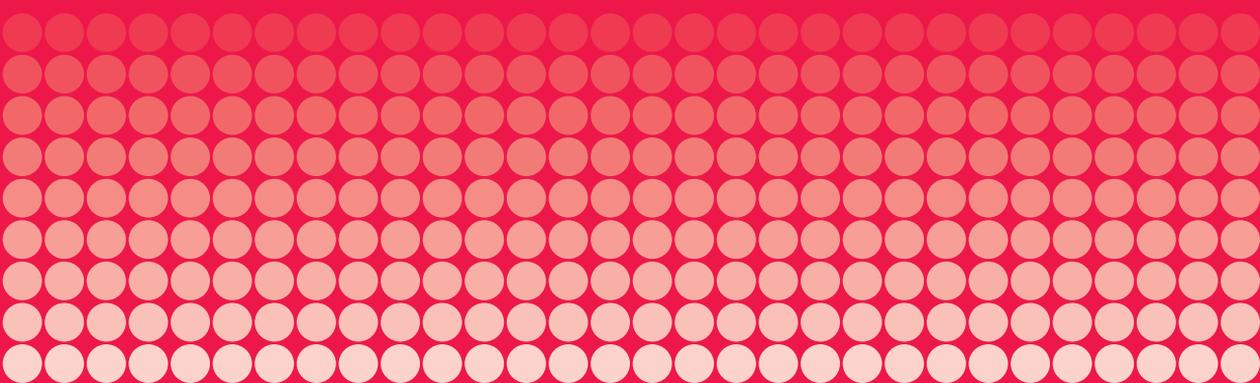


# **SIPRI YEARBOOK 2017**

**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.

## THE SIPRI YEARBOOK

*SIPRI Yearbook 2017* 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 2017* and gives samples of the data and analysis that it contains.

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# 1. INTRODUCTION. INTERNATIONAL SECURITY, ARMAMENTS AND DISARMAMENT

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DAN SMITH

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An overall perspective on 2016 finds a balance between negative developments and the continued functioning of the international system. However, the year ended with clear grounds for concern that the balance sheet seemed to be tipping towards the negative amid growing unease about the durability of key parts of the international security architecture.

Conflicts in the Middle East continued to generate humanitarian tragedies and large-scale movement of refugees, and violent conflict continued in several other parts of the world, most notably Africa, Asia and to a lesser extent Eastern Europe. Developments in North Korea's nuclear programme contributed to international political instability with potentially serious knock-on effects. On the positive side, the 2015 Paris Climate Agreement entered into force in November 2016, the 2015 Iran nuclear deal began implementation on time in early 2016 and the United Nations General Assembly adopted a resolution to start negotiations in 2017 on eliminating nuclear weapons. Progress was also made on work to monitor the unfolding implementation of the UN's Agenda 2030 for international social and economic development. A major contribution to the positive side of the balance sheet in 2016 was the peace agreement in Colombia.

Nonetheless, virtually all the major global indicators for peace and security have moved in a negative direction: more military spending, increased arms trading, more violent conflicts and the continuing forward march of military technology.

Existing multilateral and bilateral arms control agreements and processes are also under challenge—not least due to the deteriorating relationship between Russia and the United States—raising questions of global concern and potentially epochal scope. Were the great gains in peaceful relations since the end of the cold war now being reversed? Would the return of strategic competition between the major powers have negative implications for managing increased conflict risk? These uncertainties, combined with political developments in Europe and the USA—especially the vote by the United Kingdom to leave the European Union and the election of Donald J. Trump as US President—seemed to reveal a much decreased commitment to international institutions and a renewed emphasis in several key states on a narrowly defined national interest.

The scale of the challenges facing humanity has been summed up in the proposal to adopt the label of 'the Anthropocene' for the current era, thus designating it as one in which human activity is the dominant influence on climate and the environment. It is disconcerting to note that such cooperation risks becoming more elusive than it has seemed for most of the time since the end of the cold war, at a time when it is more needed than ever. Experience has shown that international cooperation can work. But is the international cooperative urge as persistent as the problems it needs to address? ●



## 2. ARMED CONFLICT AND PEACE PROCESSES

### Patterns of armed conflict, 2007–16

The pattern of armed conflict and peace processes in 2016 appeared to confirm the recent trend for a reversal of the post-cold war peace, but the picture is mixed. According to the Uppsala Conflict Data Program (UCDP), for example, the number of active armed conflicts decreased from 52 to 49 in 2016. However, despite this reduction, 2016 confirms the trend for there to be a significantly larger number of conflicts in the past three years compared to the period 2007–13. Comparisons over a longer period show that the number of armed conflicts in recent years has been equivalent to the number in the period 1990–92. The two periods 1990–92 and 2014–16 constitute two distinct peaks in the post-cold war era. Much of the increase in the number of conflicts in 2014–16 stemmed from the spread of the Islamic State (IS), which often transformed active conflicts and led them to be recorded as new conflicts in UCDP data.

Of the 49 active conflicts in 2016, 2 were fought between states (India–Pakistan and Eritrea–Ethiopia) and the other 47 were fought within states and over government (22), territory (24) or both (1). There is a clear recent pattern for a larger share of intrastate conflicts to involve troops from other states on the side of one or both of the warring parties. In 2016 over one-third (38 per cent) of intrastate conflicts were internationalized in this way. Most of these (13 out of 18) were fought against Islamist organizations.

The UCDP recorded 12 wars—defined as an armed conflict that results in 1000 battle-related deaths—in 2016, one more

### THE GLOBAL PEACE INDEX, 2017

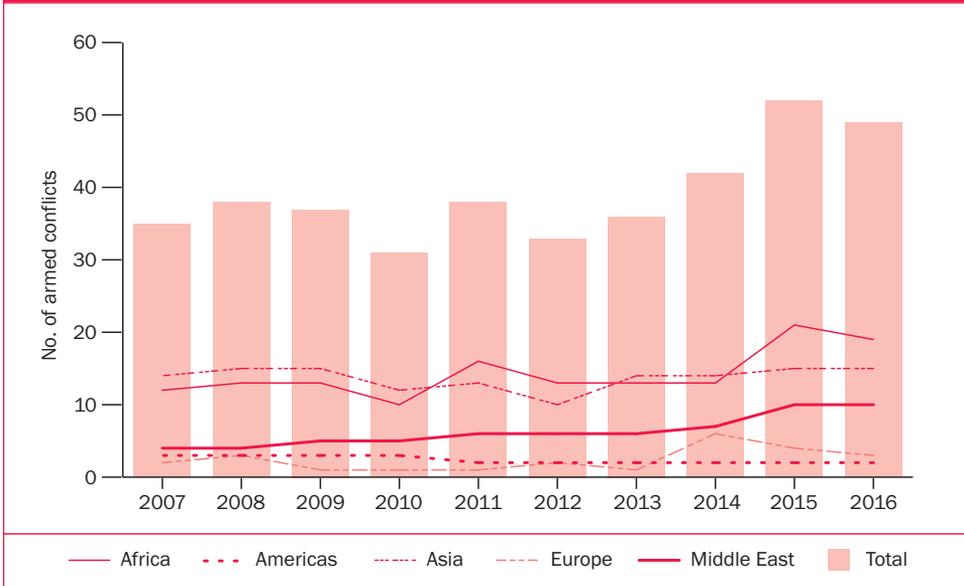
The Global Peace Index (GPI), produced by the Institute for Economics and Peace, uses 23 indicators to rank 163 states and territories by their relative states of peace. The overall GPI score improved in 2016, but the average country score is lower now than in 2008. The largest deterioration in peacefulness occurred in North America, and there were smaller deteriorations in sub-Saharan Africa and the Middle East and North Africa. The largest improvements in peacefulness occurred in South America, Russia and Eurasia, and the Asia-Pacific region. The impact of terrorism increased in 2016, continuing a decade-long trend. A total of 60 per cent of the countries in the GPI have experienced an increase in terrorism since 2007, and the impact of terrorism has more than doubled in 22 countries.

Rank	Country	Score	Change
1	Iceland	1.111	-0.081
2	New Zealand	1.241	-0.044
3	Portugal	1.258	-0.098
4	Austria	1.265	-0.013
5	Denmark	1.337	+0.091
159	Yemen	3.412	+0.013
160	South Sudan	3.524	-0.069
161	Iraq	3.556	-0.014
162	Afghanistan	3.567	+0.029
163	Syria	3.814	+0.008

than in 2015. Three of the wars listed in 2015 had de-escalated to the level of a minor armed conflict in 2016 (Nigeria, Pakistan and Ukraine). Four previously recorded conflicts escalated to the level of war: Afghanistan–IS, Libya–IS, Turkey–IS and Turkey–Kurdistan. Africa was the region with the highest number of conflicts in 2016 (19 active conflicts) followed by Asia (15 conflicts). Ten conflicts were recorded in the Middle East, three in Europe and two in the Americas.



**REGIONAL DISTRIBUTION AND TOTAL NUMBER OF ARMED CONFLICTS, 2007-16**



Conflict-related developments have been discouraging in recent years, not least in the Middle East, but not all the changes have been negative. While many conflicts were initiated or escalated, many others ceased to be active or were de-escalated. The reduction in the number of conflicts in Latin America is particularly noteworthy. After the 2016 peace agreement between the Revolutionary Armed Forces of Colombia–People’s Army (Fuerzas Armadas Revolucionarias de Colombia–Ejército del Pueblo, FARC–EP) and the Government of Colombia, and with ongoing negotiations with the National Liberation Army (Ejército de Liberación Nacional, ELN), the only guerrilla group still in conflict with the Colombian Government, it seems likely that the region will soon have no active conflicts.

**Islamist armed conflicts**

About one-third of the world’s Islamist armed conflicts are taking place in the Middle East and North Africa, one-third in sub-Saharan Africa and the rest largely in Asia. In some cases, an escalation can be observed over time from not necessarily religiously framed opposition to explicit Islamist grievances, followed by a transformation into transnational Islamist aspirations. The need to recognize and constructively manage this type of conflict at each step of its escalation, and seek to resolve it has important implications for conflict prevention policy. South East Asia stands out as a region that is bucking the empirical trend, where the proportion of Islamist armed conflicts seems to be decreasing. ●



### **3. ARMED CONFLICT AND INSTABILITY IN THE MIDDLE EAST AND NORTH AFRICA**

The Middle East and North Africa (MENA) remained at the heart of global security concerns throughout 2016. A variety of factors explain the region's seemingly chronic insecurity and persistent susceptibility to armed conflict, such as governance failures in most Arab countries, the still-unfolding consequences of the 2003 invasion of Iraq by the US-led coalition, and the complex relations and rivalries among regional powers. In 2016 at least 7 of the 16 countries in the region used military force in combat on their own territory, and 11 used it on the territory of other countries.

A key element in MENA's security profile is the aftermath of the 2011 'Arab Spring'. Five years on, it is only in Tunisia that the flowers bloom, although the country's path to a stable democracy remains fraught with risk.

#### **Syria**

The war in Syria has resulted in the displacement of half the population—over 4.8 million as international refugees and over 6.3 million as internally displaced persons—and the death of over 400 000, although there are no reliable casualty statistics. Amid the complex array of contending forces in Syria, in 2016 the balance of power tilted quite sharply in favour of President Bashar al-Assad as a result of three important developments: the Russian air campaign in support of the Syrian Government, combined with ground force support from Iran and Hezbollah; Turkey's reconciliation with Russia, and its ensuing policy shift from regime change in Syria to securing continued Turkish

influence; and the defeat of anti-government forces in eastern Aleppo in December 2016. By the end of the year, the United States had been sidelined in the regional peace talks, and Iran, Russia and Turkey were at the forefront of discussions about Syria and Assad's future.

#### **Libya and Yemen**

Libya ended 2016 still mired in the chaotic aftermath of the 2011 civil war and international intervention, and still seeking a pathway to stability and security for its citizens.

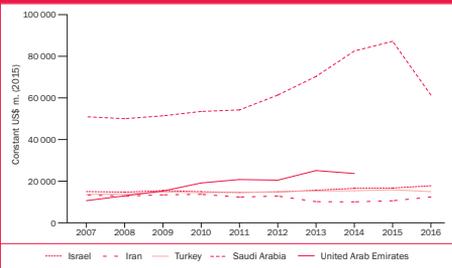
The interstate relationship that is the highest profile, most complex and most dangerous in the region is that between Iran and Saudi Arabia. One major issue that exacerbates poor Iranian–Saudi relations is Yemen, which has experienced an intermittent civil war since 2004. Saudi and other Arab forces have been involved since 2015. By the end of 2016, the Saudi intervention was associated with a major humanitarian crisis and had failed to inflict decisive setbacks on Houthi forces.

#### **The Islamic State**

The Islamic State (IS) remained a potent force and focus of international concern in 2016, despite the fact that it suffered significant setbacks in Iraq, Syria and Libya. The framework of Operation Inherent Resolve, the US-led global coalition formed in September 2014, continued to set the pace for external military operations against IS in 2016. While the core membership of IS remains in Iraq and Syria, its efforts have been reinforced by a network of foreign fighters and affiliate groups in several countries across four continents. Terrorist attacks attributed to the group or to individuals



### MILITARY EXPENDITURE BY THE FIVE LARGEST SPENDERS IN THE MIDDLE EAST, 2007–16



that it has inspired cost hundreds of lives in the wider Middle East, Africa, South Asia and Europe in 2016.

IS relies on infrastructure and institutions more usually associated with a state, such as oil sales, taxation, cash holdings, the sale of antiquities and ransoms, as well as access to national or international financial systems. These revenue streams are also key points of vulnerability; targeting them has been the focus of an international economic war conducted by several states that has both a military dimension (e.g. airstrikes against oil infrastructure, cash holdings and key IS financial operatives) and a non-military dimension (e.g. preventing donations, freezing assets and inhibiting trade with the group). International efforts were also made to combat IS propaganda and counter violent extremism more generally, albeit with mixed results.

Despite it losing territory in 2016, IS's aims and terrorist capabilities are likely to persist in the coming years, possibly in a different and even more lethal form.

### Military expenditure and arms transfers in the Middle East

Trends and patterns of military expenditure and arms transfers to countries in the

Middle East illustrate the importance of military capability in the region. Military expenditure as a share of gross domestic product, also known as the military burden, tends to be particularly high. Total military spending in the Middle East in 2015 and 2016 cannot be calculated due to missing data. This reflects a general lack of transparency and accountability on military matters in the region. Saudi Arabia is by far the largest military spender in the Middle East, and was the fourth largest in the world in 2016.

Arms imports to the Middle East increased by 86 per cent between 2007–11 and 2012–16. The Middle East accounted for 29 per cent of global arms imports in 2012–16, making it the second largest importing region for that period. Many countries in the Middle East have acquired sophisticated military systems that seem likely to substantially increase their military capability. The USA and several West European states continued to be the major arms suppliers to most countries in the region throughout 2012–16. It is likely that arms imports have contributed to the instability, violent conflict and human rights violations in the region. ●



## 4. EUROPEAN SECURITY

### Cooperative security under strain

At the end of the cold war the underlying causes of confrontation in Europe appeared to have been eliminated. A shared assessment of the main problems facing Europe and a common approach to dealing with them seemed possible. In constructing a rules-based European order in which to organize cooperation, states carefully balanced political, politico-military, human security, environmental and economic issues within a framework of comprehensive security.

Events in 2016 reinforced the view that all the elements of the European cooperative security system were under strain. A step-by-step estrangement between Russia and the member states of the European Union (EU) and the North Atlantic Treaty Organization has led to politico-military policy change, military modernization and adapted force postures that could increase the risk of confrontation and, in crisis conditions, military clashes between major military powers. At the end of the year, the Organization for Security and Co-operation in Europe (OSCE) proposed a renewed emphasis on addressing the politico-military aspects of security.

The political and human rights dimensions of the European security system were also challenged in different ways. With mixed success, key security institutions, the OSCE, the EU and the Council of Europe responded to the need to protect the independence of the judiciary and safeguard the freedom of the media while combating hate speech, protecting the rights of minorities and ensuring that

states meet their legal obligations regarding the humane treatment of refugees.

### Armed conflict in the post-Soviet space

Armed conflict has returned to Europe, in particular through an escalation in violence in some of the protracted conflicts in the post-Soviet space that emerged in the final years of the Soviet Union and the years that followed its demise. Efforts to find a sustainable peace in eastern Ukraine, where conflict has now claimed roughly 10 000 lives, did not bear fruit. All these conflicts contain the potential for significant escalation.

### Turkey

Recent developments in Turkey reveal a domestic, regional and international security environment that is the most complex in Europe. The dramatic events in 2016—including a sequence of violent attacks, an attempted *coup d'état* and subsequent government crackdowns on suspected plotters and other dissidents—made the year one of the most challenging in recent Turkish history. At the end of 2016, neither the conflicts on its borders with Iraq and Syria—and their spillover effects, such as the major displacement of civilians—nor the upsurge in domestic and international mass-impact terrorism had abated. Internal political and constitutional challenges in the aftermath of the failed coup competed with important reassessments of relations with key partners: the EU, Russia and the United States. ●



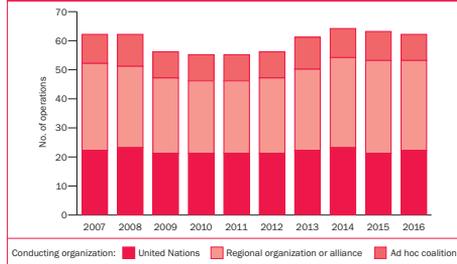
## 5. PEACE OPERATIONS AND CONFLICT MANAGEMENT

### Trends and developments in peace operations in 2016

In 2016 it became clear that many of the trends in terms of the number of missions and personnel have peaked and now seem to be slowly declining or levelling out. Two new peace operations were started: the United Nations Mission in Colombia and the European Union (EU) Military Training Mission in the Central African Republic (CAR) (EUTM RCA). Four missions were terminated: the EU Military Advisory Mission in the CAR (EUMAM RCA); France's Operation Sangaris (also in the CAR); the EU Advisory and Assistance Mission for Security Reform in the Democratic Republic of the Congo (EUSEC RD Congo); and the EU Police Mission (EUPOL) in Afghanistan. The number of peace operations active during 2016 decreased by one compared with 2015 (to 62). The total number of personnel deployed in the field declined by 6 per cent to 153 056, continuing a trend that began in 2012.

Moreover, while the UN clearly remains the principal actor in peace operations, after three consecutive years of personnel increases in UN operations, this trend reversed in 2016. The trend for decreases in personnel looks set to continue. The UN Operation in Côte d'Ivoire (UNOCI) and the UN Mission in Liberia (UNMIL) are planned to drawdown, while other UN operations are reaching authorized personnel levels and long-awaited operations in places such as Burundi, Libya, Syria, Ukraine and Yemen may never see the light of day.

### NO. OF MULTILATERAL PEACE OPERATIONS, BY TYPE OF CONDUCTING ORGANIZATION, 2007-16



### Peace operations in Africa

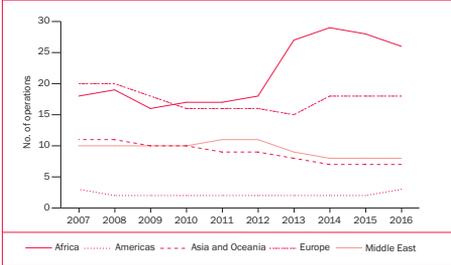
Africa remained the primary focus of peace operations. As recommended in the report by the UN High-level Independent Panel on Peace Operations (the HIPPO report), the UN, the African Union (AU) and the Regional Economic Communities and Regional Mechanisms are deepening their partnerships. Funding African operations is still one of the main challenges. In 2016 the AU Assembly of Heads of State and Government decided to increase the AU contribution to the funding of all AU peace support operations to 25 per cent by 2020, by means of a 0.2 per cent import tax on 'eligible imports' into the continent. However, African actors will remain dependent on external funding in the short to medium term, and some external actors—particularly the EU and its member states—are becoming less generous and more demanding. This presents financial challenges for several African peace operations, some of which face potential closure as contributors consider withdrawing their troops.

### Grey zone operations

Military and civilian personnel are increasingly being deployed in operations



## NO. OF MULTILATERAL PEACE OPERATIONS, BY REGION, 2007–16



that fall in the ‘grey zone’ of just within or just outside the SIPRI definition of multinational peace operations. While in some cases troop contributing countries and host nations would be helped if the UN Security Council considered mandating and financing operations, such as the Multinational Joint Task Force (MNJTF) against Boko Haram, in other instances host nations resist having a peace operation on their soil. Such operations can be seen as an infringement of national sovereignty, and may also contribute to an image of state failure. Examples include (a) Burundi’s resistance to the deployment of the African Prevention and Protection Mission in Burundi (MAPROBU), the AU human rights and military experts, and the UN police contribution to Burundi; (b) Syria’s reluctance to even allow observation of the evacuations from eastern Aleppo to other districts of the city; and (c) Colombia’s insistence on making the UN Mission in Colombia a political mission rather than a peacekeeping operation. These developments stress the importance of further expanding data collection and analyses of operations in the grey zone.

## Protection of civilians

The protection of civilians is another challenge faced by the AU and the UN. The impotence of the international community in Ukraine and Syria has been made painfully clear, and is frequently covered in the media. The inability to deal with the situation in South Sudan has received less attention. With some 200 000 civilians under its care in Protection of Civilian (POC) sites, the UN Mission in South Sudan (UNMISS) faces unprecedented challenges. Several attacks on POC sites in 2016 demonstrated that providing civilians with protection was far beyond the capability of UNMISS and that the POC sites raised unrealistic expectations among those who had expected to be protected. Moreover, as many civilians have already been living in the POC sites for more than three years, rather than a temporary solution, these sites have become de facto internally displaced person camps, which require associated levels of internal security and living standards. As the POC sites in South Sudan are likely to remain for many years to come, it is important for UNMISS to learn lessons from events in 2016. ●



## 6. SUSTAINING PEACE AND SUSTAINABLE DEVELOPMENT IN DANGEROUS PLACES

The United Nations officially launched the 2030 Agenda for Sustainable Development on 1 January 2016. The aim is to achieve the 17 Sustainable Development Goals by 2030. This reflects the fact that peace and development are continuous processes that require constant cultivation and may necessitate decades of effort before the benefits are realized. Allied to the sustainable development agenda is the new UN concept of sustaining peace, which calls for better linkages between the UN's three foundational pillars: peace and security, development and human rights, and humanitarian action. It replaces the sequential approach to conflict that often resulted in silos of prevention, humanitarian action, peacekeeping, peacebuilding and development—and calls for better linkages and sharing of instruments across these different sets of responses.

The context for the development of the UN's sustaining peace framework included pockets of violence concentrated in the world's dangerous places; ongoing complex humanitarian emergencies; and limited capacities for preventing, responding to, managing and recovering from conflict. Sustaining peace is also linked to the principles of national ownership and inclusivity, and is consistent with the concept of positive peace.

Sustaining peace seeks to shift actors away from structural violence and towards collaborative solutions and development, and thus towards positive peace outcomes. It is vital to understand the long-term impact of armed conflict on development and to implementing peace accordingly:

while a typical civil war lasts 7 years, it takes 14 years to recover from one economically, the chances of a setback are high and it can take 25 years to rebuild lost state systems and institutions to the level of 'good enough' governance. Only in the past 10 years have Cambodia, Laos and Viet Nam started to take off economically after decades of conflict followed by decades of recovery. This suggests that the ongoing conflicts and dissolution of the state in Libya, South Sudan and Yemen will each, on average, lead to another 15 to 25 years of lost development.

Several important events took place in 2016 in the fields of preventing violent extremism, humanitarian action, and the women, peace and security agenda. These fields show some of the mechanisms through which the concept of sustaining peace is being integrated into global peace and development practice. The May 2016 World Humanitarian Summit (WHS), for example, resulted in over 3100 individual and joint commitments in core areas such as political leadership to prevent and end conflict, upholding the norms that safeguard humanity, and better targeted funding of humanitarian assistance.

While the concept of conflict prevention remains mostly aspirational, several developments in 2016—such as the WHS, the Sendai Framework, the Global Partnership for Preparedness and the Global Alliance for Urban Crises—can be interpreted as investments in sustaining peace and possible paths for a positive peace. ●



## **7. COPING WITH CRISES: FORCED DISPLACEMENT IN FRAGILE CONTEXTS**

In 2016 forced displacement continued to be a major challenge to human security, most notably in the Middle East and Africa, which together currently host over two-thirds of the world's displaced population. In recent years the number of forcefully displaced persons—over 60 million—has increased significantly in comparison with, for example, population growth or general migration. This rise has been caused by new displacement crises (such as those in Yemen and South Sudan) coupled with protracted crises (such as those in Syria and Afghanistan) and the low number of returnees. The clear majority of these displacement crises were generated primarily by armed conflicts.

The challenges are particularly pronounced due to the concentration of forcefully displaced persons in confined geographical spaces—in a city, at a border, in a camp or along a narrow transit route—and, above all, across a small number of countries. This concentration leads to coping crises, overcrowding and associated problems, most notably inadequate physical protection, health care issues, increased resource constraints, and loss of livelihood and educational opportunities.

State-centric structures for addressing forced displacement and the lack of a commonly agreed international legal framework are serious obstacles to successfully addressing both short-term human security needs and long-term challenges, such as the legal status of displaced persons in a host country and the consequences this has for livelihoods and other opportunities. While existing international law offers protection to those

fleeing their home country and seeking protection in other states, most major refugee-hosting countries have not signed the United Nations Convention on Refugees. In any case, the convention does not apply to internally displaced persons—the group that makes up the vast majority of those forcefully displaced.

The most useful way to understand current displacement dangers, and therefore better address them, is through their shared context of large-scale displacement in fragile, violent situations. While fragility refers to societies' heightened exposure to risks combined with a low capacity to mitigate or absorb them, violent conflicts were also closely associated with all the major displacement crises in 2016.

The depth and breadth of the ongoing displacements may have spillover effects on other societies and countries. Regional and international processes have been initiated to address the humanitarian challenges of displacement and the concerns of refugee-hosting and other states. In 2016 the UN General Assembly, for example, took the first step towards a political process to design an international framework on safe migration, including more equitable burden sharing in hosting and supporting refugees. However, some processes risk undermining the international legal framework that is currently protecting refugees. For example, on at least two occasions in 2016, the European Union sought to reach political solutions with major refugee-hosting states that had no written or legal basis. ●



## 8. EXPLORING THE LINKS BETWEEN CLIMATE CHANGE AND VIOLENT CONFLICT

The security challenges posed by climate change are multifaceted and affect human, community and state security. Climate change also has short-, medium- and long-term impacts, which makes the time perspective adopted key. In addition, the impacts of climate change on, for instance, food or water security are heavily dependent on socio-economic conditions, which means that the same impact might have diverse consequences depending on the context. Hence, climate change puts additional pressures on current vulnerabilities for humans and societies across the world, and has particularly adverse effects in already fragile contexts.

One class of security challenge in relation to a changing climate is the increased risk of violent conflict. A large body of research in the past decade has examined the climate–conflict link and its influences on policymaking, most notably in foreign, defence and development policy.

In East Africa, for example, four mechanisms linking climate change to violent conflict have been identified: worsening livelihood conditions; migration and changing pastoral mobility patterns; tactical considerations of armed groups; and exploitation of local grievances by the elite. While the first two mechanisms deal mainly with the causes of conflict, the latter two are about changing conflict dynamics. This difference illustrates that the mechanisms both interact with and complement each other.

Mechanisms linking the impacts of climate change on peace and conflict can also be explored in the context of extreme weather events. Among the deadliest of the

extreme weather events that occurred between 2000 and 2016 were tropical cyclone Nargis in Myanmar in 2008, the heatwaves in the northern hemisphere in 2010 and the tropical cyclones in the Philippines in 2013. Violent conflict was an outcome in some of these cases. By focusing on these events it is possible to identify not only the mechanisms that link extreme weather events to violent conflict, but also the mechanisms that enable pressures to be resolved peacefully. Four mechanisms were identified. The first two—competition over scarce resources and failure of conflict management institutions—are linked to increased risk of violent conflict. The third mechanism—social-coherence building—however, illustrates how extreme weather events in areas plagued by conflict sometimes facilitate social-coherence building and enable cooperation, rather than deepening ongoing conflicts. The fourth mechanism—acceleration of transformation—emphasizes the social dynamics following a disaster, which in the selected cases lack a clear direction in terms of increasing or reducing the risk of violent conflict after an extreme weather event.

Among the policy implications are the importance of mitigating the negative effects of climate change on livelihoods and the need for adequate conflict resolution mechanisms. It is also important to note that climate change does not deterministically lead to violent conflict. Human agency permeates every link in the chain from climate change to violent conflict. This provides a foundation for investigating how peace can be maintained and shaped in the face of vast pressures, including those of climate change. ●



## 9. MILITARY EXPENDITURE

World military expenditure was estimated at \$1686 billion in 2016, equivalent to 2.2 per cent of global gross domestic product or \$227 per person. Total global expenditure in 2016 was roughly constant compared to 2015, being only 0.4 per cent higher in real terms.

Military expenditure in North America saw its first annual increase since 2010, while in Western Europe spending was up by 2.6 per cent on 2015. Spending continued to rise in Asia and Oceania and Eastern Europe. In contrast, military spending fell in Africa, South and Central America and the Caribbean and those countries in the Middle East for which data is available. Overall, the increases in military spending in Asia and Oceania, Europe and North America have been almost completely offset by decreases in the rest of the developing world.

With a total of \$611 billion, the United States remained the largest military spender in 2016. Its spending grew by 1.7 per cent compared with 2015—the first annual increase since 2010 when US military expenditure reached its peak. There is uncertainty over the future direction of US military spending, but estimates in the National Defense Budget suggest a modest increase in procurement and research, development, test and evaluation (RDT&E) spending for 2017, and substantial increases over the period 2018–21.

### The impact of the oil price shock

The sharp fall in the price of oil, continuing the price slump since late 2014, had a significant impact on many oil export-dependent countries. Where there had been a close correlation between high oil

### WORLD MILITARY SPENDING, 2016

Region	Spending (\$ b.)	Change (%)
Africa	(37.9)	-1.3
North Africa	(18.7)	1.5
Sub-Saharan Africa	19.2	-3.6
Americas	693	0.8
Central America and Caribbean	7.8	-9.1
North America	626	1.7
South America	58.8	-7.5
Asia and Oceania	450	4.6
Central and South Asia	73.3	6.4
East Asia	308	4.3
Oceania	26.6	1.7
South East Asia	41.9	5.1
Europe	334	2.8
Central Europe	21.0	2.4
Eastern Europe	75.4	3.5
Western Europe	237	2.6
Middle East	..	..
<b>World total</b>	<b>1 686</b>	<b>0.4</b>

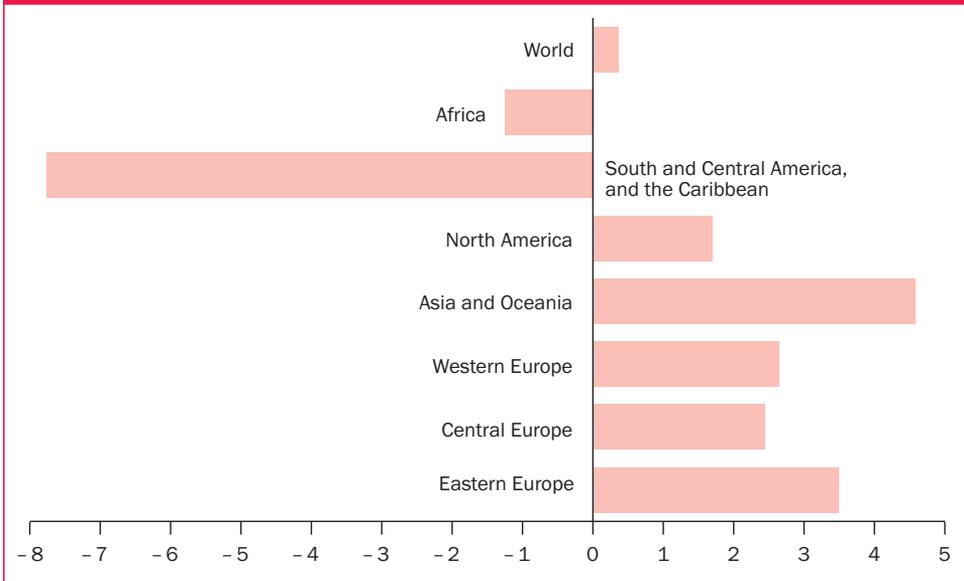
( ) = uncertain estimate; .. = data unavailable.  
Spending figures are in current (2016) US\$.  
All changes are in real terms for the period 2015–16.

prices and rising military spending over the previous 10 years, the fall in the price of oil has led to substantial decreases. The decrease in oil revenues has forced many oil-producing countries to cut their total government budget, and thus military spending. In Africa, South and Central America and the Middle East, the decrease in military spending in a few oil export-dependent countries has had a major effect on regional trends.

Cuts in government spending have led to resource prioritization choices and trade-offs between military and social expenditure. In the period since the oil price crash, the evidence from the national reports of oil export-dependent countries indicates an average decrease in military



## CHANGES IN MILITARY EXPENDITURE, BY REGION, 2015-16



spending that is relatively greater than the decrease in social sectors such as health or education.

### Military expenditure data

Although there has been a lack of voluntary reporting to the United Nations, many states publish military spending information in government reports, in budgets and on other publicly accessible platforms. Incomplete and inaccurate information on military spending is a problem due to its association with national security, but national transparency has improved in many cases. In 2016 SIPRI collected reliable and consistent military spending data for 148 countries.

### An expanded SIPRI data set

SIPRI has achieved a long-held ambition to publish an expanded military expenditure data set that goes back in some cases as far as 1949. Providing data in constant and

current US dollars and as a share of gross domestic product, the extended data set offers major opportunities for new research and insights into the dynamics of military spending. The data also enables the exploration of long-term trends in military expenditure in different regions and countries, covering both the cold war and post-cold war periods. ●



## 10. INTERNATIONAL ARMS TRANSFERS AND DEVELOPMENTS IN ARMS PRODUCTION

The volume of international transfers of major weapons grew by 8.4 per cent between 2007–11 and 2012–16. The five largest suppliers in 2012–16—the United States, Russia, China, France and Germany—accounted for 74 per cent of the volume of exports.

Since 1950 the USA and Russia (or the Soviet Union before 1992) have consistently been by far the largest suppliers. They, together with West European suppliers, have historically dominated the list of the 10 largest suppliers and there are no signs of any major change in the near future. In fact, this group increased its share of the global total between 2007–11 and 2012–16. This group has now been joined by China, which has firmly established itself as one of the world's largest exporters of major weapons.

At the regional level, the flow of arms to the Middle East grew by 86 per cent between 2007–11 and 2012–16, while the flow of arms to Asia and Oceania rose by

7.7 per cent. By contrast, the flow of arms to Europe decreased notably (by 36 per cent), as did those to the Americas (by 18 per cent) and Africa (by 6.6 per cent).

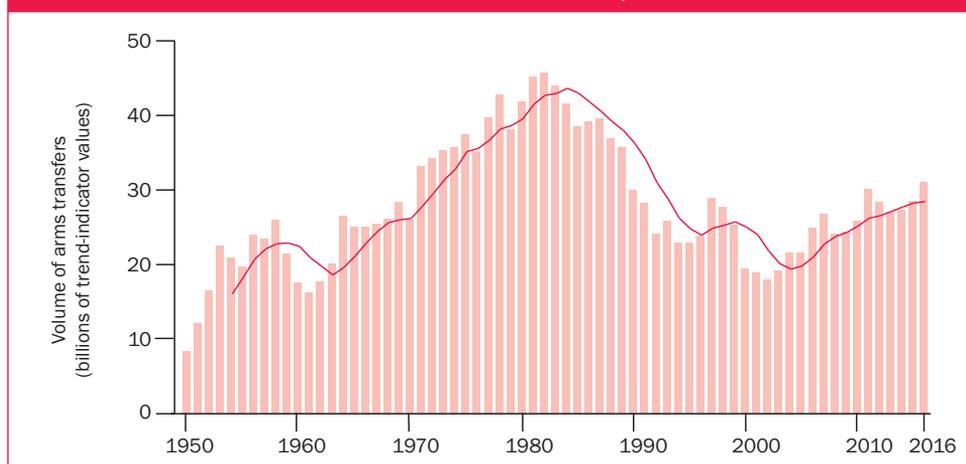
### Weapons delivered as military aid

Tensions and conflicts were ongoing in large parts of the world in 2016, and these often had direct links to arms acquisitions from abroad. Weapons used in these conflicts are sometimes delivered as aid. In other cases, such aid is less linked to ongoing conflicts and major tensions but rather is used as a tool to support or improve wider political relations or to gain foreign approval for policies. While the volume in arms transfers as aid has dropped, such transfers continue to be a key policy tool for some of the main suppliers.

### Transparency in arms transfers

Following the trend set over the past few years, 2016 was once again disappointing in terms of arms transfers transparency. The number of states reporting arms imports and exports to the United Nations Register of Conventional Arms (UNROCA)

THE TREND IN TRANSFERS OF MAJOR WEAPONS, 1950–2016



remained low, and while the mandatory reporting under the Arms trade Treaty (ATT) started reasonably well in 2016, a comparison with UNROCA reporting raises questions about whether the two instruments can jointly help to improve overall levels of transparency in the international arms trade. No major changes occurred in transparency at national and regional levels.

**The financial value of arms exports, 2015\***

Although SIPRI data on arms transfers does not represent their financial value, many arms exporting states do publish figures on the financial value of their arms exports. Based on such data, SIPRI estimates the total value of the global arms trade in 2015 to be at least \$91.3 billion. However, the actual figure is likely to be higher.

**Developments in the arms industry**

Total sales for the arms-producing and military services companies ranked in the SIPRI Top 100 declined for the fifth consecutive year in 2015.\* There was a slight decrease of 0.6 per cent compared with 2014. This is the lowest level of annual decline observed since the peak of 2010. The decrease is largely attributable to an overall fall in sales for US-based companies, which continue to dominate the Top 100. Taken together, West European arms producers show increases, some of them linked to significant export sales. Despite sanctions, Russia’s arms industry also grew its arms sales in 2015, mostly due to domestic sales and some exports, while emerging and established producers show mixed results.

**THE MAIN EXPORTERS AND IMPORTERS OF MAJOR WEAPONS, 2012-16**

Exporter	Global share (%)	Importer	Global share (%)
1 USA	33	1 India	13
2 Russia	23	2 Saudi Arabia	8.2
3 China	6.2	3 UAE	4.6
4 France	6.0	4 China	4.5
5 Germany	5.6	5 Algeria	3.7
6 UK	4.6	6 Turkey	3.3
7 Spain	2.8	7 Australia	3.3
8 Italy	2.7	8 Iraq	3.2
9 Ukraine	2.6	9 Pakistan	3.2
10 Israel	2.3	10 Viet Nam	3.0

A review of 14 years of data on the arms industry confirms that the ranking hierarchy, especially of companies ranked in the top 10, is very stable. It also highlights the fact that despite yearly variations, arms sales for companies ranked at the top and bottom of the SIPRI Top 100 have steadily increased between 2002 and 2015 in constant dollar terms. However, it also shows that the top 10 arms companies’ share of the yearly total revenues of the SIPRI Top 100 has shrunk over the period.

\*The latest year for which data is available. ●



## 11. WORLD NUCLEAR FORCES

At the start of 2017 nine states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and the Democratic People’s Republic of Korea (DPRK, or North Korea)—possessed approximately 14 935 nuclear weapons, of which 4150 were deployed with operational forces. Nearly 1800 of these are kept in a state of high operational alert.

### Nuclear arsenals

Overall, inventories of nuclear warheads continue to decline. This is primarily due to reductions made by the USA and Russia, which together account for approximately 92 per cent of nuclear weapons globally. They are reducing their deployed nuclear forces as a result of the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START) while also making unilateral cuts in their nuclear warhead stockpiles. At the same time, however, both the USA and Russia have extensive and expensive programmes under way to replace and modernize their nuclear warheads, missile and aircraft delivery systems, and nuclear weapon production facilities.

The nuclear arsenals of the other nuclear-armed states are considerably smaller, but all are either developing or deploying new weapon systems or have announced their intention to do so. China, India, North Korea and Pakistan are thought to be expanding the size of their nuclear arsenals.

North Korea continues to prioritize its military nuclear programme as a central element of its national security strategy, and conducted its fourth and fifth nuclear test explosions in 2016. The tests took the total number of nuclear explosions recorded worldwide since 1945 to 2057.

### WORLD NUCLEAR FORCES, 2016

Country	Deployed warheads	Other warheads	Total inventory
USA	1 800	5 000	6 800
Russia	1 950	5 050	7 000
UK	120	95	215
France	280	20	300
China	–	270	270
India	–	120–130	120–130
Pakistan	–	130–140	130–140
Israel	–	80	80
North Korea	–	(10–20)	(10–20)
<b>Total</b>	<b>4 150</b>	<b>10 785</b>	<b>14 935</b>

.. = not applicable or not available; – = zero; ( ) = uncertain figure. ‘Other warheads’ includes operational warheads held in storage and retired warheads awaiting dismantlement. All estimates are approximate and as of Jan. 2017.

### Inadequate transparency

The availability of reliable information on the status of the nuclear arsenals and capabilities of the nuclear-armed states varies considerably. The USA has disclosed substantial information about its stockpile and forces, and the UK and France have also declared some information. Russia refuses to disclose the detailed breakdown of its forces counted under New START even though it shares this information with the USA, and the US Government has stopped releasing detailed information about Russian and Chinese nuclear forces. The governments of India and Pakistan make statements about some of their missile tests but provide no information about the status or size of their arsenals. Israel has a policy of not commenting on its nuclear arsenal, and North Korea provides no information about its nuclear capabilities. ●



## GLOBAL STOCKS OF FISSILE MATERIALS, 2016

The raw material for nuclear weapons is fissile material, either highly enriched uranium (HEU) or separated plutonium. China, France, Russia, the UK and the USA have produced both HEU and plutonium for use in their nuclear weapons; India and Israel have produced mainly plutonium; and Pakistan has produced mainly HEU, but it is enhancing its ability to produce plutonium. North Korea has produced plutonium for use in nuclear weapons but may have produced HEU as well. All states with a civilian nuclear industry are capable of producing fissile materials.

The International Panel on Fissile Materials compiles information on global stocks of fissile materials.

### Global stocks, 2016

Highly enriched uranium	~1 340 tonnes
Separated plutonium	
Military stocks	~230 tonnes
Civilian stocks	~285 tonnes

## SIPRI FACT SHEETS

Each year, in the run-up to the next edition of the SIPRI Yearbook, SIPRI releases data sets on key research topics, covering the latest year for which data is available. Each data launch includes the publication of a detailed, up-to-date fact sheet that highlights SIPRI's main findings—findings that are explored in more depth in the corresponding Yearbook chapter.

Fleurant, A., Perlo-Freeman, S., Wezeman, P. D., Wezeman, S. T. and Kelly, N., 'The SIPRI Top 100 arms-producing and military services companies, 2015', SIPRI Fact Sheet, December 2016, <<https://www.sipri.org/publications/2016/sipri-fact-sheets/sipri-top-100-arms-producing-and-military-services-companies-2015>>.

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Kile, S. N. and Kristensen, H. M., 'Trends in world nuclear forces, 2017', SIPRI Fact Sheet, July 2017, <<https://www.sipri.org/publications/2017/sipri-fact-sheets/trends-world-nuclear-forces-2017>>.



## 12. NUCLEAR DISARMAMENT, NON-PROLIFERATION AND ARMS CONTROL

### Towards a new legally binding instrument on nuclear disarmament

In 2016 the United Nations General Assembly adopted a resolution mandating negotiations in 2017 leading to the elimination of nuclear weapons. This followed earlier intensive discussions in the Open-ended Working Group on nuclear disarmament, which met in Geneva to complete its report to the UN General Assembly. The report included a recommendation to convene in 2017 an international conference open to all states to begin negotiations on a legally binding prohibition of nuclear weapons, leading towards their elimination.

The UN General Assembly and the First Committee also voted to establish a high-level preparatory group to meet in Geneva for two sessions of two weeks each, the first in 2017 and the second in 2018, to consider and make recommendations on substantial elements of a future non-discriminatory, multilateral, and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices.

However, the Conference on Disarmament, the world's sole multilateral forum for negotiating arms control and disarmament agreements, was yet again unable to agree on a programme of work in 2016 and thus was unable to commence negotiations on any item on its agenda.

### US–Russian nuclear arms control

In 2016 US–Russian nuclear arms control, disarmament and non-proliferation efforts remained stalled by the broader

### THE 20TH ANNIVERSARY OF THE COMPREHENSIVE NUCLEAR-TEST-BAN TREATY

The year 2016 marked the 20th anniversary of the opening for signature of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) on 24 September 1996. To promote the entry into force of the CTBT, a 'Joint Statement on the Comprehensive Nuclear-Test-Ban Treaty by the Nuclear Nonproliferation Treaty Nuclear-Weapon States' was issued on 15 September 2016. It pledged to strive for the CTBT's early ratification and prompt entry into force. This was followed by the adoption of Resolution 2310 by the UN Security Council on 23 September 2016, which urged all states that have either not signed or not ratified the CTBT—particularly the eight remaining Annex 2 states—to do so without further delay.

deterioration in political relations between the two countries. The United States and Russia continued to implement the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START). However, the prospects for the two sides agreeing to make deeper cuts in their strategic nuclear forces appeared increasingly remote. No progress was made towards resolving the impasse over the USA's allegation that Russia had violated an important cold war-era arms control treaty limiting intermediate-range nuclear forces (1987 Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles, INF Treaty). Russia rejected the charge and countered with its own treaty compliance concerns. The year also saw the suspension by Russia of the implementation of a bilateral agreement with the USA to irreversibly eliminate plutonium from



**SUMMARY OF INTERNATIONAL CONVENTIONS, INSTRUMENTS AND INITIATIVES RELATED TO NUCLEAR SECURITY**

Name	Year signed/ established	No. of parties	Description
Convention on the Physical Protection of Nuclear Material (CPPNM)	1979	153	Requires states to provide appropriate level of physical protection of nuclear material during international transport
Global Partnership against the Spread of Weapons and Materials of Mass Destruction	2002	29	Funds and coordinates activities for countering risks of chemical, biological, radiological and nuclear terrorism
Proliferation Security Initiative (PSI)	2003	107	Coordinates voluntary actions by states to stop proliferation-related trafficking of weapons of mass destruction, their delivery systems and related material
UN Security Council Resolution 1540	2004	193	Requires states to establish domestic controls and regulations to prevent the illicit trafficking of nuclear material
International Convention on the Suppression of Acts of Nuclear Terrorism (ICSANT)	2005	106	Promotes cooperation to prevent the possession and use of radioactive material or devices, and use or damage of nuclear facilities, for terrorist acts
Global Initiative to Combat Nuclear Terrorism (GICNT)	2006	86	Conducts multilateral nuclear security activities for preventing, detecting and responding to nuclear terrorism

*Note:* An amendment to the CPPNM entered into force in May 2016 and the agreement was subsequently renamed the Convention on the Physical Protection of Nuclear Material and Nuclear Facilities.

dismantled nuclear warheads declared to be in excess of defence needs.

**Nuclear Security Summit**

The fourth and final meeting in a series of Nuclear Security Summits was held in Washington, DC, on 31 March–1 April 2016. One of the main objectives of the meeting was to find ways to sustain the political momentum created by the previous summits to support the work of states and international organizations to strengthen the global nuclear security system beyond 2016.

**The Iran nuclear deal**

Iran continued to implement the provisions of the Joint Comprehensive Plan of Action (JCPOA) covering limitations on its nuclear programme. The JCPOA deal, which was facilitated by the European Union (EU), was signed in July 2015 by Iran and the E3/EU+3 (France, Germany and the United Kingdom plus China, Russia and the USA). The International Atomic Energy Agency monitors and verifies that Iran is in compliance with its JCPOA obligations. ●



## 13. CHEMICAL AND BIOLOGICAL SECURITY THREATS

### Investigation of allegations of chemical weapon use in Iraq and Syria

In 2016 there were continued instances of alleged and confirmed use of chemical weapons in the armed conflicts in Iraq and Syria. Governments continued to target the Islamic State, including its suspected chemical weapon-related infrastructure in connection with the 2016 Mosul Offensive. The United Nations Security Council remained split on whether the Syrian Government has engaged in chemical warfare.

The Organisation for the Prohibition of Chemical Weapons (OPCW), the body that implements the 1993 Chemical Weapons Convention, sought to confirm the completeness and correctness of Syria's declarations partly through the work of the Declaration Assessment Team, the Fact-Finding Mission and the OPCW-UN Joint Investigative Mechanism (JIM) in Syria. The JIM issued four major reports in 2016 and concluded that an insurgent group was responsible for at least one instance of sulphur mustard use in Syria, while Syrian government forces were responsible for three instances of dispersal of chlorine. Syria and eight other states disputed the JIM's findings with respect to the use by Syrian government forces. A substantial number of governments accepted the JIM's overall findings, while others refrained from taking a public position on the question of whether the Syrian Government had authorized the use of such weapons. The JIM's mandate was modified and extended for another year, but it remains tasked with attributing

responsibility for select (including new) cases of alleged chemical weapon use.

There were further allegations of chemical weapon holdings and use in connection with the continued fighting in Iraq. The OPCW provided analytical advice and related support to Iraq in connection with alleged chemical weapon use and to support the planned destruction of remnants of chemical weapons left over from the government of Saddam Hussein. The OPCW also carried out a maritime chemical removal operation from Libya, the second such operation. (The first was from Syria in 2013–14.)

### Biological and chemical arms control

Russia's proposal to negotiate a new multilateral convention against chemical and biological terrorism at the Conference on Disarmament was met with mixed reactions. The Eighth Review Conference of the 1972 Biological and Toxin Weapons Convention was held in November 2016 and agreed a minimalistic intersessional process consisting of annual Meetings of States Parties for the period 2017–20. It also agreed to extend the mandate of the Implementation Support Unit (unless later decided otherwise) for the period 2017–21 and to continue a cooperation database established by the Seventh Review Conference. ●



## **14. CONVENTIONAL ARMS CONTROL**

### **ICRC guidance and its application in urban warfare**

The Geneva conventions are an international benchmark for behaviour during armed conflict. In 2011 the International Committee of the Red Cross (ICRC) initiated a multi-year project to update a series of Commentaries that provide guidance to states on how to interpret and implement the conventions. The first update is on the Convention for the Amelioration of the Condition of the Wounded and Sick in Armed Forces in the Field, and is part of a series of Commentaries that will consider changes in the nature of armed conflict. One of the most important issues addressed in the updated Commentary is how to apply the Geneva conventions to non-international armed conflicts. Other key issues are how to safeguard the impartiality of humanitarian relief, attacks on health care workers and the increasing use of military force and violence in populated areas.

### **Humanitarian arms control**

The use of explosive weapons in populated areas (EWIPA) is a growing concern of the ICRC, among others, and has also featured in ongoing humanitarian arms control efforts. In 2016 close to 42 000 civilians were reported killed or injured by explosive weapons, and the bombardment of Aleppo was the nadir of this form of warfare. The 1981 Convention on Certain Conventional Weapons (CCW Convention), in particular, was designed to protect civilians and combatants in situations of armed conflict, but the Fifth Review Conference to update the Convention failed to effectively address

issues related to EWIPA, incendiary weapons and new technology in warfare. However, ongoing attempts to expand the scope of the existing humanitarian arms control regimes included discussions on lethal autonomous weapon systems and some fledgling efforts by the outgoing US Administration to regulate the international transfer and use of armed unmanned aerial vehicles (UAVs, or drones) and to increase transparency on their use. In addition, states met to discuss implementation of the United Nations Programme of Action on small arms and light weapons (SALW) and agreed strong language on the gendered aspects of SALW proliferation and violence, and the UN Sustainable Development Goals.

### **Conventional arms control in Europe**

Europe is the only region that has created an integrated conventional arms control system. There is a consensus, however, that this framework, which was created in the 1990s, no longer delivers the results expected of it. The deep divisions between Russia and the West over causality were played out during discussions within the Organization for Security and Co-operation in Europe (OSCE) in 2016. Nonetheless, following a German-led initiative, the OSCE agreed to launch a structured dialogue on current and future challenges and risks to security in the OSCE area, with a particular focus on conventional arms control. ●



## 15. DUAL-USE AND ARMS TRADE CONTROLS

### The Arms Trade Treaty

An Extraordinary Meeting of States Parties (CSP1.5) to the Arms Trade Treaty (ATT) took place in February 2016 and the Second Conference of States Parties (CSP2) took place in August 2016. At the February meeting, key decisions were taken in relation to the role and functioning of the ATT Secretariat. At CSP2 consensus was achieved on the permanent Head of the ATT Secretariat, Dumisani Dladla; the reporting templates recommended for the initial report on treaty implementation and the Annual Report on Arms Transfers; draft terms of reference for the ATT Voluntary Trust Fund; and the setting up of Intersessional Working Groups on Effective Implementation of the ATT, Treaty Universalization, and Transparency and Reporting. Major challenges remain with regard to the practical impact of the ATT: the low levels of accession in Asia and the Middle East; the commercial and political considerations shaping the interpretation of treaty provisions; the fact that important arms-supplying and recipient states remain outside the treaty; and the limitations on the role and capacities of the Secretariat.

### Multilateral arms embargoes

In 2016 there were 38 multilateral arms embargoes in force: 15 imposed by the United Nations, 22 by the European Union (EU) and 1 by the League of Arab States. Of the EU embargoes, 11 directly implemented UN decisions, 3 implemented UN embargoes with modified geographical scope or coverage in terms of the weapon types included and 8 had no UN counterpart. The single Arab League arms embargo

### MULTILATERAL ARMS EMBARGOES IN FORCE, 2016

#### *United Nations (15 embargoes)*

- Central African Republic (NGF)
- Democratic Republic of the Congo (NGF)
- Côte d'Ivoire (NGF) • Eritrea • Iran • Iraq (NGF) • ISIL, al-Qaeda and associated individuals and entities • North Korea
- Lebanon (NGF) • Liberia (NGF) • Libya (NGF) • Somalia (NGF) • Sudan (Darfur)
- Taliban • Yemen (NGF)

#### *European Union (22 embargoes)*

- Implementations of UN embargoes (11):
  - Al-Qaeda, the Taliban and associated individuals and entities • Central African Republic (NGF) • Democratic Republic of the Congo (NGF) • Côte d'Ivoire (NGF) • Eritrea • Iraq (NGF) • Lebanon (NGF) • Liberia (NGF) • Libya (NGF) • Somalia (NGF)
- Yemen (NGF)
- Adaptations of UN embargoes (3): • Iran • North Korea • Sudan (Darfur)
- Embargoes with no UN counterpart (8):
  - Belarus • China • Egypt • Myanmar
  - Russia • South Sudan • Syria • Zimbabwe

#### *Arab League (1 embargo)*

- Syria

NGF = non-governmental forces.

(on Syria) had no UN counterpart. Most of these embargoes only cover conventional arms. However, the UN and EU embargoes on Iran and North Korea, and the EU embargo on Russia also cover exports of dual-use goods. No new multilateral arms embargoes were imposed in 2016. Implementation of the UN embargoes was again not without problems, as demonstrated by the reports of the different panels of experts charged with monitoring their implementation.



## **Export control regimes**

All the multilateral export control regimes—the Australia Group, the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies (Wassenaar Arrangement, WA)—sought to update their respective trade control lists and guidelines. Most of the regimes continued to face difficulties with admitting new members, owing to the requirement that all existing members must approve the application. However, in June 2016 India finally got one step closer to its goal of joining the export control regimes by becoming a participating state in the MTCR and in The Hague Code of Conduct against Ballistic Missile Proliferation. Discussions continued in all the regimes about how to better engage with non-participating states. Several of the regimes conducted broader outreach dialogues that went beyond technical briefings.

## **EU dual-use trade controls**

The EU's revision of its Regulation on the export, transit and brokering of dual-use items continued throughout 2016. It is unlikely to reach a conclusion before 2018. In September 2016 the European Commission put forward a legislative proposal that includes several elements that have provoked negative reactions from industry and several EU member states, and would constitute a fundamental change to aspects of the EU dual-use control regime. The elements were: an expansion of the definition of dual-use items to include certain types of cyber-surveillance technology; an EU control list that for the first time goes beyond the lists

of the four export control regimes; an expansion of the so-called catch-all controls for unlisted items to cover items that may be intended to be used in violations of human rights or international humanitarian law or in connection with acts of terrorism; and an expansion of the criteria that states are required to apply when assessing licence applications to include issues related to human rights, international humanitarian law and terrorism.

## **Applying human rights concerns to dual-use export controls**

The application of human rights norms to arms export controls has been broadly accepted for many years. However, their application to dual-use export controls has always been less clear-cut and more uneven. This issue has received increased attention largely as a result of the addition of a number of information and communications technology surveillance systems to the WA and EU dual-use lists. These items have been identified largely owing to the human rights concerns associated with their use. Their inclusion in the WA and EU dual-use lists has led to calls for a further expansion in the range of such surveillance systems that are subject to control. At the EU level, this has also fed into discussions about establishing a clearer connection between dual-use export controls and the application of human rights norms. ●



## **SIPRI DATABASES**

### **SIPRI Military Expenditure Database**

Gives consistent time series on the military spending of 172 countries since 1988, allowing comparison of countries' military spending: in local currency, at current prices; in US dollars, at constant prices and exchange rates; and as a share of gross domestic product.

### **SIPRI Arms Transfers Database**

Shows all international transfers in seven categories of major conventional arms since 1950, the most comprehensive publicly available source of information on international arms transfers.

### **SIPRI Arms Embargoes Database**

Gives information on all arms embargoes that have been implemented by an international organization, such as the European Union or the United Nations, or by a group of nations. All embargoes that are in force, or have been in force since 1998, are included.

### **SIPRI National Reports Database**

Provides links to all publicly accessible national reports on arms exports and is constantly updated to include links to newly published national reports on arms exports.

### **SIPRI Multilateral Peace Operations Database**

Offers information on all UN and non-UN peace operations conducted since 2000, including location, dates of deployment and operation, mandate, participating countries, number of personnel, costs and fatalities.

Access the SIPRI databases at [www.sipri.org/databases](http://www.sipri.org/databases)



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# SIPRI YEARBOOK 2017

## Armaments, Disarmament and International Security

The SIPRI Yearbook is appreciated worldwide by politicians, diplomats, journalists, scholars, students and citizens as an authoritative and independent source of data and analysis on the topics of armaments, disarmament and international security. It provides an overview of developments in international security, weapons and technology, military expenditure, the arms trade and arms production, and armed conflicts, along with efforts to control conventional, nuclear, chemical and biological weapons.

This booklet summarizes the 48th edition of the SIPRI Yearbook, which covers developments during 2016, including

- *Armed conflicts and conflict management*, with coverage of the Middle East and North Africa, European security and the peace agreement in Colombia, as well as analysis of global and regional trends in peace operations
- *Security and development*, including studies on sustaining peace and sustainable development in dangerous places, forced displacement in fragile contexts, and the links between climate change and violent conflict
- *Military expenditure, arms production and international arms transfers*
- *World nuclear forces*, with an overview of each of the nine nuclear-armed states
- *Nuclear arms control*, featuring developments in multilateral arms control and disarmament, and discussion of the implementation of Iran's nuclear deal
- *Conventional arms control*, with studies on humanitarian arms control and the current state of conventional arms control in Europe
- *Chemical and biological security threats*, including the investigation of allegations of chemical weapon use in the Middle East
- *Dual-use and arms trade controls*, with a focus on developments in the Arms Trade Treaty, multilateral arms embargoes and export control regimes

as well as a 10-year overview of patterns of armed conflict, a summary of the Global Peace Index, and annexes listing arms control and disarmament agreements, international security cooperation bodies, and key events in 2016.