the American Association for Public Opinion Research announced that Burnham had violated the Association's Code of Professional Ethics and Practices in his 2006 Iraq survey, in particular by refusing to answer basic questions about how the research was conducted; and subsequently there has been further detailed criticism of the methodology and conclusions of both the *Lancet* article and one other survey suggesting an improbably high figure.⁴¹ Meanwhile, a lower estimate of 151,000 violence-related deaths (both civilians and combatants) in Iraq in the same period was given in 2008 by the Iraq Family Health Survey Study Group (IFHS), which had conducted a much larger and more rigorous survey.⁴²

What then is the ratio of civilian to military deaths in Iraq? If the figures in *The Lancet* are taken at face value, they suggest a ratio of more than 10:1. The figures in the IFHS survey would suggest a ratio of something closer to 5:1.⁴³ If the Iraq Body Count figures are used as a basis for analysis, the ratio of direct civilian to military deaths is roughly 3:1.⁴⁴ Of course, none of these ratios establish a general pattern across all wars, and even the lowest figure is a cause for great concern.

Other conflicts

It is clearly not possible to claim that all contemporary conflicts have anything close to a 9:1 ratio of civilian to military deaths. For example, although the civil war in Sri Lanka in 1983–2009 had terrible consequences for civilians, it almost certainly involved the deaths of more combatants than civilians.⁴⁵ Similarly, the long-running war in Colombia involved lower monthly averages for civilian versus military deaths for five different time periods between 1988 and 2003.⁴⁶

It is possible, however, that some conflict situations have something close to a 9:1 ratio. Two likely cases are the government-supported mass killings in Cambodia in 1975–79,⁴⁷ and in Rwanda in 1994,⁴⁸ both of which occurred in the context of recent or ongoing wars. Civilian–military death ratios, although not known precisely, are also likely to be high in certain other conflicts, especially in Africa: candidates include conflicts in the Democratic Republic of the Congo since 1996,⁴⁹ in Northern Uganda from 1986 onwards;⁵⁰ and in Darfur since 2003.⁵¹ None of the surveys cited here examining these three conflicts specifically compare civilian and military deaths, but the figures they offer could be consistent with high civilian–combatant death ratios. This is particularly so because all three surveys take into account deaths that are indirect as well as direct consequences of war. The high figures that they show for indirect deaths can be explained by certain features of the countries in which the conflicts are occurring, including weak health systems, high pre-existing burden of disease, widespread poverty, great potential for food insecurity, and demographic profiles with a high proportion of infants and children vulnerable to death from disease and malnutrition. These special features may help to explain the plausibility of general statements about high civilian–combatant death ratios in modern war. Worryingly, these recent and ongoing wars in Africa are perhaps now more typical of the wars of the post-Cold War world than was, say, the war in Bosnia-Herzegovina.

Signs of improvement

The *Human Security Report 2009*, while not returning directly to the matter of civilian–military ratios, presented evidence that deaths from war-exacerbated disease and malnutrition have declined. It even argued, paradoxically and

controversially, that nationwide mortality rates (or at least those of under-fives, on which it has the most evidence) actually fall during most wars, the suggestion being that mortality rates are falling anyway in some of the countries concerned; and wars, which are often highly localised, may slow rather than reverse this process. An obvious criticism of the report is that, even if national mortality rates are declining, the key population affected may present a very different picture, with emergency-level mortality rates. The authors do not deny the 'overwhelming evidence that conflict-exacerbated disease and hunger leads to sharply increased death tolls in war zones and among conflict-displaced populations'. They see humanitarian assistance as 'an important factor in reducing the incidence of indirect war deaths, which in turn reduces the impact of war on nationwide mortality rates'.⁵²

There is some modest evidence of actual improvement in the position of civilians in recent years in relation to particular threats. For example, there has been a decline in the numbers of victims of anti-personnel landmines. Worldwide, the majority of landmine victims have consistently been civilians. Casualties in 2007 appear to be significantly fewer than they were in each of the years 1999–2003, when they were more than 8,000 per year. However, they are still high: in 2007, in 78 countries and areas, there were 5,426 recorded casualties from mines, explosive remnants of war and victim-activated improvised explosive devices, including 1,401 people killed and 3,939 injured (the status of 86 victims was unknown).⁵³ In 2008, according to the International Campaign to Ban Landmines (ICBL), in 75 countries and areas there were 5,197 casualties, of whom 1,266 were killed and 3,893 injured (with 40 unknowns).⁵⁴ What are the causes of this overall pattern of reduction in the number of casualties of landmines? The answers probably vary in different countries and regions. They may well include the signing of international anti-landmine conventions, a consequent reduction in the numbers of anti-personnel mines both on the market and in use, and the extensive humanitarian demining programmes of recent years. They could also reflect a decline in the number or scale of wars. Whatever the causes, it appears to be a fact that the hazard posed by anti-personnel landmines has been reduced, and many civilian lives saved.

There are serious flaws not only in generalisations about 8:1 or 9:1 ratios in contemporary wars, but also in some of the historical assumptions accompanying them. The suggestion that there was a much better era for civilians in earlier wars, based on agreed standards encoded in laws of war, is misleading. Many wars of the late nineteenth and early twentieth centuries involved systematic assaults on civilians. Moreover, the suggestion that siege warfare, which has always had terrible implications for civilians, was addressed at all adequately in the laws of war before certain legal advances in 1949 and 1977 is wide of the mark. Many sieges proved extremely costly

in terms of civilian lives lost. The civilian is indeed under extreme threat in war today, but the story is not all one of descent from the supposed moderation of classical war to the allegedly heightened extremism of new war.

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If generalisations about 8:1 or 9:1 ratios are problematic, what replaces them? The entire exercise of seeking universal civilian–military casualty ratios is flawed. To build up a more accurate picture, there is a need to focus on actual

wars; to recognise achievements in protecting civilians and to criticise violations; to call for more systematic recording on casualties; to support high standards of rigour and professionalism in this work; and to address the admittedly difficult question of whether parties involved in armed conflicts are now, or should in future be, under an obligation to report on numbers and possibly even names of civilian casualties, or whether the task should be left to independent bodies.⁵⁵

What have been the effects of the proposition that 90% of war victims are civilians? It was always unlikely to lead to a positive and energetic response because of the well-known and troubling phenomenon that ‘people generally exhibit a diminishing sensitivity to the number of human fatalities’.⁵⁶ Indeed, it is likely that the proposition has had three negative effects. Firstly, it has not merely reflected, but also perpetuated, a misleadingly homogenised view of contemporary wars, when in reality each of them (and even each party to them) is unique in its character and in its consequences for civilians. Secondly, it has obscured significant achievements in civilian protection resulting from actions by states, international organisations and

non-governmental organisations (NGOs). And thirdly, it has diverted attention from substantial issues to disputes about numbers and methodologies. As a team at Geneva University stated in 2002 with specific reference to the dangers of small arms, 'figures are often cited without any empirical foundation. For example, are 90 per cent of small arms-related casualties in conflict really civilians, as many UN agencies and humanitarian NGOs claim? ... Though potentially useful for advocacy purposes, loose approximations can unintentionally and detrimentally reorient debates from substance to credibility.'⁵⁷

When it was enunciated in 1991, the 'nine out of ten' generalisation was intended to alert the world to the importance of protecting civilians. The worry is that, by reinforcing cynicism about efforts to limit the human costs of war, it may have had the opposite effect.

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Notes

- 1 Javier Solana, EU High Representative for Common Foreign and Security Policy, *A Secure Europe in a Better World: European Security Strategy* (Paris: European Union Institute for Security Studies, 2003), p. 5, <http://www.iss.europa.eu/uploads/media/solanae.pdf>. This document, proposed by Javier Solana, was adopted by the Heads of State and Government at the European Council in Brussels on 12 December 2003.
- 2 See the 1949 Geneva Convention IV, Article 4; and the 1977 Geneva Protocol I, Article 50.
- 3 Milton Leitenberg, *Death in Wars and Conflicts in the 20th Century*, 3rd ed., Occasional Paper 29 (Ithaca, NY: Cornell University Peace Studies Program, 2006), pp. 3–5.
- 4 See Francesco Checchi and Les Roberts, 'Documenting Mortality in Crises: What Keeps Us From Doing Better?', *PLoS Medicine*, vol. 5, no. 7,

- July 2008, <http://www.plosmedicine.org/article/info:doi/10.1371/journal.pmed.0050146>; and Francesco Checchi, 'Comment: Estimating the Number of Civilian Deaths from Armed Conflicts', *The Lancet*, vol. 375, no. 9711, 23 January 2010, pp. 255–7.
- 5 See, for example, the online journal *Conflict and Health*, including materials from a conference in Brussels on 6–7 November 2008 on documenting mortality in complex emergencies, <http://www.conflictandhealth.com/content/3/1/2>. See also the thematic series 'Methods for Health Surveys in Difficult Settings' in the online journal *Emerging Themes in Epidemiology*, <http://www.ete-online.com/content/4/1/13>.
 - 6 On the thinness of data on civilian victims of contemporary wars see Michael Brzoska, 'Collective Violence Beyond the Standard Definition of Armed Conflict', *SIPRI Yearbook 2007* (Oxford: Oxford University Press, 2007), pp. 94–106.
 - 7 Christer Ahlström, with contributions by Kjell-Åke Nordquist, *Casualties of Conflict: Report for the World Campaign for the Protection of Victims of War* (Uppsala: Department of Peace and Conflict Research, 1991), p. 19. Note their caveats on p. 17 about difficulties of data collection in conflicts.
 - 8 *Ibid.*, p. 1.
 - 9 The main sources cited for figures on deaths in war are two articles by Karin Lindgren and colleagues: 'Major Armed Conflicts in 1988', *SIPRI Yearbook 1989* (Oxford: Oxford University Press, 1989), pp. 339–55; and 'Major Armed Conflicts in 1989', *SIPRI Yearbook 1990* (Oxford: Oxford University Press, 1990), pp. 393–419.
 - 10 This problem was noted in an article by Kristine Eck of the Department of Peace and Conflict Research, Uppsala University, called 'The "Urban Myth" About Civilian War Deaths', in Human Security Report Project at the Human Security Centre, Liu Institute for Global Issues, University of British Columbia, *The Human Security Report 2005* (Oxford: Oxford University Press, 2005), Part II, p. 75, available at <http://www.humansecurityreport.org>.
 - 11 See, for example, Alex P. Schmid, *Research on Gross Human Rights Violations*, 2nd ed. (Leiden: Center for the Study of Social Conflicts, 1989), p. 65.
 - 12 Ruth Leger Sivard, *World Military and Social Expenditures 1991* (Washington DC: World Priorities, 1991), p. 20. On her methodology see Sivard, *World Military and Social Expenditures 1993*, pp. 20–2.
 - 13 *The Human Security Report 2005*, p. 75.
 - 14 Karin Lindgren, Birger Heldt, Kjell-Åke Nordquist and Peter Wallensteen, 'Major Armed Conflicts in 1990', *SIPRI Yearbook 1991* (Oxford: Oxford University Press, 1991), p. 349.
 - 15 Graça Machel, 'Impact of Armed Conflict on Children', UN doc. A/51/306, 26 August 1996, para. 24, <http://www.unicef.org/graca/graright.htm>.
 - 16 United Nations Development Programme (UNDP), *Human Development Report 1998: Consumption for Human Development* (New York: UNDP, 1998), p. 35, available at <http://hdr.undp.org/en/reports/global/hdr1998>.
 - 17 Kofi Annan, 'Intervention', Ditchley Foundation Lecture, 26 June 1998,

- <http://www.ditchley.co.uk/page/173/lecture-xxxv.htm>.
- 18 Dan Smith, *The State of War and Peace Atlas* (London: Penguin Books, 1997), pp. 14, 24–5, 100.
 - 19 Mary Kaldor, 'Introduction', in Kaldor and Basker Vashee (eds), *Restructuring the Global Military Sector*, vol. 1, *New Wars* (London: Pinter, 1997), p. 8.
 - 20 *Ibid.*, p. 9. The only sources she cites for the information in the table are Smith, *State of War and Peace Atlas*; and Ruth Leger Sivard, *World Military and Social Expenditures 1996* (Washington DC: World Priorities, 1996).
 - 21 Mary Kaldor, *New and Old Wars: Organized Violence in a Global Era* (Cambridge: Polity Press, 1999), p. 8. This passage is unchanged in the second edition (Cambridge: Polity Press, 2006, p. 9).
 - 22 *Ibid.*, p. 100, and unchanged in the second edition, p. 107. In a footnote in both editions she cites two sources for this claim: for the earlier figures, she cites Smith, *State of War and Peace Atlas*; while the figure for the 1990s is said to be her 'own calculation', citing her 'Introduction' to Kaldor and Vashee, *Restructuring the Global Military Sector*. In June 2009 she advised the present author that in the figures cited there was no distinction drawn between direct and indirect casualties, and that there was generally a shortage of proper statistics in the field.
 - 23 See, for example, Stathis Kalyvas, "'New" and "Old" Civil Wars: A Valid Distinction?', *World Politics*, vol. 54, no. 1, October 2001, pp. 99–118.
 - 24 Randolph Martin, 'An Introduction to NGO Field Security', in Kevin M. Cahill (ed.), *Emergency Relief Operations* (New York: Fordham University Press, 2003), p. 227. While sources are given for numbers of refugees and IDPs, none are cited for the general proposition about the increase in civilian casualties.
 - 25 Paul Collier et al., *Breaking the Conflict Trap: Civil War and Development Policy* (Washington DC: World Bank, 2003), p. 17.
 - 26 International Committee of the Red Cross, *Arms Availability and the Situation of Civilians in Armed Conflict: A Study Presented by the ICRC* (Geneva: ICRC, 1999), pp. 3–4, <http://www.icrc.org/web/eng/siteeng.nsf/html/po734>.
 - 27 C.J.L. Murray, G. King, A.D. Lopez, N. Tomijima and E.G. Krug, 'Armed Conflict as a Public Health Problem', *BMJ*, vol. 324, no. 7333, 9 February 2002, pp. 346–9, <http://www.bmj.com/cgi/content/extract/324/7333/346>.
 - 28 *Human Security Report 2005*, pp. 15–16.
 - 29 Eck, 'The "Urban Myth" About Civilian War Deaths', p. 75.
 - 30 Leitenberg, *Death in Wars and Conflicts in the 20th Century*, pp. 6–8.
 - 31 Ziad Obermeyer, Christopher J.L. Murray and Emmanuela Gakidou, 'Fifty Years of Violent War Deaths from Vietnam to Bosnia: Analysis of Data from the World Health Survey Programme', *BMJ*, vol. 336, no. 7659, 2008, pp. 1482–6, <http://www.bmj.com/cgi/reprint/336/7659/1482>. In comparing casualties of post-Cold War conflicts with those in earlier periods, the study omitted consideration of certain major wars, including the Iran–Iraq War of 1980–88.
 - 32 Michael Spagat, Andrew Mack, Tara Cooper and Joakim Kreutz, 'Estimating War Deaths: An Area

- of Contestation', *Journal of Conflict Resolution*, vol. 53, no. 6, December 2009, pp. 934–50, http://www.hsr-group.org/images/stories/Documents/JCR_EstimatingWarDeaths.pdf.
- ³³ Jan Zwierzchowski and Ewa Tabeau, 'The 1992–95 War in Bosnia and Herzegovina: Census-based Multiple System Estimation of Casualties' Undercount', paper for International Research Workshop on 'The Global Economic Costs of Conflict', Berlin, 1–2 February 2010, pp. 1 and 18–21, http://www.diw.de/sixcms/detail.php?id=diw_01.c.338475.en.
- ³⁴ Figures from the 2007 report are available at the Bosnian-language website of the Research and Documentation Centre, Sarajevo, <http://www.idc.org.ba>. Follow the links to 'Ljudski gubici u BiH 1991–1995' and 'Bosna i Hercegovina'; PowerPoint slide 4 provides summaries of the statistics. (The Centre's research on Bosnian war casualties was previously available in English at <http://www.idc.org.ba/presentation/index.htm>.) The executive summary of the team's report contained several notes of caution about the statistics. For a useful short account, see 'Justice Report: Bosnia's Book of the Dead', Balkan Investigative Reporting Network, 21 June 2007, <http://www.birn.eu.com/en/88/10/3377/>.
- ³⁵ Zwierzchowski and Tabeau, 'The 1992–95 War in Bosnia and Herzegovina: Census-based Multiple System Estimation of Casualties' Undercount', p. 16, Table 5b. See also the earlier ICTY estimate in Ewa Tabeau and Jakub Bijak, 'War-related Deaths in the 1992–1995 Armed Conflicts in Bosnia and Herzegovina: A Critique of Previous Estimates and Recent Results', *European Journal of Population*, vol. 21, nos 2–3, June 2005, p. 207.
- ³⁶ Figures available at the Iraq Body Count website, <http://www.iraqbodycount.org/database/>.
- ³⁷ Figures available at Brookings Institution's Iraq Index website, <http://www.brookings.edu/saban/iraq-index.aspx>.
- ³⁸ Louise Roug and Doug Smith, 'War's Iraqi Death Toll Tops 50,000', *Los Angeles Times*, 25 June 2006, <http://articles.latimes.com/2006/jun/25/world/fg-deathtoll25>. The report indicated that the total was probably an underestimate because of certain lapses in the recording of deaths in Iraq.
- ³⁹ Gilbert Burnham, Riyadh Lafta, Shannon Doocy and Les Roberts, 'Mortality after the 2003 Invasion of Iraq: A Cross-sectional Cluster Sample Survey', *The Lancet*, vol. 368, no. 9,545, 21 October 2006, pp. 1421–8, <http://brusselstribunal.org/pdf/lancet111006.pdf>.
- ⁴⁰ See, for example, the correspondence, including a reply by the authors, in *The Lancet*, vol. 369, no. 9,556, 13 January 2007, pp. 101–5. For longer critiques see Hamit Dardagan, John Sloboda and Josh Dougherty, 'Reality Checks: Some Responses to the Latest Lancet Estimates', Iraq Body Count Press Release, 16 October 2006, <http://www.iraqbodycount.org/analysis/beyond/reality-checks/>; and Beth Osborne Daponte, 'Wartime Estimates of Iraqi Civilian Casualties', *International Review of the Red Cross*, vol. 89, no. 868, December 2007, pp. 943–57, available at <http://www.icrc>.

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review.

- ⁴¹ Full information about the AAPOR decision to reprimand Burnham is available at http://www.aapor.org/uploads/AAPOR_Press_Releases/BurnhamDetailWebsite.pdf. In recent years, further serious questions have been raised about the methodology and conclusions of the *Lancet* survey. See, for example, Michael Spagat, 'Ethical and Data-integrity Problems in the Second *Lancet* Survey of Mortality in Iraq', *Defence and Peace Economics*, vol. 21, no. 1, February 2010, pp. 1–41. For discussion of a survey by Opinion Research Business, a British firm, published in September 2007 and claiming to show that there had been '1.2 million murders in Iraq' since the US-led invasion in March 2003, see Michael Spagat and Josh Dougherty, 'Conflict Deaths in Iraq: A Methodological Critique of the ORB Survey Estimate', *Survey Research Methods*, vol. 4, no. 1, 2010, pp. 3–15, plus the discussion of the article at pp. 17–19. Both are available at <http://w4.ub.uni-konstanz.de/srm>.
- ⁴² Iraq Family Health Survey Study Group, 'Violence-related Mortality in Iraq from 2002 to 2006', *New England Journal of Medicine*, vol. 358, 31 January 2008, available at www.nejm.org.
- ⁴³ These ratios are merely informed guesses based on an assumption that combatant deaths in Iraq from March 2003 to June 2006 were somewhere between 25,000 and 50,000.
- ⁴⁴ This ratio is based on an estimate of just under 75% civilian casualties contained in calculations by Professor John Sloboda of Iraq Body Count and given to the present author on 8 March 2010. It relates to conflict-related violent deaths in Iraq in the period from June 2003 to August 2007. The period was selected because US Department of Defense figures were available for these months, showing a total of 18,832 insurgents and 4,216 Coalition troops killed. A conservative figure of 5,000 Iraqi Army deaths was assumed, making a total of 28,048 combatant deaths. During this period the number of civilian deaths recorded by Iraq Body Count was 76,699: this total includes 5,448 deaths of regular Iraqi Police, who were all counted as civilians.
- ⁴⁵ On Sri Lanka, estimates of direct deaths in the area of 70,000–100,000 have been given, usually without comparing civilian and military deaths. Useful sources include the 'Latest Timelines' and 'Human Security' sections for Sri Lanka on the IISS *Armed Conflict Database*, available at <http://www.iiss.org/publications/armed-conflict-database/>.
- ⁴⁶ Jorge A. Restrepo and Michael Spagat, 'Colombia's Tipping Point?', *Survival*, vol. 47, no. 2, Summer 2005, p. 140, Table 3.
- ⁴⁷ On Cambodia, an estimate of 1.6–2.2 million deaths is given in Ewa Tabeau and Jan Zwierchowski, 'A New Compilation of Results on Casualties of the 1992–95 War in Bosnia and Herzegovina and 1975–1979 Khmer Rouge Regime in Cambodia', paper presented at a conference on 'Casualty Recording and Estimation', Pittsburgh, Pennsylvania, 23–4 October 2009, p. 28. Although the authors did not specifically com-

pare civilian and military deaths in Cambodia, in the period covered the number of military victims in hostilities was very small compared with the number of victims of regime violence.

⁴⁸ Estimates for the deaths in the Rwanda genocide in 1994 are between 500,000 and just over 1 million, with a figure of 800,000 being widely used. Such estimates do not generally refer to deaths in the civil war hostilities of 1990–94 between the government and the Rwandan Patriotic Front (RPF).

⁴⁹ Benjamin Coghlan et al., *Mortality in the Democratic Republic of Congo: An Ongoing Crisis* (New York: International Rescue Committee, 2008), pp. ii and 16, http://www.theirc.org/sites/default/files/resource-file/2006-7_congoMortalitySurvey.pdf. The survey, conducted from January 2006 to April 2007 and released in January 2008, noted the devastating effect of wars in the Democratic Republic of the Congo (DRC) on the civilian population. It estimated that 5.4m people had died as a consequence of the fighting in the DRC between 1998 and 2007, and that 90% of the victims perished from war-exacerbated disease, malnutrition, or other causes, rather than violence. For an argument that the 5.4m figure is too high, and a critique of the methodology behind it, see Human Security Report Project at the School for International Studies, Simon Fraser University, *Human Security Report 2009: The Shrinking Costs of War*, pp. 4–5 and 36–43, available at <http://www.humansecurityreport.org>.

⁵⁰ See WHO and Uganda Ministry of Health, *Health and Mortality*

Survey Among Internally Displaced Persons in Gulu, Kitgum and Pader Districts, Northern Uganda (Geneva and Kampala: WHO, 2006), <http://www.who.int/hac/crises/uga/sitreps/Ugandamortsurvey.pdf>.

⁵¹ See Olivier Degomme and Debarati Guha-Sapir, 'Patterns of Mortality Rates in Darfur Conflict', *The Lancet*, vol. 375, no. 9711, 23 January 2010, pp. 294–300.

⁵² *Human Security Report 2009*, pp. 15–16, 18, 24.

⁵³ Figures for landmine victims are difficult to determine, as researchers carrying out data collection themselves emphasise. Here I have used those in the editions of *Landmine Monitor Report* for 2003, 2007 and 2008, available on the International Campaign to Ban Landmines website, <http://www.icbl.org/lm>. In April 2009 I compared and cross-checked these against data supplied by Ted Paterson, Head of Evaluation and Policy Research at the Geneva International Centre for Humanitarian Demining; and by the World Bank's Landmine Contamination, Casualties and Clearance Database, which is not yet publicly available.

⁵⁴ ICBL notes that these figures may be incomplete, and that 'it is even possible that 2008 will be the first year since 2005 in which there is no decrease in the casualty rate compared to the previous year'. *Landmine Monitor Report 2009*, October 2009, p. 49, http://lm.icbl.org/lm/2009/res/Landmines_Report_2009.pdf.

⁵⁵ In November 2009 an international practitioner network was estab-

lished 'to build the technical and institutional capacity, as well as the political will, to record details of every single victim of violent conflict, worldwide'. See the website of the Oxford Research Group, http://www.oxfordresearchgroup.org.uk/projects/recording_casualties_armed_conflict.

⁵⁶ Christopher Y. Olivola and Namika Sagara, 'Distributions of Observed

Death Toll Sensitivity to Human Fatalities', *Proceedings of the National Academy of Sciences of the USA*, vol. 106, no. 52, 29 December 2009, p. 22,151.

⁵⁷ Graduate Institute of International Studies, Geneva, *Small Arms Survey 2002: Counting the Human Cost* (Oxford: Oxford University Press, 2002), p. 158.

