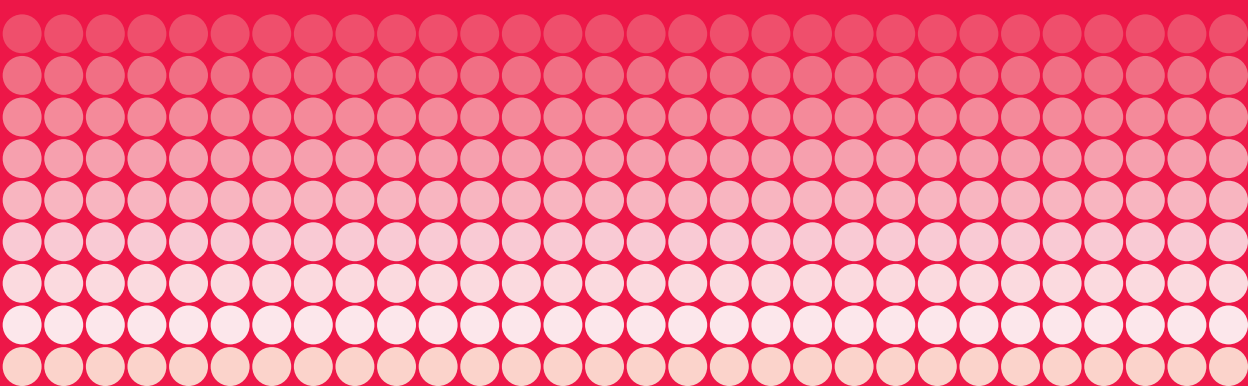


# SIPRI YEARBOOK 2009

Armaments,  
Disarmament and  
International  
Security

**Summary**



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Stockholm International Peace Research Institute (SIPRI) is an independent international institute for research into problems of peace and conflict, especially those of arms control and disarmament. SIPRI was established in 1966 to commemorate 150 years of unbroken peace in Sweden.

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### **STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE**

Signalistgatan 9  
SE-169 70 Solna, Sweden  
Telephone: +46 8 655 97 00  
Fax: +46 8 655 97 33  
Email: [sipri@sipri.org](mailto:sipri@sipri.org)  
Internet: [www.sipri.org](http://www.sipri.org)

## THE SIPRI YEARBOOK

The SIPRI Yearbook was first published in 1969 and is now in its 40th edition. *SIPRI Yearbook 2009* presents a combination of original data in areas such as world military expenditure, international arms transfers, arms production, nuclear forces, major armed conflicts and multilateral peace operations with state-of-the-art analysis of important aspects of arms control, peace and international security. The Yearbook is written by both SIPRI researchers and invited outside experts.

This booklet summarizes the contents of *SIPRI Yearbook 2009* and gives samples of the data and information in its appendices and annexes.

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## INTRODUCTION. INTERNATIONAL SECURITY, ARMAMENTS AND DISARMAMENT IN 2008

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BATES GILL

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The year 2008 saw increasing threats to security, stability and peace in nearly every corner of the globe. The effects of the global financial crisis will be likely to exacerbate these challenges as governments and non-governmental organizations struggle to respond effectively. The conflicts in Afghanistan and Iraq continued, with moderate improvements to the security situation in the latter and worsening conditions in the former. A total of 16 major armed conflicts raged on, with many gathering intensity over the course of 2008. Deliberate violence against civilians by warring parties was increasingly and appallingly common.

The year also saw some promising developments. High expectations—probably overly so—generated by the election of Barack Obama as US President carried with them hopes for a sound exit strategy from Iraq, stabilizing Afghanistan and changes in the way that the USA engages with the international community. Expectations are also high that President Obama will seek to rebuild transatlantic relations, establish more productive relations with Russia, reach out to the Muslim world and devote more time and energy to improving the security situation in Afghanistan, the Middle East and Pakistan, and relations with Iran.

Looking ahead, *SIPRI Yearbook 2009* underscores just what a difficult task

that will be. The fragmentation of violence in weak states of the developing world appears set to continue and carry with it protracted suffering for civilians and further regional instabilities. The security situation in Afghanistan is likely to worsen before long-hoped-for stability and development can be achieved, with the security situation in neighbouring Pakistan—arguably a more important long-term concern for regional and global security—also taking a turn for the worse.

Russia and the USA may be able to improve relations quickly in the coming year, including cooperation on arms control and non-proliferation. Nonetheless, a successful Non-Proliferation Treaty Review Conference in 2010—and progress on disarmament and tightened controls against would-be proliferators—seems far from certain, even as high-profile efforts are mobilized to assure such progress. Attacks by non-state actors with chemical, biological, radiological or nuclear weapons remain an ominous prospect.

These and other challenges may be exacerbated by the effects of the world financial crisis as key countries find it difficult to muster the necessary political and economic will to collectively address global and regional security problems.



# 1. MASS DISPLACEMENT CAUSED BY CONFLICTS AND ONE-SIDED VIOLENCE: NATIONAL AND INTERNATIONAL RESPONSES

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ROBERTA COHEN AND FRANCIS M. DENG

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Massive displacement of people within countries and across borders has become a defining feature of the post-cold war world. It is also a major feature of human insecurity in which genocide, terrorism and egregious human rights violations wreak havoc on civilians. The underlying causes of mass displacement are conflicts over power, wealth and resource sharing. Opportunities therefore exist for both national and international authorities to address the deeper structural divisions in societies when trying to end conflict and displacement through peace processes.

The need of internally displaced persons (IDPs) for international protection was one of the factors that prompted a shift in global policy and thinking on state responsibility. Over the past two decades, a state-centred system in which sovereignty was absolute has evolved into one in which the behaviour of states towards their citizens has become a matter of international concern and scrutiny. The human rights movement has long championed the view that the rights of people transcend frontiers and that the international community must hold a government to account when it fails to meet its obligations. The deployment of more humanitarian and peacekeeping operations to protect civilians reflects this new reality as do preventive and peacebuilding efforts.

Nonetheless, concepts of sovereignty as responsibility and the responsibility to protect (R2P) remain far ahead of international willingness and capacity to enforce them. The failure of states to protect their citizens has often met with a weak international response. It is critical that the United Nations, concerned governments, regional bodies and civil society (a) assist states in developing their own capacities and (b) press for the development of the tools needed to enable the international community to take assertive action when persuasive measures fail and masses of people remain under the threat of violence and humanitarian tragedy.

Recent peace agreements have made some provisions for the return, resettlement and reintegration of those uprooted. Involving IDPs and returning refugees in discussions can avert violence, prevent continued exploitation and abuse, create greater trust and promote the recovery of local economies.

Governments must assume their responsibility towards IDPs, and the UN Peacebuilding Commission should work more actively with them to ensure secure and sustainable returns, eliminate the marginalization of different groups and address the root causes of disputes by redressing past injustices.



## 2. TRENDS IN ARMED CONFLICTS: ONE-SIDED VIOLENCE AGAINST CIVILIANS

EKATERINA STEPANOVA

### MAJOR ARMED CONFLICTS, 2008

In 2008, 16 major armed conflicts were active in 15 locations around the world, 2 more than in 2007.

	Conflict location
<i>Africa</i>	Burundi‡
	Somalia↓
	Sudan‡
<i>Americas</i>	Colombia↓
	Peru↑
	USA*↑
<i>Asia</i>	Afghanistan*↓
	India (Kashmir)↓
	Myanmar (Karen State)↓
	Pakistan‡
	Philippines↑
	Philippines (Mindanao)↑
<i>Middle East</i>	Sri Lanka ('Tamil Eelam')↑
	Iraq↓
	Israel (Palestinian territories)↑
	Turkey (Kurdistan)*↑

Where a conflict is over territory, the disputed territory appears in parentheses after the country name. All other conflicts are over government.

\* Fighting in these conflicts also took place in other locations.

↑ Increase in battle-related deaths from 2007.

↓ Decrease in battle-related deaths from 2007.

‡ Conflict inactive or not defined as 'major' in 2007.

All of these conflicts are intrastate: for the fifth year running, no major interstate conflict was active in 2008. However, troops from another state aided one of the parties in four conflicts: USA, Afghanistan, Iraq and Somalia.

Over the past decade, the total number of conflicts has declined overall from 21

In contrast to battle-related violence that may harm civilians indiscriminately, much 'one-sided' violence against civilians takes place in the context of armed conflicts and targets civilians directly and intentionally. Although it may be hard to establish the intent behind the violence and, sometimes, to distinguish between one-sided and indiscriminate violence, data shows that campaigns of one-sided violence have significantly increased since the early 1990s. In contrast, the number of armed conflicts declined in the same period.

The scale, motivation and type of perpetrator of massacres, terrorist attacks and other acts of one-sided violence vary in the conflicts in 2008 in Somalia, Sri Lanka, South Ossetia (Georgia) and Colombia. The cases of Somalia and Sri Lanka reaffirm the dominant pattern of one-sided violence in armed conflicts: constant, almost routine, violence against civilians that falls short of mass atrocities but is perpetrated by all armed actors, including government forces, non-state actors and others. Even when fatalities number in the low hundreds, as in the conflict over South Ossetia, a combination of indiscriminate attacks by governments with incidents of one-sided violence, especially by irregulars, may result in disproportionately large-scale displacement of civilians.



Colombia, on the other hand, shows signs of a reversal of its embedded pattern of one-sided violence.

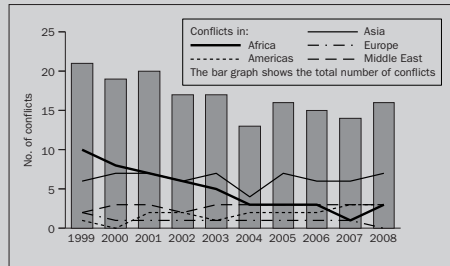
These cases illustrate that indiscriminate violence is more deadly when perpetrated by government forces. However, fatalities from one-sided violence by states have been in relative decline in the present decade, as compared to the 1990s. This trend is partly counterbalanced by:

- increasing reliance in state counter-insurgency campaigns on government-aligned militia—a form of ‘outsourcing’ direct violence and abuses against civilians;
- the growing role of rebels in causing civilian fatalities through one-sided violence, including terrorist attacks, which are increasingly employed as a tactic in asymmetrical confrontation with the state.
- the fact that in the broader context of the fragmentation of violence and the diversification of armed actors—especially in weak and dysfunctional states—some of the worst violations against civilians may be committed by local power brokers, armed irregulars and criminal gangs with no explicit political agendas.

If a relative decline of one-sided violence in specific cases is not a short-term effect of mass displacement it is more likely to result from the rise of minimally functional local governance structures, often with questionable human rights record, than from the parties’ compliance with the norms of international humanitarian law.

in 1999. However, the decline has been uneven, with increases in 2005 and 2008.

### Major armed conflicts, 1999–2008



### THE GLOBAL PEACE INDEX 2009

The Global Peace Index (GPI) seeks to determine what cultural attributes and institutions are associated with states of peace. It ranks 144 countries by their relative states of peace using 23 indicators.

#### The most and least peaceful states, 2009

Rank	Country	Score
1	New Zealand	1.202
2	Denmark	1.217
2	Norway	1.217
4	Iceland	1.225
5	Austria	1.252
140	Sudan	2.922
141	Israel	3.035
142	Somalia	3.257
143	Afghanistan	3.285
144	Iraq	3.341

Small, stable and democratic countries are consistently ranked highly. Island states also generally fare well.

These facts and data are taken from appendix 2A, ‘Patterns of major armed conflicts, 1999–2008’, by Lotta Harbom and Peter Wallensteen, Uppsala Conflict Data Program (UCDP), based on the UCDP Database, <<http://www.ucdp.uu.se/database/>>; and appendix 2B, ‘Global Peace Index 2009’, by Clyde McConaghy, Institute for Economics and Peace.



### 3. THE LEGITIMACY OF PEACE OPERATIONS

SHARON WIHARTA

#### PEACE OPERATIONS, 2008

In 2008, as in 2007, 60 multilateral peace operations were conducted. A record 187 586 personnel were deployed, an 11 per cent increase over 2007. Of these, 166 146 were military and 21 440 civilian, including police.

The International Security Assistance Force (ISAF) in Afghanistan continued to be the largest peace operation, with 51 356 troops, an increase of around 9600 over the 2007 figure. MONUC in the Democratic Republic of the Congo and UNAMID in Darfur, Sudan, were the second and third largest missions.

#### *Peace operations, by region, 2008*

	No. of operations	Total personnel deployed
Africa	19	78 975
Americas	2	9 621
Asia	10	55 542
Europe	19	26 797
Middle East	10	16 651
<b>Total</b>	<b>60</b>	<b>187 586</b>

As of the end of December 2008, a total of 137 countries contributed uniformed personnel (i.e. troops, military observers and civilian police) to peace operations. Of those countries, 115 contributed military personnel, with the top 10 contributors, in descending order, being the USA, France, Pakistan, the UK, Bangladesh, India, Italy, Germany,

Sixty years after the launch of the first United Nations peacekeeping operation, there are concerns that peacekeeping is headed into crisis. Questions over the legitimacy of peace operations are important factors in these problems.

Perceived shortfalls in an operation's legitimacy can seriously undermine its effectiveness. Legitimacy comprises three interlinked and mutually reinforcing elements: political consensus, legality and moral authority.

- Political consensus refers to agreement, or acquiescence, among external actors and the host government that a peace operation is required and appropriate.
- A mission's legitimacy is widely seen as determined by political consensus and international legality.
- The conduct of its personnel largely determines the moral authority of a peace operation.

The legality of the European Union (EU) Rule of Law Mission in Kosovo (EULEX Kosovo) was seen as directly linked to Kosovo's disputed independence. EULEX Kosovo testifies to the centrality of political consensus surrounding an operation's legality and its legitimacy. Conversely, the experience of the EU military operation in Chad and the Central African Republic (EUFOR Tchad/RCA) underscores how the appropriateness





and execution of a mandate determine the mandate's legitimacy, and how this can be undermined by political compromise—international or local.

The cases of the UN Mission in the Democratic Republic of the Congo (MONUC), the African Union (AU) Mission in Somalia and the AU/UN Hybrid Operation in Darfur (UNAMID) show that the moral authority of an operation is crucial to securing local legitimacy. If an operation is perceived to lack moral authority, this may affect countries' decisions to deploy personnel. Reluctance to provide the reinforcement requested by MONUC at the end of 2008 was probably influenced by the misconduct scandals that have surrounded the mission.

The demand for effective peacekeeping outstrips the availability of human and other resources. In 2008, 23 UN missions fell around 22 800 personnel short of authorized strength. Ensuring that missions enjoy sound political, legal and moral standing should be a priority. Legitimacy is desirable in principle and fundamental to the ability of multilateral peacekeeping to promote and secure sustainable peace.

**Nigeria and Rwanda. The top Asian and African contributors sent their military personnel exclusively to UN operations (including UNAMID).**

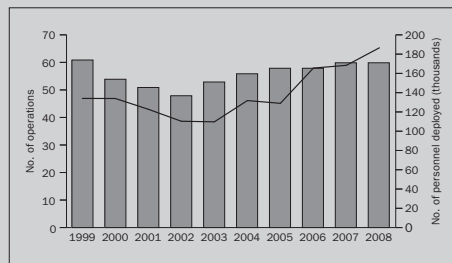
***Peace operations, by conducting organization, 2008***

	No. of operations	No. of deployed personnel
United Nations	23*	98 614
African Union	2	3 560
CEEAC	1	504
CIS	3	5349
European Union	12	7932
NATO	3	65 978
OAS	1	40
OSCE	9	461
Ad hoc coalitions	6	5 148
<b>Total</b>	<b>60</b>	<b>187 586</b>

\* Including UNAMID.

**The annual total of active peace operations has risen steadily since 2002. Total personnel deployments have also increased, from a low of 110 789 in 2003.**

***Peace operations and personnel deployed, 1999–2008***



**Bar graph/left axis: number of operations; line graph/right axis: personnel deployed.**

**These facts and data are taken from appendix 3A, 'Multilateral peace operations, 2008', by Kirsten Soder, and are based on the SIPRI Multilateral Peace Operations Database, <<http://conflict.sipri.org/>>.**



## 4. SECURITY AND POLITICS IN AFGHANISTAN: PROGRESS, PROBLEMS AND PROSPECTS

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TIM FOXLEY

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The debate about Afghanistan's future takes place against a backdrop of increasingly confident insurgent attacks, slow political and economic progress and negative perceptions about the country's prospects. Although the efforts and commitment of international organizations remain crucial for Afghanistan, their lack of coordination and strategy hampers progress and frustrates the Afghan Government and people. In 2008 there was a significant media and analytical shift towards perceiving the war as 'unwinnable'. The long-term prospects for Afghanistan continue to look bleak.

It is encouraging that the international community, and the United States in particular, is reassessing motivations, goals and resources. The sense of international war-weariness and willingness to compromise on expectations appear strong. Despite optimism following the election of US President Barack Obama, judgement is only being temporarily suspended. The 'new' strategy looks very similar to old ones and much depends on how effectively the Obama Administration can apply itself over the next year or two, before individual states start to withdraw their troops.

The wavering commitment of the international community is not going unnoticed by the Afghan Government, the Afghan people and, perhaps of most

concern, the insurgents. The next two or three years may well see a redefinition of 'success' that will enable international forces to start to pull out. A rushed declaration of Afghan Government and security force capability followed by a hasty international exit would risk leaving behind a dangerously messy political and security situation.

Regrettably, Afghanistan's fate over the next few years still looks to be finely balanced. Progress will continue to be slow, flawed and fragile. Any number of factors, such as a political assassination, a mass-casualty incident (whether caused by the International Security Assistance Force or Afghans) or a shift in warlord allegiances, could individually or in combination quickly cause progress to unravel. Although much of the Obama Administration's encouragingly 'regional' thinking on Afghanistan hinges on Pakistan, there are arguably even greater problems in that country.

Perhaps the only real guarantee for the new US strategy, based on the international community's experience over the past seven years, is that future political, military and development efforts in and around Afghanistan will be more complex, will take longer and the results will be more fragile than the original expectations.



## TRANSLATIONS OF THE SIPRI YEARBOOK

*SIPRI Yearbook 2009* will be translated into

- Arabic by the Centre for Arab Unity Studies (CAUS), Beirut, <<http://www.caus.org.lb/>>
- Chinese by the China Arms Control And Disarmament Association (CACDA), Beijing, <<http://www.cacda.org.cn/>>
- Russian by the Institute of World Economy and International Relations (IMEMO), Moscow, <<http://www.imemo.ru/>>
- Ukrainian by the Ukrainian Centre for Economic and Political Studies (UCEPS, Razumkov Centre), Kyiv, <<http://www.uceps.org/>>

**Please contact these organizations for further details.**

### **Summaries of the SIPRI Yearbook in other languages**

This summary of the Yearbook will be translated into

- Catalan, in partnership with Fundació per la Pau, Barcelona, <<http://www.fundacioperlapau.org/>>
- Dutch, in partnership with the Flemish Peace Institute, Brussels, <<http://www.vlaamsvredesinstituut.eu/>>
- French, in partnership with the Institut de Relations Internationales et Stratégiques (IRIS), Paris, <<http://www.iris-france.org/>>
- German, in partnership with the Institut für Friedenspädagogik Tübingen e.V., Tübingen, <<http://www.friedenspaedagogik.de/>>
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More information on the SIPRI Yearbook and these translations is available at <<http://www.sipri.org/yearbook/>>.



## 5. MILITARY EXPENDITURE

SAM PERLO-FREEMAN, CATALINA PERDOMO, PETER STÅLENHEIM AND ELISABETH SKÖNS

### MILITARY EXPENDITURE, 2008

SIPRI military expenditure figures are based on information available in open sources, primarily supplied by governments. They represent a low estimate; the true level of military spending is certainly higher, due to omitted countries and items of spending. Nonetheless, SIPRI estimates capture the great majority of global military spending and accurately represent overall trends.

#### *Military expenditure, by region, 2008*

Region	Spending, 2008 (\$ b.)	Increase, 1999–2008 (%)
Africa	20.4	+40
North Africa	7.8	+94
Sub-Saharan	12.6	+19
Americas	603	+64
Caribbean	..	..
Central America	4.5	+21
North America	564	+66
South America	34.1	+50
Asia and Oceania	206	+52
Central Asia	..	..
East Asia	157	+56
Oceania	16.6	+36
South Asia	30.9	+41
Europe	320	+14
Eastern	43.6	+174
West and Central	277	+5
Middle East	75.6	+56
<b>World total</b>	<b>1226</b>	<b>+45</b>

To allow comparison over time, the above spending figures are in US dollars at constant (2005) prices.

Global military expenditure in 2008 is estimated to have totalled \$1464 billion. This represents an increase of 4 per cent in real terms compared to 2007, and of 45 per cent since 1999. Military expenditure comprised approximately 2.4 per cent of global gross domestic product (GDP) in 2008. All regions and subregions have seen significant increases since 1999, except for Western and Central Europe.

During the eight-year presidency of George W. Bush, US military expenditure increased to the highest level in real terms since World War II, mostly due to the wars in Afghanistan and Iraq. This increase has contributed to soaring budget deficits. The conflicts in Afghanistan and Iraq have been funded primarily through emergency supplemental appropriations outside the regular budgetary process and have been financed through borrowing. The use of supplemental appropriations has raised concerns about transparency and congressional oversight. These conflicts will continue to require major budgetary resources in the near future, even supposing early withdrawal of US troops from Iraq.

In Western and Central Europe spending remained fairly flat in 2008, although some recent and prospective NATO members increased military spending substantially. In Eastern Europe, Russia continued to increase



spending and is maintaining plans for further increases despite severe economic problems.

Spending increased across most of Asia. China, India, South Korea and Taiwan accounted for the bulk of the increase.

Algeria's spending increased by 18 per cent in real terms to \$5.2 billion, the highest in Africa, driven by strong economic growth and a growing insurgency.

In South America, Brazil continued to increase spending as it seeks greater regional power status.

Military spending in the Middle East fell slightly in 2008, although this is probably temporary, with many countries in the region planning major arms purchases. In contrast, there was a large rise in Iraq, whose 2008 military budget was 133 per cent higher in real terms than its 2007 spending. While previously most funding for the Iraqi security forces came from the United States, this has been increasingly replaced by domestic funding. Iraq remains highly dependent on the USA for arms supplies, with numerous major orders planned.

### *The top 10 military spenders, 2008*

Rank	Country	Spending (\$ b.)	World share (%)
1	USA	607	41.5
2	China	[84.9]	[5.8]
3	France	65.7	4.5
4	UK	65.3	4.5
5	Russia	[58.6]	[4.0]
6	Germany	46.8	3.2
7	Japan	46.3	3.2
8	Italy	40.6	2.8
9	Saudi Arabia	38.2	2.6
10	India	30.0	2.1
<b>World total</b>		<b>1464</b>	

[ ] = SIPRI estimate. The spending figures are in current US dollars.

**The 10 biggest spenders in 2008 are the same as in 2007, although some rankings have changed. In particular, in 2008 China was for the first time the world's second highest military spender and France narrowly overtook the UK.**

**SIPRI uses market exchange rates to convert national military expenditure figures into US dollars, as this provides the most easily measurable standard by which international comparisons of military spending can be made. An alternative would be to convert figures using purchasing power parity (PPP) exchange rates. If GDP-based PPP rates were used in the above table, Russia would move up to third place, India to fourth and Saudi Arabia to sixth, after the UK. While the USA would still be far ahead, its relative dominance would diminish.**

These facts and data are taken from chapter 5 and appendix 5A, 'Military expenditure data, 1999–2008', by Petter Stålenheim, Noel Kelly, Catalina Perdomo, Sam Perlo-Freeman and Elisabeth Sköns, and are based on the SIPRI Military Expenditure Database, <<http://milexdata.sipri.org/>>.



## 6. ARMS PRODUCTION

SAM PERLO-FREEMAN

### THE SIPRI TOP 100

The SIPRI Top 100 list ranks the largest arms-producing companies in the world (outside China) according to their arms sales. The 10 largest companies in 2007 are listed below.

*The 10 largest arms-producing companies, 2007*

Company (country)	Arms sales (\$ m.)	Profit (\$ m.)
1 Boeing	30 480	4 074
2 BAE Systems (UK)	29 850	1 800
3 Lockheed Martin	29 400	3 033
4 Northrop Grumman	24 600	1 803
5 General Dynamics	21 520	2 080
6 Raytheon	19 540	1 474
7 EADS (West Europe)	13 100	-610
8 L-3 Communications	11 240	756
9 Finmeccanica (Italy)	9 850	713
10 Thales (France)	9 350	1 214

Companies are US-based, unless indicated otherwise. The profit figures are from all company activities, including non-military sales.

Eight companies entered the Top 100 in 2007, seven of them for the first time. The same five companies have appeared at the top of the SIPRI Top 100 since 2002, only the order has changed. The only change in the top 10 companies since 2002 has been the replacement of United Technologies by L-3 Communications. This is a symptom of the high degree of continuity that has prevailed in the structure of the Euro-Atlantic arms industry in recent years.

Global arms production continued to increase in 2007. The combined arms sales of the SIPRI Top 100 arms-producing companies reached \$347 billion, an increase of 11 per cent in nominal terms and 5 per cent in real terms over 2006. Since 2002 the value of the Top 100 arms sales has increased by 37 per cent in real terms.

Forty-four US companies accounted for 61 per cent of the Top 100's arms sales in 2007, while 32 West European companies accounted for 31 per cent of the sales. Russia, Japan, Israel and India accounted for most of the rest.

Thirty companies increased their arms sales by more than 30 per cent. Most fell into one of three groups:

- providers of armoured vehicles, heavily in demand by the United States and other overseas forces in Afghanistan and Iraq, and especially producers of Mine-Resistant Ambush Protected (MRAP) vehicles;
- British-owned companies that have greatly expanded their US presence through acquisitions; and
- companies providing outsourced military services, as well as some military electronics companies.

The US presidency of George W. Bush—during which US military expenditure increased sharply—was a period of continuity in the arms industry. This followed a period of rapid



consolidation in the 1990s and early 2000s. Indeed, the level of concentration in the industry, as measured by the share of the Top 100 arms sales accounted for by the top five companies, has gradually declined since 2002.

The global financial crisis has yet to have an impact on major arms companies' revenues, profits and order backlogs, which generally continued to increase in 2008. However, their share prices have fallen in line with the major stock markets. Arms companies may face reduced demand in the future if governments cut military spending in response to rising budget deficits. Russian companies have experienced particular cash-flow difficulties and are receiving government aid.

The two largest acquisitions of arms-producing companies in 2008 were the acquisition of the IT services company EDS by Hewlett-Packard for \$13.9 billion, and the \$5.2 billion acquisition of the US military electronics firm DRS Technologies by Finmeccanica of Italy. The latter of these was the first major acquisition of a US company by a continental European company. British companies also made numerous US acquisitions. Most major British arms companies now have a significant US presence, and several now have more assets and employees in the USA than in the UK.

### *National or regional shares of arms sales for the SIPRI Top 100 for 2007*

Region/ country	No. of companies	Arms sales (\$ b.)
USA	44	212.4
Western Europe	32	107.6
Russia	7	8.2
Israel	3	5.0
Japan	4	4.8
India	3	3.7
South Korea	4	2.9
Singapore	1	1.1
Canada	1	0.6
Australia	1	0.5
<b>Total</b>	<b>100</b>	<b>346.9</b>

Figures for a country or region refer to the arms sales of Top 100 companies headquartered in that country or region, including those in its foreign subsidiaries, and thus do not reflect the sales of arms actually produced in that country or region.

### **ARMS INDUSTRY ACQUISITIONS, 2008**

**There were four acquisitions of arms-producing companies worth over \$1 billion in 2008, down from seven in 2007.**

#### *The largest acquisitions in the OECD arms industry, 2008*

Buyer company	Acquired company	Deal value (\$ m.)
Hewlett-Packard	EDS	13 900
Finmeccanica	DRS Technologies	5 200
Candover	Stork	2 160
Dassault Aviation	20.8% of Thales	2 200

These facts and data are taken from chapter 6, appendix 6A, 'The SIPRI Top 100 arms producing companies, 2007', by Sam Perlo-Freeman and the SIPRI Arms Industry Network, and appendix 6B, 'Major arms industry acquisitions, 2008', by Sam Perlo-Freeman.

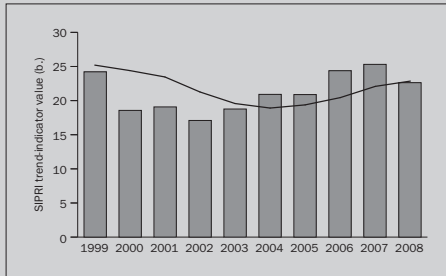


## 7. INTERNATIONAL ARMS TRANSFERS

SIEMON T. WEZEMAN, MARK BROMLEY AND PIETER D. WEZEMAN

### THE SUPPLIERS AND RECIPIENTS OF MAJOR CONVENTIONAL WEAPONS

*The trend in transfers of major conventional weapons, 1999–2008*



Bar graph: annual totals; line graph: five-year moving average (plotted at the last year of each five-year period).

*The five largest suppliers of major conventional weapons, 2004–2008*

Supplier	Share of global arms exports (%)	Main recipients (share of supplier's transfers)
USA	31	South Korea (15%) Israel (13%) UAE (11%)
Russia	25	China (42%) India (21%) Algeria (8%)
Germany	10	Turkey (15%) Greece (13%) South Africa (12%)
France	8	UAE (32%) Singapore (13%) Greece (12%)
UK	4	USA (21%) India (14%) Chile (9%)

Since 2005 there has been an upward trend in deliveries of major conventional arms. The annual average for 2004–2008 was 21 per cent higher than for 2000–2004.

The United States and Russia remained by far the largest exporters, followed by Germany, France and the United Kingdom. Together these five countries accounted for 79 per cent of the volume of exports for 2004–2008. They have been the top five suppliers since the end of the cold war and have accounted for at least three-quarters of all exports annually.

East Asia, Europe and the Middle East continued to be the largest recipient regions for 2004–2008, each accounting for about 20 per cent of all imports. China remained the single largest recipient for the period 2004–2008, followed by India, the United Arab Emirates (UAE), South Korea and Greece.

China has been a major recipient of weapons since the early 1990s and has been the largest importer for several years. Most Chinese arms imports originate from Russia. However, Russian deliveries to China dropped significantly in 2007 and 2008. China has used its access to Russian technology to develop indigenous weapons, in some cases using illegally copied Russian components. Both countries agreed in 2008 to abide by





intellectual property laws specifically for military equipment.

India is seen as probably the most important single country market for weapons in the near future. A large part of Indian arms imports also originates from Russia. Based on current orders Russia will remain India's most important supplier. However, Russian demands for increased payments for weapons on order and quality problems with delivered weapons have soured relations. Unlike China, India has the option of using other suppliers, such as France, Israel or the UK. Recently, relations with the USA have improved and two large orders for high-tech US weapons were signed in 2008.

The war between the Sri Lankan Government and the Liberation Tigers of Tamil Eelam (LTTE or Tamil Tigers) demonstrates how even small deliveries of weapons and ammunition can have a major negative impact. Acquisition of a few maritime systems gave the government the ability to stop arms smuggling by the LTTE. Together with imports of stocks of ammunition this changed the military balance in favour of the government to the extent that it could decide to aim for a military solution, leading to one of the bloodiest conflicts of 2008.

*The five largest recipients of major conventional weapons, 2004–2008*

Recipient	Share of global arms imports (%)	Main supplier (share of recipient's transfers)
China	11	Russia (92%)
India	7	Russia (71%)
UAE	6	USA (54%)
South Korea	6	USA (73%)
Greece	4	Germany (31%)

**THE FINANCIAL VALUE OF THE ARMS TRADE, 2007**

It is not possible to ascribe a precise financial value to the international arms trade. However, by aggregating financial data from the main suppliers, it is possible to make an indicative estimate. The estimated financial value of the international arms trade in 2007 was \$51.1 billion, which represents 0.3 per cent of world trade. This figure is below the true figure because a number of significant exporters, including China, do not release data on the financial value of their arms exports.

According to national data, the USA was the largest arms exporter in 2007, with exports worth \$12.8 billion; Russia was in second place, with \$7.4 billion; France was in third place, with \$6.2 billion; Israel was in fourth place, with \$4.4 billion; and the UK was in fifth place, with \$4.1 billion.

These facts and data are taken from chapter 7, appendix 7A, 'The suppliers and recipients of major conventional weapons', by the SIPRI Arms Transfers Project, and appendix 7B, 'The financial value of the arms trade', by Mark Bromley, and are based in part on the SIPRI Arms Transfers Database, <<http://armstrade.sipri.org/>>.



## 8. WORLD NUCLEAR FORCES

SHANNON N. KILE, VITALY FEDCHENKO AND HANS M. KRISTENSEN

### WORLD NUCLEAR FORCES, 2009

*Deployed warheads, January 2009*

Country	Strategic warheads	Non-strategic warheads	Total deployed warheads
USA	2 202	500	2 702
Russia	2 787	2 047	4 834
UK	160	–	160
France	300	–	300
China	186	..	186
India	–	–	60–70
Pakistan	–	–	60
Israel	–	–	80
<b>Total</b>			<b>8 392</b>

All estimates are approximate.

**North Korea conducted nuclear test explosions in October 2006 and May 2009. It is not publicly known whether it has built nuclear weapons.**

### GLOBAL STOCKS OF FISSILE MATERIALS, 2008

**As of 2008, global stocks of highly enriched uranium totalled approximately 1379 tonnes (not including 297 tonnes to be blended down). Global military stocks of separated plutonium totalled approximately 255 tonnes and civilian stocks totalled 246 tonnes.**

These facts and data are taken from chapter 8 and appendix 8A, 'Global stocks of fissile materials, 2008', by Alexander Glaser and Zia Mian, International Panel on Fissile Materials, Princeton University.

In January 2009, eight states possessed a total of more than 23 300 nuclear weapons, including operational warheads, spares, those in both active and inactive storage, and intact warheads scheduled for dismantlement.

The five legally recognized nuclear weapon states, as defined by the 1968 Non-Proliferation Treaty (NPT)—China, France, Russia, the USA and the UK—are all either deploying new nuclear weapon systems or have announced their intention to do so in the future. At the same time, Russia and the USA are in the process of reducing their operational nuclear forces from cold war levels as a result of the 1991 START Treaty and the 2002 SORT Treaty. Russia and the USA have also announced their intention to negotiate a new agreement that would bring about deeper reductions.

India and Pakistan, which along with Israel are de facto nuclear weapon states outside the NPT, continue to develop new missile systems capable of delivering nuclear weapons and are also expanding their capacities to produce fissile material. Israel appears to be waiting to assess how the situation with Iran's nuclear programme develops. North Korea is believed to have produced enough plutonium to build a small number of nuclear warheads, although it is unclear whether it has manufactured an operational weapon.



## 9. NUCLEAR ARMS CONTROL AND NON-PROLIFERATION

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SHANNON N. KILE

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In 2008 Iran's nuclear programme remained at the centre of international controversy. Iran continued to install gas centrifuges at its main uranium-enrichment plant at Natanz, leading the United Nations Security Council to adopt two new resolutions, 1803 and 1835, demanding that Iran suspend all enrichment-related and reprocessing activities. The International Atomic Energy Agency (IAEA) made efforts to investigate allegations of research and other activities that point to a possible military dimension to Iran's nuclear programme. The resulting impasse highlighted shortcomings in the IAEA's power to investigate suspected nuclear weaponization activities.

The year ended with a breakdown of the agreement reached in the Six-Party Talks—between China, Japan, North Korea, South Korea, Russia and the United States—on a multi-phase plan under which North Korea would shut down and disable 'for the purpose of eventual dismantlement' its nuclear facilities in return for economic and political benefits. A dispute arose between North Korea and the USA over measures to verify North Korea's declaration of its plutonium production programme. It centred on whether inspectors would be allowed to visit sites not included in North Korea's declaration and to use environmental sampling and other forensic techniques.

Controversy continued over US and Israeli allegations that North Korea had provided covert technical assistance to Syria for building an undeclared nuclear reactor.

Elsewhere, Russia and the USA continued preliminary talks on a new bilateral nuclear arms reduction agreement to succeed the 1991 Treaty on the Reduction and Limitation of Strategic Offensive Arms (START Treaty) and the 2002 Strategic Offensive Reduction Treaty (SORT). The START Treaty, which contains the verification provisions by which the USA and Russia monitor each other's strategic nuclear forces, is scheduled to expire in December 2009. The two sides continued to disagree over rules for limiting warhead deployments on long-range missiles and aircraft and over the status of warheads removed from operational deployment.

A resurgence of interest in nuclear disarmament continued in 2008 as leading former statesmen in the UK and Germany urged action towards creating a nuclear weapon-free world. The re-emergence of nuclear disarmament as a topic for mainstream public debate helped to spur the launching of several new initiatives by governments, some in conjunction with leading non-governmental organizations, to promote progress towards nuclear disarmament.



## 10. REDUCING SECURITY THREATS FROM CHEMICAL AND BIOLOGICAL MATERIALS

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JOHN HART AND PETER CLEVESTIG

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In 2008 policymakers continued to broaden prevention and response measures against perceived chemical and biological warfare (CBW) threats. These threats have been addressed by overlapping initiatives and measures, including attempts to define those posed by bioterrorism and chemical terrorism.

The parties to the 1972 Biological and Toxin Weapons Convention (BTWC) held the second political and expert meetings under a 2007–10 inter-session programme agreed in 2006. The Second Review Conference of the 1993 Chemical Weapons Convention (CWC) was also held in 2008. For the first time the Conference of the States Parties was unable to agree a final document by consensus.

The US Government announced that a US defence establishment scientist, Bruce E. Ivins, was solely responsible for the 2001 anthrax letter attacks. He committed suicide shortly before he was to be arrested and some analysts and former colleagues expressed doubt that Ivins was responsible or had acted alone. The case highlighted the importance of microbial forensics in support of criminal investigations.

The trend towards more comprehensive international reporting and tracking of information on the activities of non-state actors, including within the framework of the 2006 UN

Global Counter-Terrorism Strategy, continues. Recommendations have been made that the Financial Action Task Force shut down terrorist financing, that further port and airport security be developed and that the International Maritime Organization should develop a new mandatory long-range tracking and identification system to follow and register ships globally.

CBW prevention strategies include the establishment of effective national implementation, codes of conduct and chemical and pathogen security regulations, and awareness-raising activities. This has been reflected by an increasing number of regional activities, workshops and training activities.

The BTWC and CWC are moving closer to achieving greater universality, but some states continue to refuse to join. The increase in membership reflects the increased recent focus on establishing and implementing national legislation to prohibit CBW as a means of raising barriers against CBW terrorism. These efforts have been carried out partly under the auspices of UN Security Council Resolution 1540, various action plans, European Union joint actions, government-to-government contacts, and regional workshops and seminars on effective national implementation of laws prohibiting CBW.



## 11. CONVENTIONAL ARMS CONTROL

ZDZISLAW LACHOWSKI AND SVENJA POST

The effort to control ‘inhumane weapons’ at the global level achieved a remarkable breakthrough in 2008. The Oslo process, which was launched in 2006 to stigmatize and effectively tackle cluster munitions, resulted in a legally binding convention, the Convention on Cluster Munitions (CCM). Despite continued claims of the military usefulness of cluster munitions and the limited effect of the convention due to the non-participation of major users, producers and stockpilers, it is hoped that the CCM will contribute to the moral and political stigmatization of cluster munitions to such an extent that governments which are not party to the convention will be increasingly reluctant to use such weapons.

The situation in European conventional arms control in 2008 remained troubling. After Russia’s decision to ‘suspend’ its participation in the 1990 Treaty on Conventional Armed Forces in Europe (CFE Treaty) in December 2007, the treaty was in abeyance during 2008. The Western states’ ‘parallel actions’ proposal remained on the negotiating table, while Russia sent vague signals about a broader European security treaty. All of the CFE states parties except Russia have thus far fully implemented the treaty’s provisions but, despite goodwill on their part, the treaty’s continuing erosion risks reaching a point of no

return. On the other hand, the current crisis creates an opportunity to rethink the pertinence of the CFE regime to the new realities of European security. A future conventional arms control regime, if it is to be relevant, will demand much improved security cooperation in the Euro-Atlantic area, which is currently lacking.

In contrast to the plight of the CFE Treaty regime, the subregional arms control framework in the Western Balkans continued to operate smoothly. Confidence- and security-building measures in Europe are now focused on select areas, while similar initiatives elsewhere have not progressed satisfactorily. The Organization for Security and Co-operation in Europe (OSCE) community strives to counter multidimensional threats, increasingly of a non-state nature. The practical assistance given to the OSCE participating states through the implementation of projects on small arms and light weapons and on stockpiles of conventional ammunition as well as the updating and streamlining of the 1994 Code of Conduct on Politico-Military Aspects of Security are considered a key component in the improvement of security and stability in the OSCE region.



## 12. CONTROLS ON SECURITY-RELATED INTERNATIONAL TRANSFERS

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IAN ANTHONY AND SIBYLLE BAUER

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### **MULTILATERAL ARMS EMBARGOES, 2008**

There were 27 mandatory multilateral arms embargoes in force in 2008, directed at a total of 15 targets. Twelve of the embargoes were imposed by the United Nations and 15 by the European U.

For the second year in a row, the UN Security Council did not impose any new arms embargoes. The UN arms embargo on non-governmental forces in Rwanda was lifted in 2008 and significant amendments were made to the UN arms embargoes on the Democratic Republic of the Congo (DRC), Iran and Somalia. The UN extended its arms embargoes on al-Qaeda, the Taliban and associated individuals and entities, Côte d'Ivoire, non-governmental forces in the DRC, Iran, Liberia, and Somalia.

Nine of the 15 EU embargoes are straightforward implementations of UN arms embargoes. The EU did not impose any new arms embargo in 2008 but it did repeal and replace its arms embargo on the DRC as a result of changes to the UN arms embargo. It also extended its arms embargoes on Côte d'Ivoire, Myanmar and Uzbekistan.

During 2008 UN arms embargoes were explicitly threatened against Georgia and Zimbabwe by at least one of the five permanent members of the UN Security Council. For only the second time since the end of the cold war, a permanent

States meet in various forums to discuss how to maintain effective export controls on items that may be used in nuclear, biological and chemical weapons, and missile delivery systems for them. The main export control regimes are:

- the Australia Group (AG),
- the Missile Technology Control Regime (MTCR),
- the Nuclear Suppliers Group (NSG), and
- the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies (WA).

In 2008 the NSG modified the way in which supplier guidelines are applied to exports of controlled items to India by stepping back from its previous agreement that the application of comprehensive International Atomic Energy Agency safeguards would be an objective condition of supply.

These decisions and initiatives are evidence that export controls are gradually evolving away from a system based on clear rules for general application and towards a system in which the controls are tailored for different categories of countries. The most powerful participating states in the NSG believe that there is a political imperative to strengthen ties with India and most countries with leading nuclear



industries are convinced that there are compelling economic and environmental arguments for engagement and cooperation with India.

In 2008 the European Union (EU) finally adopted an updated and strengthened version of the politically binding 1998 EU Code of Conduct on Arms Exports as a legally binding common position. The decision incorporates several important changes into a set of Common Rules Governing Control of Exports of Military Technology and Equipment that EU member states are obliged to implement nationally. These changes to EU export control rules and procedures inside the EU in 2008 highlight the general importance of dedicating sufficient resources to implement and enforce export controls across the EU.

Several initiatives to develop simplified procedures to facilitate the movement of defence goods and articles within trusted communities have been made in recent years. The first is the development of new rules to facilitate the movement of defence goods inside the EU. The second is the attempt, so far unsuccessful, to bring into force bilateral treaties that have been signed between Australia and the USA and between the UK and the USA. These treaties require ratification in the US Senate before entry into force.

**member vetoed a draft UN Security Council resolution proposing the imposition of an arms embargo: China and Russia both vetoed the imposition of a UN arms embargo on Zimbabwe.**

*Multilateral arms embargoes in force during 2008*

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*United Nations arms embargoes*

**Al-Qaeda, the Taliban and associated individuals and entities**  
**Côte d'Ivoire**  
**Democratic Republic of the Congo (NGF)**  
**Iran (technology related to nuclear weapon delivery systems)**  
**Iraq (NGF)**  
**Lebanon (NGF)**  
**Liberia**  
**North Korea**  
**Rwanda (NGF)**  
**Sierra Leone (NGF)**  
**Somalia**  
**Sudan (Darfur)**

*European Union arms embargoes*

**Al-Qaeda, the Taliban and associated individuals and entities**  
**China**  
**Côte d'Ivoire**  
**Democratic Republic of the Congo**  
**Iran**  
**Iraq (NGF)**  
**Lebanon (NGF)**  
**Liberia**  
**Myanmar**  
**North Korea**  
**Sierra Leone (NGF)**  
**Somalia**  
**Sudan**  
**Uzbekistan**  
**Zimbabwe**

NGF = non-governmental forces.

These facts and data are taken from appendix 12A, 'Multilateral arms embargoes', by Paul Holtom and Noel Kelly.



## ANNEXES

NENNE BODELL

Annex A, 'Arms control and disarmament agreements', contains summaries of multi- and bilateral treaties, conventions, protocols and agreements relating to arms control and disarmament, and lists of their signatories and states parties.

Annex B, 'International security cooperation bodies', describes the main international and intergovernmental organizations, treaty-implementing bodies and export control regimes whose aims include the promotion of security, stability, peace or arms control and lists their members or participants.

Annex C, 'Chronology 2008', lists the significant events in 2008 related to armaments, disarmament and international security.

### **Treaties in force, 1 January 2009**

- |      |   |  |
|------|---|--|
| 1925 | Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (1925 Geneva Protocol)  |  |
| 1948 | Convention on the Prevention and Punishment of the Crime of Genocide (Genocide Convention)  |  |
| 1949 | Geneva Convention (IV) Relative to the Protection of Civilian Persons in Time of War  |  |
| 1959 | Antarctic Treaty  |  |
| 1963 | Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (Partial Test-Ban Treaty, PTBT)   |  |
| 1967 | Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (Outer Space Treaty)                                   |  |
| 1967 | Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Treaty of Tlatelolco)   |  |
| 1968 | Treaty on the Non-proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT)  |  |
| 1971 | Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil thereof (Seabed Treaty)                      |  |
| 1972 | Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction (Biological and Toxin Weapons Convention, BTWC) |  |
| 1974 | Treaty on the Limitation of Underground Nuclear Weapon Tests (Threshold Test-Ban Treaty, TTBT)  |  |
| 1976 | Treaty on Underground Nuclear Explosions for Peaceful Purposes (Peaceful Nuclear Explosions Treaty, PNET)   |  |





- 1977 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques (Enmod Convention)
- 1977 Protocols I and II Additional to the 1949 Geneva Conventions: Relating to the Protection of Victims of International Armed Conflicts, and Relating to the Protection of Victims of Non-International Armed Conflicts
- 1980 Convention on the Physical Protection of Nuclear Material and Nuclear Facilities
- 1981 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects (CCW Convention, or 'Inhumane Weapons' Convention)
- 1985 South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga)
- 1987 Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty)
- 1990 Treaty on Conventional Armed Forces in Europe (CFE Treaty)
- 1991 Treaty on the Reduction and Limitation of Strategic Offensive Arms (START I Treaty)
- 1992 Treaty on Open Skies
- 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention, CWC)
- 1995 Treaty on the Southeast Asia Nuclear Weapon-Free Zone (Treaty of Bangkok)
- 1996 Agreement on Sub-Regional Arms Control (Florence Agreement)
- 1997 Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and Other Related Materials
- 1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on their Destruction (APM Convention)
- 1999 Inter-American Convention on Transparency in Conventional Weapons Acquisitions
- 1999 Vienna Document 1999 on Confidence- and Security-Building Measures
- 2002 Treaty on Strategic Offensive Reductions (SORT)
- 2006 Treaty on a Nuclear-Weapon-Free Zone in Central Asia (Treaty of Semipalatinsk)
- Treaties not in force, 1 January 2009**
- 1972 Treaty on the Limitation of Anti-Ballistic Missile Systems (ABM Treaty)
- 1993 Treaty on Further Reduction and Limitation of Strategic Offensive Arms (START II Treaty)
- 1996 African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba)
- 1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT)
- 1999 Agreement on Adaptation of the CFE Treaty
- 2006 ECOWAS Convention on Small Arms, Light Weapons, their Ammunition and Other Related Materials
- 2008 Convention on Cluster Munitions



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