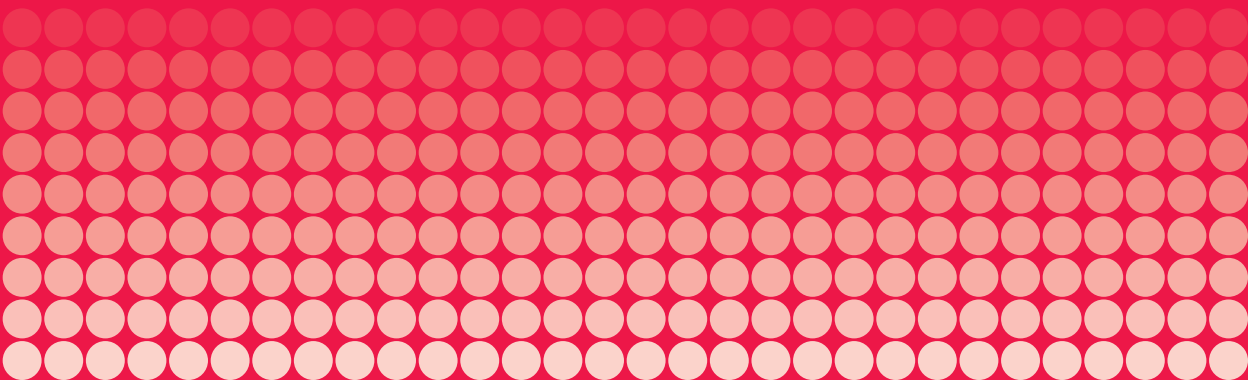


SIPRI YEARBOOK 2012

Armaments,
Disarmament and
International
Security

Summary



STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE

SIPRI is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament. Established in 1966, SIPRI provides data, analysis and recommendations, based on open sources, to policymakers, researchers, media and the interested public.

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THE SIPRI YEARBOOK

SIPRI Yearbook 2012 presents a combination of original data in areas such as world military expenditure, international arms transfers, arms production, nuclear forces, armed conflicts and multilateral peace operations with state-of-the-art analysis of important aspects of arms control, peace and international security. The SIPRI Yearbook, which was first published in 1969, is written by both SIPRI researchers and invited outside experts.

This booklet summarizes the contents of *SIPRI Yearbook 2012* and gives samples of the data and analysis that it contains.

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INTRODUCTION

BATES GILL

SIPRI Yearbook 2012 includes contributions from 39 experts from 17 countries who chronicle and analyse important trends and developments in international security, armaments and disarmament. Their analysis points to three persistent contemporary trends that underpin a more dynamic and complex global security order.

Constraints on established powers

In 2011 established powers in the world system—especially the United States and its major transatlantic allies—continued to face constraints on their economic, political and military capacities to address global and regional security challenges. These constraints were primarily imposed by budget austerity measures in the wake of the crisis in public finances experienced throughout most of the developed world.

At the same time, uprisings and regime changes in the Arab world drew international attention and responses, including the United Nations-mandated and NATO-led intervention in Libya. The widespread support for and expansion of traditional peace operations over the past decade are also facing constraints in the years ahead. Moreover, the world's major donors to peace operations are largely looking to cut support to multilateral institutions and to focus on smaller and quicker missions.

Continuing emergence of new powers and non-state actors

States around the world outside the traditional US alliance system are building greater economic, diplomatic and military

capacity to affect regional and, in some cases, global security developments. In-depth tracking of armed violence around the world also reveals the destabilizing role of non-state actors in prosecuting conflicts and engaging in violence against civilians.

Unfortunately, the global community has yet to fully grapple with the ongoing structural changes that define today's security landscape—changes that often outpace the ability of established institutions and mechanisms to cope with them. It will certainly take time for established and newly emergent powers to reach an effective consensus on the most important requirements for international order, stability and peace, and on how to realize and defend them.

Struggling norms and institutions

Multilateral organizations tasked with promoting and enforcing norms for stability and security continue to face difficulties in generating the political will and financial resources needed to meet their mandates, and gaps remain which require new or more effective mechanisms.

A far greater focus will need to be placed on less militarized solutions to the security challenges ahead. Perhaps most crucially, many of the most important security challenges in the years ahead will not readily lend themselves to traditional military solutions. Instead, what will be needed is an innovative integration of preventive diplomacy, pre-emptive and early-warning technologies, and cooperative transnational partnerships. ●

Dr Bates Gill is Director of SIPRI.



1. RESPONDING TO ATROCITIES: THE NEW GEOPOLITICS OF INTERVENTION

GARETH EVANS

Our age has confronted no greater ethical, political and institutional challenge than ensuring the protection of civilians, as victims of both war and of mass atrocity crimes. Awareness of the problem of civilian protection is growing and has been accompanied by a much greater evident willingness—at least in principle—to do something about it.

New paradigms for a new century

Two normative advances in this area are, first, the dramatically upgraded attention given since 1999 to the law and practice relating to the protection of civilians (POC) in armed conflict; and, second, the emergence in 2001, and far-reaching global embrace since 2005, of the concept of the responsibility to protect (R2P).

There is now more or less universal acceptance of the principles that state sovereignty is not a licence to kill but entails a responsibility not to do or allow grievous harm to one's own people. The international community also bears a responsibility to assist those states that need and want help in meeting that obligation, and a responsibility to take timely and decisive collective action in accordance with the UN Charter.

Libya and its aftermath

UN Security Council Resolution 1973, authorizing military intervention in Libya to halt what was seen as an imminent massacre, was a resounding demonstration of these principles at work, and seemed to

set a new benchmark against which all future arguments for such intervention might be measured. However, the subsequent implementation of that mandate led to the reappearance of significant geopolitical divisions.

The Security Council's paralysis over Syria during the course of 2011, culminating in the veto by Russia and China of a cautiously drafted condemnatory resolution, has raised the question, in relation to the sharp-end implementation of R2P, of whether Resolution 1973 would prove to be the high-water mark from which the tide will now retreat.

The future for civilian protection

The crucial question is whether the new geopolitics of intervention that appeared to have emerged with Resolution 1973 is in fact sustainable, or whether, as suggested by the subsequent response to the situation in Syria, a more familiar, and more cynical, geopolitics will in fact reassert itself.

This author takes the optimistic view that the new normative commitment to civilian protection is alive and well, and that, in the aftermath of the intervention in Libya, the world has been witnessing not so much a major setback for a new cooperative approach as the inevitable teething troubles associated with the evolution of any major new international norm. The Brazilian 'responsibility while protecting' initiative, focusing on clearer criteria for and more effective monitoring of the use of force, offers a constructive way forward. ●

Gareth Evans was Australian minister for foreign affairs (1988–96) and president of the International Crisis Group (2000–2009). He is currently Chancellor of the Australian National University.



2. ARMED CONFLICT

During 2011 the sudden and dramatic popular uprisings in parts of the Middle East and North Africa, which together constituted the Arab Spring, produced diverse patterns of conflict. The events of the Arab Spring were not, however, isolated in terms of contemporary conflict trends. Rather, developments across the region served to underline some of the long-term changes that have occurred in armed conflict over recent decades. This has involved important shifts in the scale, intensity and duration of armed conflict around the world, and in the principal actors involved in violence. Together these changes point to the emergence of a significantly different conflict environment than that which prevailed for much of the 20th century.

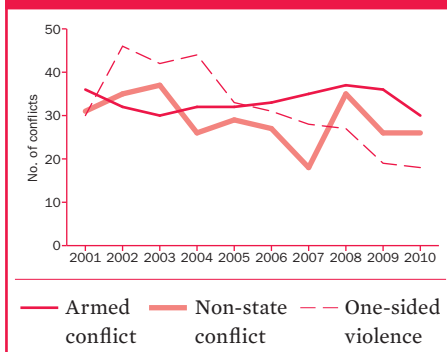
The first year of the Arab Spring

The uprisings of the Arab Spring spread rapidly from country to country and soon affected large parts of North Africa and the Middle East. While they shared a number of traits—including large demonstrations, non-violent actions, the absence of single leaders and the use of central squares in major cities—they also differed in certain respects. The extent of the demands made by the protesters varied, ranging from improved economic situations to regime change, as did the level of violence.

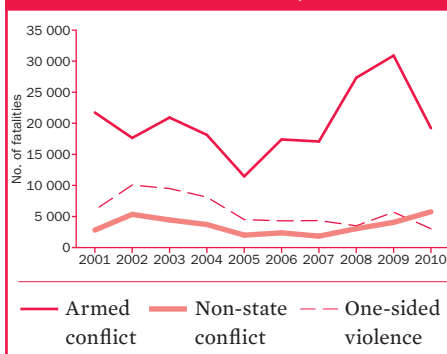
While there were comparatively few fatalities in Algeria and Morocco, other countries—including Bahrain, Egypt, Tunisia and Yemen—were much more severely affected. The highest levels of violence were in Libya and Syria.

International reactions varied, with external support limited to a few cases.

NUMBERS OF CONFLICTS, 2001–10



NUMBERS OF FATALITIES IN ORGANIZED VIOLENCE, 2001–10



Western powers, notably France and the USA, initially supported governments in Egypt and Tunisia but then began to push for change. In the case of Libya, they quickly took an active stand against the regime, with the UN's approval and NATO as the instrument. Over conflict in Syria, China and Russia, both of which had become increasingly critical of the international use of force, opposed Western-led efforts to sanction the ruling regime. The scope for third-party involvement in solving these crises was remarkably limited, and serious negotiations only occurred in Yemen.



The outcomes of the first year of the Arab Spring were mixed. There were examples of regime change but also cases where popular resistance was repressed. Nevertheless, Arab politics has been changed by this historically unique series of events.

Organized violence in the Horn of Africa

For decades, the countries in the Horn of Africa—Djibouti, Eritrea, Ethiopia, Kenya and Somalia—have been plagued by organized violence. While all these countries experienced state-based armed conflict, non-state conflict or one-sided violence against civilians during the decade 2001–10, non-state conflicts were by far the most common. There were 77 non-state conflicts (35 per cent of the global total) in the Horn of Africa. State-based armed conflict was less common: only 5 were recorded in 2001–10. Acts of one-sided violence were committed by 6 actors.

States in the region have demonstrated a growing tendency to become militarily engaged in neighbouring countries. For instance, both Ethiopia and Kenya have at times sent troops in support of the Somali Transitional Federal Government (TFG) in its conflict with al-Shabab, which has in turn received arms and training from Eritrea.

Patterns of organized violence, 2001–10

In previous editions of the SIPRI Yearbook, the Uppsala Conflict Data Program (UCDP) presented information on patterns of ‘major armed conflicts’. To provide a broader perspective on organized violence, the focus has now expanded to include three types of organized violence: (state-based) armed conflicts, non-state conflicts and one-sided violence (against civilians).

Over the period 2001–10 there were 69 armed conflicts and 221 non-state conflicts and 127 actors were involved in one-sided violence. Thus, in total, there were more than 400 violent actions that each resulted in the deaths of more than 25 people in a particular year.

The extent of organized violence at the end of the decade was lower than at its beginning, although the decline was not dramatic. Moreover, while in the 1990s there were wide fluctuations in the number of conflicts, this pattern was not repeated in the 2000s, indicating that the downward trend may be a promising sign of future developments. ●



3. PEACE OPERATIONS AND CONFLICT MANAGEMENT

The year 2011 was in many respects a year of contradiction for peacekeeping. On the one hand, after nearly a decade of record expansion in the numbers of operations and personnel deployed and the costs of financing these operations, peacekeeping showed initial signs of slowing down in 2010 and there were further indications in 2011 that military-heavy, multidimensional peace operations have reached a plateau. On the other hand, 2011 saw the possible beginnings of an actionable commitment by the international community to the concepts of the responsibility to protect (R2P) and protection of civilians (POC) in relation to the conflicts in Côte d'Ivoire, Libya and Syria.

Several factors explain the consolidation trend of recent years. First and foremost is the global military overstretch: during the years of expansion the United Nations and other organizations had difficulty in persuading countries to contribute sufficient troops and force enablers such as helicopters. The emergence of new contributors such as Brazil, China and Indonesia, while a positive development, did not significantly fill the demand gap. A second factor is the ongoing global financial downturn, which had a more discernable impact on peacekeeping in 2011 as governments outlined budget cuts for their militaries and advocated leaner operations and quicker exits in multilateral frameworks such as the UN. Third, over the past decade contemporary peace operations have faced 'mission creep' in terms of the explosion of mandated tasks, which often require civilian expertise and open-ended time frames. This has led to a questioning

of whether a heavy (and long-term) military footprint in peace operations is necessary.

Global trends

A total of 52 peace operations were conducted in 2011, the same number as in 2010 and the second lowest in the period 2002–11, confirming a downward trend that started in 2009. However, the number of personnel deployed on peace operations in 2011 was the second highest of the period, at 262 129, just 700 fewer than in 2010.

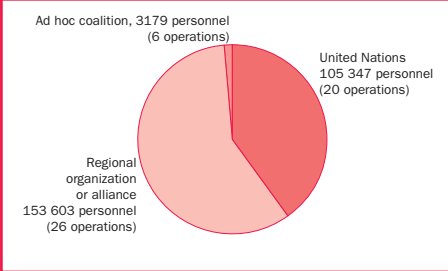
The UN, with 20 operations, remained the main conducting organization. In terms of personnel deployed, the North Atlantic Treaty Organization (NATO) was the largest conducting organization for the third consecutive year: 137 463 personnel (52 per cent of the total) were deployed to operations conducted by NATO, mainly the International Security Assistance Force (ISAF) in Afghanistan.

New peace operations

Four new peace operations were deployed in 2011: two in South Sudan, one in Libya and one in Syria.



PERSONNEL DEPLOYED, BY ORGANIZATION TYPE, 2011

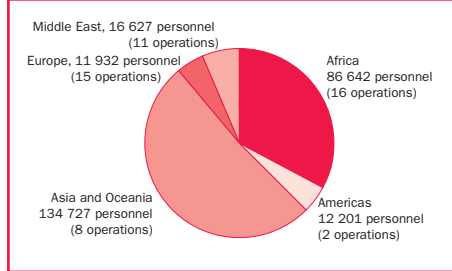


The independence of South Sudan led to a significant reconfiguration of the UN presence in the former territory of Sudan. After much discussion on the future of the UN Mission in the Sudan (UNMIS), the mission closed in July, after Sudan indicated that it would not consent to an extension of its mandate. The majority of the personnel were redeployed to the new UN Mission in the Republic of South Sudan (UNMISS) and to the new border-monitoring mission, the UN Interim Security Force for Abyei (UNISFA).

Although NATO's Operation Unified Protector falls outside the definition of peace operation, it was nonetheless significant as it encapsulated the global debate on how to demarcate the boundaries of peacekeeping. It was the first military intervention to be launched in the R2P framework and was mandated by the UN Security Council with no permanent member objecting. However, towards the end of the operation, whatever tentative consensus there had been disintegrated over the extent of the responsibility. Later in the year, the UN deployed the UN Support Mission in Libya (UNSMIL), a small political mission.

In late 2011, the Arab League deployed its first ever mission, the Arab League Observer Mission to Syria. The mission was

PERSONNEL DEPLOYED, BY LOCATION, 2011



unable to effectively carry out its mandate and quickly became mired in controversy and criticism.

Regional developments

As in preceding years, the largest concentration of peace operations in 2011 was in Africa. Personnel numbers rose in Africa due to the expansion of the African Union Mission in Somalia (AMISOM) and the temporary reinforcement of the UN Operation in Côte d'Ivoire (UNOCI) in the run-up to the deposition and arrest of President Laurent Gbagbo.

In Asia and Oceania the UN Mission in Nepal (UNMIN) closed in January 2011 and the first steps were taken towards the planned withdrawal of two operations: ISAF and the UN Integrated Mission in Timor-Leste (UNMIT). ●



4. MILITARY EXPENDITURE

World military expenditure did not increase in 2011, for the first time since 1998. The world total for 2011 is estimated to have been \$1738 billion, representing 2.5 per cent of global gross domestic product or \$249 for each person. Compared with the total in 2010, military spending remained virtually unchanged in real terms. However, it is still too early to say whether this means that world military expenditure has finally peaked.

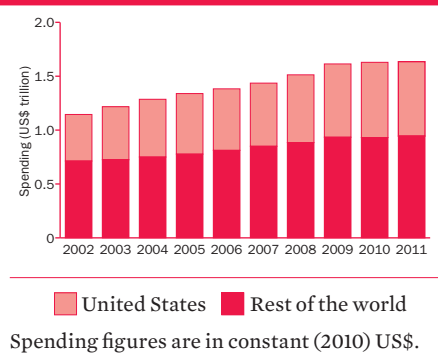
The main cause of the halt in military spending growth was the economic policies adopted in most Western countries in the aftermath of the global financial and economic crisis that started in 2008. These policies prioritized the swift reduction of budget deficits that increased sharply following the crisis.

WORLD MILITARY SPENDING, 2011

Region	Spending (\$ b.)	Change (%)
Africa	34.3	8.6
North Africa	13.9	25
Sub-Saharan Africa	20.4	-0.1
Americas	809	-1.4
Central America and the Caribbean	7.0	2.7
North America	736	-1.2
South America	66.0	-3.9
Asia and Oceania	364	2.2
Central and South Asia	61.7	-2.7
East Asia	243	4.1
Oceania	28.6	-1.2
South East Asia	31.0	2.7
Europe	407	0.2
Eastern Europe	80.5	10.2
Western and Central	326	-1.9
Middle East	123	4.6
World total	1 738	0.3

Spending figures are in current (2011) US\$.

WORLD MILITARY EXPENDITURE, 2002-11



The impact of austerity on military expenditure in Europe

In Western and Central Europe in particular, governments enacted austerity measures, including military spending cuts. In countries such as Greece, Italy and Spain, deficit reduction was given added urgency by acute debt crises where these countries faced being unable to meet their debt obligations, in some cases requiring bailouts from the European Union and the International Monetary Fund.

The falls in military expenditure brought other policy debates into focus, including long-standing accusations from both sides of the Atlantic that European countries are failing to 'pull their weight' in military affairs, and renewed efforts to promote greater European military cooperation as a way to reduce costs while preserving capabilities.

US military spending and the 2011 budget crisis

The US administration and the Congress attempted to agree measures to reduce the soaring US budget deficit. While these attempts did not lead to substantive cuts in



military expenditure, delays in agreeing a budget for 2011 contributed to spending being lower than planned and resulted in a small real-terms fall in US military expenditure.

The rapid decade-long increase in US military spending appears to be ending. This is the result both of the ending of the Iraq War and the winding down of the Afghanistan War and of budget deficit-reduction measures.

The economic cost of the Afghanistan and Iraq wars

One of the dominating factors of the global security environment over the past 10 years, and a key factor influencing military spending in many countries, was the ‘global war on terrorism’ following the terrorist attacks on the USA of 11 September 2001. The highly militarized policy response to these attacks chosen by the USA, which included invasions of Afghanistan and Iraq, had cost the USA over \$1.2 trillion in additional military expenditure alone by the end of 2011, and may result in total long-term costs of as much as \$4 trillion. Much lower, although still substantial, costs had also been incurred by other participants in these wars.

The wars in Afghanistan and Iraq have also led to huge economic costs, including

THE REPORTING OF MILITARY EXPENDITURE DATA TO THE UN

The number of states reporting to the UN Standardized Instrument for Reporting Military Expenditures has dropped from a high of 81 in 2002 to 51 in 2011.

European states had the highest reporting rate in 2011 (31 of 48 states). The worst rates were in Africa (2 of 54 states) and the Middle East (1 of 14 states).

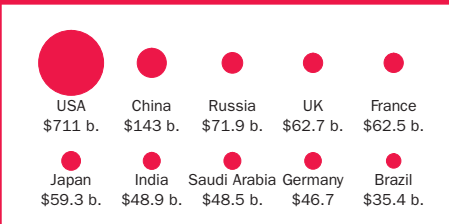
costs of military forces; destruction of capital and infrastructure; disruption of normal economic activity; loss of human capital through death, injury, displacement and disruption to education; and loss of foreign investment and tourism. Full estimates for these costs are not currently available.

Military expenditure in Africa

Africa was the region with the largest increase in military spending in 2011—8.6 per cent. This was dominated by a massive 44 per cent increase by Algeria, the continent’s largest spender. Algeria’s continuous increases in recent years were fuelled by increasing oil revenues and were provided a ready justification by the activities of al-Qaeda in the Islamic Maghreb (AQIM), although Algeria’s regional ambitions may be a more important motive.

The terrorist activities of Boko Haram were also a major security concern for Nigeria and the military-led response to these appears to have been one factor in Nigeria’s military spending increases. However, the role of other factors, especially oil revenues, should not be ignored. ●

THE 10 LARGEST MILITARY SPENDERS, 2011



5. ARMS PRODUCTION

The public spending crisis in the Global North has not yet had a large overall impact on the major companies in the arms production and military services industry ('the arms industry'). The most likely reason for this lack of major change is that the impact of the world financial slowdown is being delayed by the structure of the arms industry.

The economic and spending uncertainties in both the USA and Western Europe will have general implications for the way in which weapon programmes are developed and implemented, and so have contributed to uncertainty as to whether arms sales will be maintained or increase at the same rate as in the past.

The US National Defense Authorization Act

The National Defense Authorization Act for financial year 2012 has sent a mixed message about the US arms industry. On the one hand, it maintains many of the USA's largest and most costly weapon programmes, such as the F-35 (Joint Strike Fighter). Authorization to continue spending on these programmes indicates that arms sales in the US market are likely to continue largely unchanged from current levels. On the other hand, new contract rules on risk sharing between the US Government and the companies winning arms contracts mean that a potentially heavier burden will fall on the industry as these programmes develop.

Arms industry production cooperation in Western Europe

The financial crisis has seeped into the discussions on arms industry cooperation

in Western Europe, although these discussions have not yet resulted in widespread increased cooperation.

West European countries have discussed and begun to implement cooperative development and production strategies for unmanned aerial systems (UASs) and in June 2011 the European Commission initiated a process for developing and producing UASs. However, these projects have not yet come to fruition, as seen in the stagnation of the Talarion project.

The military services industry

Some key military services sectors—such as maintenance, repair and overhaul (MRO), systems support, logistics, and training of foreign militaries—have been more resistant to the impact of the drawdown from Iraq and to the global financial instability. Their long-term growth can be attributed to a variety of post-cold war changes, including structural transformation of military needs and the decrease of in-house capabilities for ever more complex systems. It seems that pressure on public spending, which has raised the possibility that military spending will fall, will contribute to an increase in demand for outsourced services such as weapon systems MRO.

Diversification into cybersecurity

In addition to an increased focus on military services, companies are relying on other business strategies in an effort to maintain their bottom lines. A notable development has been the growth in acquisitions of specialist cybersecurity firms as the largest arms-producing companies attempt to shield themselves from potential cuts in military spending and move into adjacent markets.



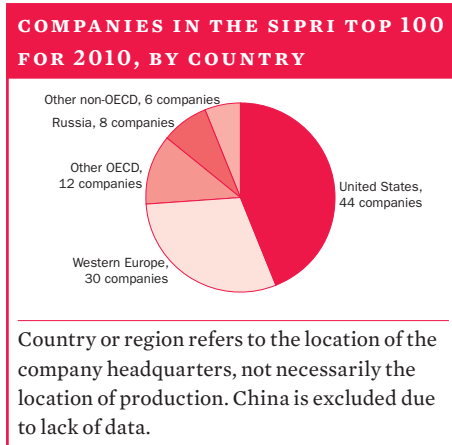
The Indian arms industry

Many countries outside the Global North are attempting to develop a self-sustaining national arms industry. India's efforts to modernize, upgrade and maintain the equipment of its armed forces and to expand its military capabilities have made it the largest importer of major arms.

Its domestic arms industry is also attempting to meet this demand—for example by increasing levels of technology through technology transfer—but the Indian defence industrial policy requires major reform.

The SIPRI Top 100 arms-producing and military services companies

The SIPRI Top 100 list ranks the largest arms-producing and military services companies in the world (outside China) according to their arms sales. Sales of arms and military services by the SIPRI Top 100 continued to increase in 2010 to reach \$411.1 billion, although at 1 per cent in real terms the rate of increase was slower than



in 2009. Between 2002 and 2010 Top 100 arms sales rose by 60 per cent.

Companies based in the USA remained at the top of the SIPRI Top 100 and were responsible for over 60 per cent of the arms sales in the SIPRI Top 100. The number of West European companies in the Top 100 declined to 30, while the Brazilian company Embraer re-entered the Top 100. Russia's continued arms industry consolidation added another parent corporation to its top arms producers—United Shipbuilding Corporation. ●

THE 10 LARGEST ARMS-PRODUCING COMPANIES, 2010

Company	Arms sales (\$ m.)	Profit (\$ m.)
1 Lockheed Martin	35 730	2 926
2 BAE Systems (UK)	32 880	-1 671
3 Boeing	31 360	3 307
4 Northrop Grumman	28 150	2 053
5 General Dynamics	23 940	2 624
6 Raytheon	22 980	1 879
7 EADS (trans-Europe)	16 360	732
8 Finmeccanica (Italy)	14 410	738
9 L-3 Communications	13 070	955
10 United Technologies	11 410	4 711

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



6. INTERNATIONAL ARMS TRANSFERS

The volume of international transfers of major conventional weapons grew by 24 per cent between 2002–2006 and 2007–11. The five largest suppliers in 2007–11—the USA, Russia, Germany, France and the UK—accounted for three-quarters of the volume of exports. Outside the five largest arms suppliers, China and Spain recorded significant increases in the volume of deliveries during 2007–11. While China's exports are likely to continue to grow, Spain's order book for ships—which account for the bulk of its exports—indicates that it will not maintain its volume of exports.

States in Asia and Oceania received nearly half of all imports of major conventional weapons in 2007–11. Moreover, the five largest recipients of major conventional weapons—India, South Korea, Pakistan, China and Singapore—were all located in the region. Major importers are taking advantage of the competitive arms market to seek attractive deals in terms of financing, offset

arrangements and the transfer of technology. India, which received 10 per cent of all imports in 2007–11, is likely to remain the largest recipient of major conventional weapons in the coming years.

The impact of the Arab Spring on arms export policies

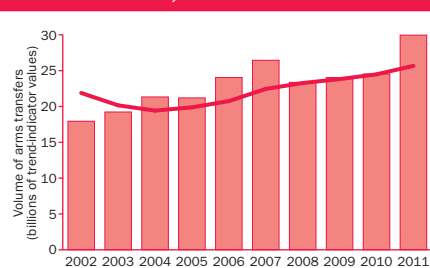
The first year of the Arab Spring provoked debate about the policies of major arms suppliers on exports to states in the Middle East and North Africa. Russian officials saw no reason to halt deliveries to any state in the region not subject to a UN arms embargo. In contrast, the USA and several major European suppliers to the region revoked or suspended some export licences to the region and in certain cases undertook reviews of their arms export policies. However, strategic and economic concerns continued to play a central role in all states' decision-making on arms exports to the region, and the impact of the Arab Spring on arms export policies appears to have been limited.

Arms transfers to South East Asia

The volume of arms transfers to South East Asia increased threefold between 2002–2006 and 2007–11. Naval equipment and aircraft with maritime roles accounted for a significant share of deliveries and outstanding orders by Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore and Viet Nam.

Determinants of the types and volumes of weapons sought by these six states include piracy, illegal fishing and terrorism. However, territorial disputes in the South China Sea probably play the most important role in their procurement decisions. This is borne out by defence white papers, the types of weapons acquired in 2007–11 and,

THE TREND IN TRANSFERS OF MAJOR ARMS, 2002–11



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



THE MAIN IMPORTERS AND EXPORTERS OF MAJOR ARMS, 2010

Exporter	Global share (%)	Importer	Global share (%)
1. USA	30	1. India	10
2. Russia	24	2. South Korea	6
3. Germany	9	3. Pakistan	5
4. France	8	4. China	5
5. UK	4	5. Singapore	4
6. China	4	6. Australia	4
7. Spain	3	7. Algeria	4
8. Netherlands	3	8. USA	3
9. Italy	3	9. UAE	3
10. Israel	2	10. Greece	3

in particular, a recent series of low-level maritime confrontations in disputed waters.

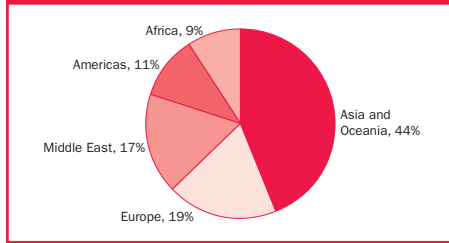
States in South East Asia are also making efforts to secure transfers of technology and diversify their sources of supply. Suppliers are increasingly willing to meet the demands of states in the region for extensive technology transfers in arms deals or partnerships to develop new weapon systems.

Arms transfers to Armenia and Azerbaijan

Recent acquisitions, orders and procurement plans by Armenia and Azerbaijan have the potential to increase the risk of renewed conflict over the disputed region of Nagorno-Karabakh. Armenia and Azerbaijan accuse each other of pursuing an arms race.

Azerbaijan has significantly increased its volume of arms imports against a backdrop of bellicose rhetoric on the use of force to settle the conflict over Nagorno-Karabakh. There is limited public information on Armenia's arms imports in recent years but during 2010 and 2011 it announced plans to procure more advanced weapon systems in

RECIPIENT REGIONS OF MAJOR ARMS IMPORTS, 2007-11



connection with Azerbaijan's procurement drive.

While a voluntary Organization for Security and Cooperation in Europe (OSCE) arms embargo is in force, there are different interpretations of its status by OSCE participating states and arms continue to be supplied to both sides. Russia is a major supplier to both parties. Armenia has a limited range of potential suppliers and is overly reliant on Russia as an arms supplier. In contrast, Azerbaijan has recently concluded significant licensed production arrangements and deals with Israel, South Africa and Turkey as it seeks to use foreign technology to develop an indigenous arms industry. ●

TRANSPARENCY IN ARMS TRANSFERS

The number of states reporting their arms imports and exports to the United Nations Register of Conventional Arms (UNROCA) increased in 2011 to 85, from an all-time low of 72 states in 2010. There was a notable increase in the Americas, but only one African state reported, the lowest number since UNROCA was created.

An increasing number of governments have published national reports on arms exports, including Poland, which published its first reports in 2011.



7. WORLD NUCLEAR FORCES

At the start of 2012, eight states possessed approximately 4400 operational nuclear weapons. Nearly 2000 of these are kept in a state of high operational alert. If all nuclear warheads are counted—operational warheads, spares, those in both active and inactive storage, and intact warheads scheduled for dismantlement—the USA, Russia, the UK, France, China, India, Pakistan and Israel together possess a total of approximately 19 000 nuclear weapons.

The availability of reliable information about the nuclear weapon states' arsenals varies considerably. France, the UK and the USA have recently disclosed important information about their nuclear capabilities. In contrast, transparency in Russia has decreased as a result of its decision not to publicly release detailed data about its strategic nuclear forces under the 2010 Russia–USA New START treaty, even though it shares the information with the USA. China remains highly non-transparent as part of its long-standing deterrence strategy, and little information is publicly available about its nuclear forces and weapon production complex.

Reliable information on the operational status of the nuclear arsenals and capabilities of the three states that have never been party to the 1968 Non-Proliferation Treaty (NPT)—India, Israel and Pakistan—is especially difficult to find. In the absence of official declarations, the publicly available information is often contradictory or incorrect.

The legally recognized nuclear weapon states

All five legally recognized nuclear weapon states, as defined by the NPT—China,

WORLD NUCLEAR FORCES, 2012

Country	Deployed warheads	Other warheads	Total inventory
USA	2 150	5 850	~8 000
Russia	1 800	8 200	10 000
UK	160	65	225
France	290	10	~300
China	..	200	~240
India	..	80–100	80–100
Pakistan	..	90–110	90–110
Israel	..	~80	~80
North Korea	?
Total	~4 400	~14 600	~19 000

All estimates are approximate and are as of January 2012.

France, Russia, the UK and the USA—appear determined to remain nuclear powers for the indefinite future.

Russia and the USA have major modernization programmes under way for nuclear delivery systems, warheads and production facilities. At the same time, they continue to reduce their nuclear forces through the implementation of New START, which entered into force in 2011, as well as through unilateral force cuts. Since Russia and the USA possess by far the two largest nuclear weapon arsenals, one result has been that the total number of nuclear weapons in the world continues to decline.

The nuclear arsenals of China, France and the UK are considerably smaller, but all are either developing new weapons or have plans to do so. China is the only one of these states that appears to be expanding the size of its nuclear forces, albeit slowly.

Indian and Pakistani nuclear forces

India and Pakistan are increasing the size and sophistication of their nuclear arsenals. Both countries are developing and deploying new types of nuclear-capable



STOCKS OF FISSILE MATERIALS

Materials that can sustain an explosive fission chain reaction are essential for all types of nuclear explosives, from first-generation fission weapons to advanced thermonuclear weapons. The most common of these fissile materials are highly enriched uranium (HEU) and plutonium.

For their nuclear weapons, China, France, Russia, the UK and the USA have produced both HEU and plutonium; India, Israel and North Korea have produced mainly plutonium; and Pakistan mainly HEU. All states with a civilian nuclear industry have some capability to produce fissile materials.

Global stocks, 2011

Highly enriched uranium	~1270 tonnes*
Separated plutonium	
Military stocks	~237 tonnes
Civilian stocks	~250 tonnes

* Not including 171 tonnes to be blended down.

ballistic and cruise missiles and both are increasing their military fissile material production capabilities.

India's nuclear doctrine is based on the principle of a minimum credible deterrent and no-first-use of nuclear weapons. There have been no official statements specifying the required size and composition of the arsenal but, according to the Ministry of Defence, it involves 'a mix of land-based, maritime and air capabilities' (a 'triad').

In May 2011 the Indian Prime Minister, Manmohan Singh, convened a meeting of the Nuclear Command Authority—the body responsible for overseeing the country's nuclear arsenal—to assess progress towards the goal of achieving an operational triad.

Pakistan's nuclear doctrine is also based on the principle of minimum deterrence but does not specifically rule out the first-use of nuclear weapons to offset India's

superiority in conventional arms and manpower.

Pakistan's development of new short-range ballistic missiles suggests that its military planning has evolved to include contingencies for the use of 'battlefield nuclear weapons'. This may lead to nuclear warheads being deployed on a more launch-ready posture.

Israeli nuclear forces

Israel continues to maintain its long-standing policy of nuclear opacity, neither officially confirming nor denying that it possesses nuclear weapons. However, it is widely believed to have produced plutonium for a nuclear weapon arsenal.

Israel may have produced non-strategic nuclear weapons, including artillery shells and atomic demolition munitions, but this has never been confirmed.

North Korea's military nuclear capabilities

North Korea has demonstrated a military nuclear capability. However, there is no public information to verify that it possesses operational nuclear weapons.

At the end of 2011 North Korea was estimated to have separated roughly 30 kilograms of plutonium. This would be sufficient to construct up to eight nuclear weapons, depending on North Korea's design and engineering skills.

According to a leaked report prepared in 2011 by the UN Security Council's panel of experts on North Korea, the country has pursued a uranium-enrichment programme 'for several years or even decades'. It is not known whether North Korea has produced HEU for use in nuclear weapons. ●



8. NUCLEAR ARMS CONTROL AND NON-PROLIFERATION

Russian-US nuclear arms control

The momentum behind treaty-based approaches to nuclear arms control and disarmament was highlighted in 2011 by the entry into force of the 2010 Russia-USA Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START), which mandated additional reductions in the two parties' strategic offensive nuclear forces.

The parties implemented on schedule the inspections, data exchanges, notifications and other measures set out in the treaty's cooperative monitoring and verification regime. In establishing this regime—one of the treaty's main achievements—New START continued an arms control process through which Russia and the USA have redefined their strategic relationship.

There were questions about the next steps in Russian-US arms control. Both sides acknowledged that making further cuts in their nuclear arsenals would require expanding the bilateral agenda to address tactical nuclear weapons and non-deployed

warheads as well as broader strategic stability issues. The most prominent of the latter related to ballistic missile defence, which was the focus of an intensifying dispute in 2011. There was also recognition that deeper cuts in their respective strategic nuclear arsenals would require bringing the three other nuclear weapon states recognized by the 1968 Non-Proliferation Treaty (NPT) into a multilateral nuclear arms-reduction process.

Nuclear proliferation concerns in Iran and Syria

International efforts to prevent the spread of nuclear weapons remained a top priority in 2011. Two states—Iran and Syria—came under intensified scrutiny during the year for allegedly concealing military nuclear activities, in contravention of their commitments under the NPT.

A three-year investigation by the International Atomic Energy Agency (IAEA) concluded that a building in Syria destroyed by an Israeli air strike in 2007 was 'very likely' to have been a nuclear reactor that should have been declared to the agency. The IAEA also reported that it had credible evidence that Iran had pursued nuclear weapon-related activities in the past and said that some of the activities might still be continuing. The difficulties encountered by inspectors in both countries led to renewed calls to expand the IAEA's legal powers to investigate NPT states parties suspected of violating their treaty-mandated safeguards agreements, even beyond those set out in the Model Additional Protocol.

The unresolved Iranian and Syrian nuclear controversies raised further doubt about the efficacy of international legal

AGGREGATE STRATEGIC OFFENSIVE ARMS UNDER NEW START, 1 SEPTEMBER 2011

	Russia	USA
Deployed ICBMs, SLBMs and heavy bombers	516	822
Warheads on deployed ICBMs and SLBMs, and warheads counted for heavy bombers	1 566	1 790
Deployed and non-deployed launchers of ICBMs, SLBMs and heavy bombers	871	1 043

ICBM = intercontinental ballistic missile;
SLBM = submarine-launched ballistic missile.



approaches, in particular the role of the UN Security Council, in dealing with suspected or known cases of states violating important arms control treaty obligations and norms. During 2011 Iran continued to defy five Security Council resolutions, adopted since 2006, demanding that it suspend all uranium enrichment and other sensitive nuclear fuel cycle activities. A divided Security Council failed to take action on Syria's nuclear file after the IAEA Board of Governors had declared the country to be non-compliant with its safeguards agreement. In the view of some observers, the lack of action set the stage for future controversies about the suitability of extra-legal measures, including the pre-emptive use of military force, in addressing proliferation concerns.

North Korea's nuclear programme

The diplomatic impasse over the fate of the nuclear programme of North Korea remained unresolved in 2011. Preliminary discussions aimed at restarting the suspended Six-Party Talks on the denuclearization of North Korea made little progress, despite renewed contacts between North Korean and US diplomats. The legal and normative challenges posed by North Korea to the global non-proliferation regime were underscored by reports that the country had been involved in covert transfers of nuclear and ballistic technologies to third countries on a larger scale than previously suspected.

Developments in the Nuclear Suppliers Group

In June 2011 the Nuclear Suppliers Group (NSG) reached a controversial consensus agreement to tighten its transfer guidelines for uranium-enrichment and plutonium-

reprocessing (ENR) equipment and technology. The NSG states could not agree on language for the imposition of certain subjective criteria; instead, they settled on conditioning the transfer of nuclear technology on signing an additional safeguards protocol with the IAEA and on the importing state being in full compliance with its IAEA obligations.

An issue at the very heart of nuclear non-proliferation is the relationship between the NSG suppliers and those states with nuclear weapons that are outside of the framework of the NPT and the NSG. The 2011 NSG plenary discussed whether the revised guidelines affected India's eligibility to receive ENR transfers and its possible membership of the NSG.

Cooperation on non-proliferation, arms control and nuclear security

The risks of nuclear terrorism and the illicit diversion of nuclear materials continued to be the focus of high-level political attention around the globe in 2011.

The Group of Eight (G8) agreed to extend the 2002 Global Partnership against the Spread of Weapons and Materials of Mass Destruction—an initiative which has supported cooperative projects aimed at addressing non-proliferation, disarmament and nuclear security issues. In addition, the UN Security Council adopted Resolution 1977, which extended by 10 years the mandate of the committee established under Resolution 1540 to monitor and facilitate states' compliance with their obligations under the resolution. ●



9. REDUCING SECURITY THREATS FROM CHEMICAL AND BIOLOGICAL MATERIALS

Biological weapon arms control and disarmament

The Seventh Review Conference of the States Parties to the 1972 Biological and Toxin Weapons Convention (BTWC) agreed to conduct a third intersessional meeting process that will 'discuss, and promote common understanding and effective action' on cooperation and assistance, the review of relevant developments in science and technology, and the strengthening of, among other things, national implementation of the convention.

Despite the expectations of many states and analysts that the BTWC would somehow be 'bolstered' (e.g. by taking additional steps with respect to institutional strengthening and various operational-level or 'practical' measures), the political conditions at the conference inhibited taking decisions to establish an intersessional process that is more action- and decision-oriented. Thus, the regime is evolving incrementally and is focused on process.

Chemical weapon arms control and disarmament

The 16th Conference of the States Parties to the 1993 Chemical Weapons Convention (CWC) witnessed exchanges between Iran and the USA that partly reflected wider international tension regarding the nature and purpose of Iran's nuclear activities. Russia and the USA confirmed that they would be unable to complete the destruction of their chemical weapon stockpiles by the final CWC-mandated

deadline of 29 April 2012 but would nevertheless undertake to complete the destruction expeditiously. In the case of Iraq, the Organisation for the Prohibition of Chemical Weapons (OPCW) concluded that progress has been made in razing chemical weapon production facilities.

An advisory panel to the OPCW's Director-General submitted its final report after reviewing the implementation of the CWC with a focus on how the convention's activities should be structured after the destruction of chemical weapon stockpiles ends, sometime after 2012. The Director-General, together with the states parties and the OPCW Executive Council, used the process of formulating the report as a means to develop agreed policy guidance for future OPCW priorities and programmes in the lead-up to the Third Review Conference, which will be held in 2013. The report therefore presented options and activities that had been subjected to political and technical review, which the Director-General may use to inform the balance and focus of future activities by the OPCW Technical

DESTRUCTION OF CHEMICAL WEAPONS

As of 30 November 2011,

- Iraq, Libya, Russia and the USA had yet to complete destruction of their chemical weapon stockpiles
- 50 619 agent tonnes (71 per cent) of the declared chemical weapons had been verifiably destroyed
- 3.95 million (46 per cent) declared items and chemical weapon containers had been destroyed
- 13 states had declared 70 former chemical weapon production facilities
- 43 of these facilities had been destroyed and 21 converted to peaceful purposes



OLD AND ABANDONED CHEMICAL WEAPONS

As of December 2011,

- 4 countries had declared that abandoned chemical weapons (ACWs) were present on their territories
- 15 countries had declared that they have possessed old chemical weapons (OCWs) since the CWC's entry-into-force
- OCW destruction operations in 2011 were carried out in Belgium, Italy, Japan, Germany, Switzerland and the UK
- Destruction operations for ACWs in China continued

Secretariat. The report also reflects the CWC regime's continuing transition towards other priorities that will become more apparent once chemical weapon stockpiles are eliminated.

Allegations of chemical and biological weapon programmes

During the Libyan civil war concern was expressed that the regime of Muammar Gaddafi would employ a stock of residual sulphur mustard against anti-government protestors and armed rebel groups. Similar concerns were expressed regarding the nature and fate of possible chemical and biological weapons in Syria over the course of the country's civil unrest and tension.

The OPCW sent a special inspection team to Libya in November to investigate reports of undeclared chemical weapons and it was confirmed that the Gaddafi regime had not declared a secret chemical weapon stockpile. The fact that the OPCW did not uncover Libya's deceptive declarations prior to the 2011 overthrow of Gaddafi raised questions about the organization's ability to detect violations more generally and prompted calls to review the CWC's verification regime,

although little discussion occurred on how to link this problem to the convention's challenge inspection request provisions.

Future implications of science and technology

Science and technology and related research can strongly affect chemical and biological warfare prevention, response and remediation efforts. Research on avian influenza in particular has raised a number of policy implications, such as whether it is preferable to describe scientific research on its merits for peaceful purposes and to avoid characterizing it in terms of potential security threats. The debate also affects research funding, publication policies, agreed principles in research oversight, and differences in approach on agreeing and implementing appropriate safety and security standards.

Despite the inherently subjective (qualitative) nature of such assessments, scientists and technical experts working for states, in principle, understand such threats—provided their national structures are oriented to take such threats into account. Non-state actors—'terrorists' and the proverbial garage science operators—lack institutional depth and capacity to achieve similar levels of sophistication or output. Another key conundrum is whether threat pronouncements—often made by those who are not conducting scientific research and development—prompt al-Qaeda affiliates (or their equivalent) to consider or to pursue the acquisition of chemical and biological weapons. ●



10. CONVENTIONAL ARMS CONTROL

With the exception of some promising progress in South America and in South Eastern Europe, in 2011 most developments in conventional arms control were discouraging as states were not willing to modify national positions in order to facilitate agreement, either globally or regionally.

Three factors have contributed to the difficulty of developing conventional arms control. First, the huge and sustained investment that the USA has made in its military power has made it impossible to find solutions based on balance. Second, technological developments have blurred the picture of which capabilities will confer military power now and in the future. Third, the lack of agreed rules about the use of force—which may be for ostensibly constructive purposes and not only a defensive response to aggression—makes countries reluctant to give up military capabilities even if there is a humanitarian argument in favour of restraint.

Cluster munitions

The 2008 Convention on Cluster Munitions (CCM) is an example of an agreement based on the principle that, even if a given weapon delivers some military advantage, it should still be limited or banned because the humanitarian consequences of use outweigh any military benefit.

While the CCM's parties continued their implementation in 2011, the parties to the 1981 Certain Conventional Weapons Convention failed to agree on a protocol defining rules for the use of cluster munitions and banning those with particularly harmful effects. The

international community is now polarized between a group of states that have committed themselves to a total ban on cluster munitions through a separate convention negotiated among themselves—the CCM—and a group of states that are not bound by any shared rules at all, apart from the laws of war.

Developments in arms export control

Efforts to improve the technical efficiency of export control continued in 2011 in global and regional organizations and in the informal regimes of the Missile Technology Control Regime and the Wassenaar Arrangement. However, a common approach to assessing acceptable risk remains elusive, beyond general guidelines agreed in the 1990s.

Discussions continued in the UN on the creation of a legally binding arms trade treaty (ATT), prior to the negotiating conference to be held in July 2012. Hopes were raised that China and Russia were becoming more engaged in the process. Nonetheless, there are significant differences between states over the content and purpose of a future treaty.

Multilateral arms embargoes

The only new embargo imposed by the UN Security Council in 2011 was that on Libya. States subsequently disagreed about whether or not it permitted the supply of arms to rebel forces. The Security Council was not able to agree on imposing an arms embargo on Syria despite lengthy discussion.

The Arab League imposed its first ever arms embargo in 2011, on Syria. ECOWAS's arms embargo on Guinea, imposed in 2009, was lifted in 2011. The European Union, in addition to its implementation of the new



**MULTILATERAL ARMS
EMBARGOES IN FORCE, 2011**

United Nations (13 embargoes)

- Al-Qaeda and associated individuals and entities
- Democratic Republic of the Congo (NGF)
- Côte d'Ivoire
- Eritrea
- Iran
- Iraq (NGF)
- North Korea
- Lebanon (NGF)
- Liberia (NGF)
- Libya (NGF)
- Somalia
- Sudan (Darfur)
- Taliban

European Union (19 embargoes)

Implementations of UN embargoes (9):

- Al-Qaeda, the Taliban and associated individuals and entities
- Democratic Republic of the Congo (NGF)
- Côte d'Ivoire
- Eritrea
- Iraq (NGF)
- Lebanon (NGF)
- Liberia (NGF)
- Libya (NGF)
- Somalia (NGF)

Adaptations of UN embargoes (3):

- Iran
- North Korea
- Sudan

Embargoes with no UN counterpart (7):

- Belarus
- China
- Guinea
- Myanmar
- South Sudan
- Syria
- Zimbabwe

ECOWAS (1 embargo)

- Guinea

Arab League (1 embargo)

- Syria

NGF = non-governmental forces.

UN embargo on Libya, imposed three new arms embargoes during 2011, on Belarus, on South Sudan and on Syria.

Several significant violations of arms embargoes were reported during 2011, primarily by the UN panels of experts tasked with monitoring the embargoes.

Conventional arms control in Europe

The renewed interest in conventional arms control in Europe that was in evidence in 2010 could not be translated into substantial progress in 2011. By the end of the year, NATO member states had decided to stop sharing information related to the

1990 Treaty on Conventional Armed Forces in Europe (CFE Treaty) with Russia (which had suspended its participation in 2007).

Conventional arms control in Europe has reached a dead end, even though the need for it is largely undisputed. Unresolved territorial conflicts play a key role in blocking progress, but there is no current consensus on its specific objectives, subjects and instruments.

Confidence- and security-building measures

In most regions confidence- and security-building measures (CSBMs) have been elaborated as part of a broader discussion of a security regime in which the behaviour of states is rendered understandable and predictable.

In Europe, the Vienna Document is the most important element of the CSBM regime, complemented by the 1992 Treaty on Open Skies. In 2011 the OSCE participating states adopted a revised version of the Vienna Document. However, it represents at best minimal progress over the Vienna Document 1999. If this trend is not reversed, the Vienna Document regime will continue to lose military and political relevance.

In South America, members of UNASUR agreed to a series of CSBMs intended to support their wider objective of building a common and cooperative security system in the region. ●



ANNEXES

Arms control and disarmament agreements in force, 1 January 2012

- 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; and 1977 Protocols I and II Relating to the Protection of Victims of International and Non-International Armed Conflicts
- 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)
- 1980 Convention on the Physical Protection of Nuclear Material
- 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)
- 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 African Nuclear-Weapon-Free Zone Treaty (Treaty of Pelindaba)
- 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 (CIFTA)
- 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

- 2006 ECOWAS Convention on Small Arms, Light Weapons, their Ammunition and Other Related Materials
- 2006 Treaty on a Nuclear-Weapon-Free Zone in Central Asia (Treaty of Semipalatinsk)
- 2008 Convention on Cluster Munitions
- 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START)
- 2011 Vienna Document 2011 on Confidence- and Security-Building Measures

CHRONOLOGY 2011, SELECTED EVENTS

- 14 Jan. President Zine-Al Abidine Ben Ali is forced to leave Tunisia
- 5 Feb. New START enters into force
- 12 Mar. The Arab League asks the UN to impose a no-fly zone over Libya
- 11 Apr. Forces loyal to Alassane Ouattara, and supported by French and UN forces, capture and arrest Ivorian President Laurent Gbagbo
- 27 May The leaders of the G8 agree to extend its 2002 Global Partnership against the Spread of Weapons and Materials of Mass Destruction
- 20 June The EU imposes an arms embargo on Belarus
- 18 July The International Court of Justice decides that the disputed temple area Preah Vihear belongs to Cambodia, not Thailand
- 6 Aug. Al-Shabab announces a 'tactical' withdrawal from Mogadishu, Somalia
- 22 Sep. The IAEA endorses an action plan on nuclear safety
- 20 Oct. The Libyan National Transitional Council announces the capture and killing of Muammar Gaddafi
- 14–25 Nov. The Fourth Review Conference of the CCW Convention is held
- 18 Dec. The last US soldiers leave Iraq

Agreements not yet in force, 1 January 2012

- 1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT)
- 1999 Agreement on Adaptation of the CFE Treaty
- 2010 Central African Convention for the Control of Small Arms and Light Weapons, Their Ammunition and All Parts and Components That Can Be Used for Their Manufacture, Repair and Assembly (Kinshasa Convention)

Security cooperation bodies

Notable changes in 2011 include the admittance of South Sudan as the 193rd member of the United Nations, the entry into force of the Constitutive Treaty of UNASUR, the closure of the Western European Union and the suspension of Syria from the Arab League.

Three states acceded to the Hague Code of Conduct against Ballistic Missile Proliferation and one to the Zangger Committee. No new members joined the other strategic trade control regimes—the Australia Group, the Missile Technology Control Regime, the Nuclear Suppliers Group and the Wassenaar Arrangement. ●



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The SIPRI Yearbook is a compendium of data and analysis in the areas of

- Security and conflicts
- Military spending and armaments
- Non-proliferation, arms control and disarmament

This booklet summarizes the 43rd edition of the SIPRI Yearbook, which includes coverage of developments during 2011 in

- *Armed conflict*, with features on the first year of the Arab Spring and conflicts in the Horn of Africa and a broad look at organized violence
- *Peace operations and conflict management*, including accounts of new operations in South Sudan, Libya and Syria
- *Military expenditure*, highlighting the effects of government cuts in Europe and the United States and examining the cost of the wars in Afghanistan and Iraq
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- *International arms transfers*, highlighting exports to states affected by the Arab Spring and transfers to South East Asia and to Armenia and Azerbaijan
- *World nuclear forces*, including stocks and production of fissile materials
- *Nuclear arms control and non-proliferation*, including implementation of New START and revision of the Nuclear Suppliers Group's guidelines
- *Reducing security threats from chemical and biological materials*, highlighting the impact of advances in science and technology
- *Conventional arms control*, including multilateral arms embargoes and a feature on cluster munitions

as well as a lead essay by Gareth Evans, former Australian foreign minister, on the new geopolitics of intervention and extensive annexes on arms control and disarmament agreements, international security cooperation bodies, and events during 2011.