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SIPRI YEARBOOK 2020

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 2020 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.

This booklet summarizes the contents of *SIPRI Yearbook 2020* and provides samples of the data and analysis that it contains.

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1. INTRODUCTION: INTERNATIONAL STABILITY AND HUMAN SECURITY IN 2019

DAN SMITH

This 51st edition of the SIPRI Yearbook provides evidence of an ongoing deterioration in the conditions for international stability. This trend is reflected in the continued rise in military spending and the estimated value of global arms transfers, an unfolding crisis of arms control that has now become chronic, and increasingly toxic global geopolitics and regional rivalries. There also remains a persistently high number of armed conflicts worldwide, with few signs of negotiated settlements on the horizon.

Flashpoints

Events in 2019 included dangerous clashes between major powers in the Middle East and in South Asia. Missile strikes, proxy attacks and challenges to freedom of navigation in the Persian Gulf in mid-2019 raised the possibility of Iran going to war with Saudi Arabia and other regional powers, and potentially with the United States. Armed clashes also escalated between two nuclear-armed states, India and Pakistan, over Kashmir. In both cases the situation eventually calmed, but not as a result of traditional crisis management.

Arms control

In 2019 there were no gains and some further setbacks in nuclear arms control. The USA withdrew from the 1987 Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty) and Russia formally suspended its obligations under it. Uncertainty continued about whether the Russian–US bilateral 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START) would be extended beyond its current expiry date of February 2021. In addition, discussions on denuclearization between the Democratic People's Republic of Korea (North Korea) and the USA lost traction during 2019 and by the end of the year the Iran nuclear deal (2015 Joint Comprehensive Plan of Action) was largely non-functional.

The climate crisis

There were some welcome signs in 2019 that opinion was moving towards support for serious action to address the climate crisis. However, there will be a considerable time lag between action and impact, and it will also be necessary to adapt to the effects of climate change and build resilience. In addition, it is now clear that the impact of climate change often needs to be addressed amid peacebuilding in war-torn settings. There is still time to prepare for future climate-related security challenges; the key to success will be increased international cooperation.

International cooperation

The need for cooperation on climate change is matched by a similar need for cooperation on other major challenges of our age. The degree to which international politics are characterized by tensions and disagreements, especially among the three great powers—China, Russia and the USA—is a serious cause for concern. Nonetheless, even governments that express loathing of diplomacy find it next to impossible to do without cooperative approaches to shared problems. The spread of coronavirus disease 2019 (COVID-19) underlines the message that other global challenges today also require cooperation for human security and international stability. ●

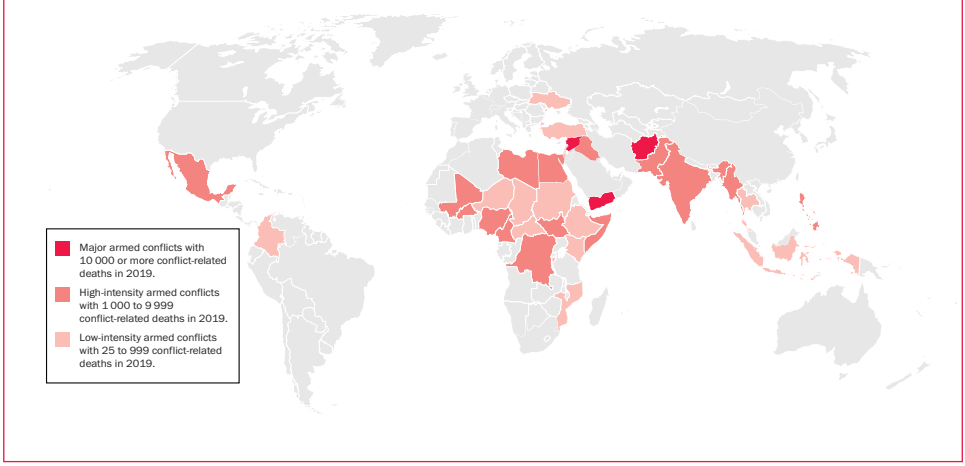
2. GLOBAL DEVELOPMENTS IN ARMED CONFLICT, PEACE PROCESSES AND PEACE OPERATIONS

Active armed conflicts occurred in at least 32 states in 2019: 2 in the Americas, 7 in Asia and Oceania, 1 in Europe, 7 in the Middle East and North Africa and 15 in sub-Saharan Africa. As in preceding years, most took place within a single country (intrastate), between government forces and one or more armed non-state group(s). Three were major armed conflicts (with more than 10 000 conflict-related deaths in the year): Afghanistan, Yemen and Syria. Fifteen were high-intensity armed conflicts (with 1000–9999 conflict-related deaths): Mexico, Nigeria, Somalia, the Democratic Republic of the Congo (DRC), Iraq, Burkina Faso, Libya, Mali, South Sudan, the Philippines, India, Myanmar, Cameroon, Pakistan and Egypt. The others were low-intensity armed conflicts (with 25–999 conflict-related deaths). Only one armed conflict was fought between states (border clashes between India and Pakistan), and two were fought between state forces and armed groups that aspired to statehood (between Israel and Palestinian groups and between Turkey and Kurdish groups). All three major armed conflicts and most of the high-intensity armed conflicts were internationalized.

Consequences of armed conflict

The reduction in the severity of several armed conflicts in 2019 led to a further decrease in conflict fatalities, continuing a recent downward trend since 2014. The number of forcibly displaced people worldwide at the beginning of 2019 was 70.8 million (including more than 25.9 million refugees). Protracted displacement crises continued in Afghanistan, the Central African Republic (CAR), the DRC, Myanmar, Somalia, South Sudan, Syria, Venezuela and Yemen, as well as in the Sahel region. In 2019 almost 30 million people in five countries (Afghanistan, the CAR, Haiti, Somalia and South Sudan) and

ARMED CONFLICTS IN 2019



Note: The boundaries used in this map do not imply any endorsement or acceptance by SIPRI.

CONFLICT-RELATED FATALITY ESTIMATES

The five armed conflicts with the highest fatality estimates in 2019 were in Afghanistan, Yemen, Syria, Mexico and Nigeria. With a combined total of nearly 98 000 fatalities, these conflicts accounted for about 78 per cent of the total conflict-related deaths in 2019.

two regions (the Lake Chad Basin and central Sahel) needed urgent food, nutrition and livelihood assistance.

Peace agreements

Of the 21 new peace agreements in 2019, 10 related to local agreements and 11 to national agreements, although most of the latter were renewal or implementation accords. Two new substantive national peace agreements were signed in sub-Saharan Africa: in the CAR and in Mozambique. Relatively peaceful transitions of power in Ethiopia (in 2018) and Sudan (in 2019) and the implementation of a 2018 peace agreement in South Sudan led to significant decreases in armed violence in those three states in 2019. Peace processes in two of the most protracted and complex armed conflicts had mixed results in 2019: in Afghanistan the Taliban–United States peace talks collapsed, before resuming in November 2019; and in Yemen the 2018 Stockholm Agreement was supplemented by a new peace accord, the November 2019 Riyadh Agreement.

Trends in multilateral peace operations

There were 61 active multilateral peace operations in 2019; one more than the previous year. Two operations ended in 2019: the Temporary International Presence in Hebron and the United Nations Mission for Justice Support in Haiti (MINUJUSTH). Three operations started in 2019: the UN Integrated Office in Haiti, which succeeded MINUJUSTH, the UN Mission to Support the Hodeidah Agreement in Yemen and the European Union (EU) Integrated Border Assistance Mission in Libya, which qualified as a multilateral peace operation following the entry into force of its new mandate.

Despite this slight increase in the number of multilateral peace operations, the number of personnel deployed in them decreased by 4.8 per cent during 2019, from 144 791 on 31 December 2018 to 137 781 on 31 December 2019. This reduction was mainly driven by peace operations conducted by the UN and primarily by drawdowns in sub-Saharan Africa. Nonetheless, the UN remains the leading organization in the field, with responsibility for over one-third of all multilateral peace operations and nearly two-thirds of all personnel deployed in them.

The African Union Mission in Somalia remained the largest multilateral peace operation in 2019, despite a force reduction. The top three troop-contributing countries remained the same as in 2018, with Ethiopia leading, followed by the USA and Uganda. The latter two owe their high ranking primarily to their contributions to non-UN operations.

In 2019 the annual hostile death rates in UN peacekeeping operations remained relatively stable compared with the previous year. Notably, all but one of the hostile deaths among uniformed UN personnel were recorded in the UN Multidimensional Integrated Stabilization Mission in Mali. ●

3. ARMED CONFLICT AND PEACE PROCESSES IN THE AMERICAS

In 2019 non-international armed conflicts, as defined under international humanitarian law, were present in two countries in the Americas: Colombia and Mexico. Beyond the strict definitions of international humanitarian law, various forms of armed violence affected these and other countries in the region in 2019.

Colombia

Implementation of the 2016 Colombian peace agreement with the Revolutionary Armed Forces of Colombia–People's Army (Fuerzas Armadas Revolucionarias de Colombia–Ejército del Pueblo, FARC–EP) continued throughout 2019. At the same time, the Government of Colombia was involved in several non-international armed conflicts with non-signatory non-state armed groups, while there were additional conflicts among such groups. The fragmentation of armed groups threatens to destabilize the fragile peace that has sustained since ratification of the peace agreement.

Mexico

In Mexico, which in 2019 had the highest number of homicides in a century, a non-international armed conflict has emerged between the state and the criminal syndicate Jalisco New Generation Cartel (Cártel Jalisco Nueva Generación, CJNG). Based on the level of armed violence between government forces and the CJNG and the latter's well-organized structure, by early 2019 the threshold for a non-international armed conflict between the Government of Mexico and the CJNG had been met.

Peace operations

There were four multilateral peace operations active in the Americas in 2019: the new United Nations Integrated Office in Haiti; the UN Mission for Justice Support in Haiti; the UN Verification Mission in Colombia; and the Organization of American States (OAS) Mission to Support the Peace Process in Colombia. Additionally, the OAS established a special commission on Nicaragua. However, the OAS Mission to Support the Fight against Corruption and Impunity in Honduras failed to reach agreement on renewal of its mandate with the Government of Honduras.

Criminal violence

According to the UN Office on Drugs and Crime, global deaths caused by criminal activity far exceeded those caused by conflicts and terrorism combined. By the metric of homicides, in which organized crime has a significant role, the Americas remained the world's most violent region in 2019.

Political unrest

The year 2019 was also marked by political unrest in which waves of mass demonstrations swept across many of the countries in the region. While triggered by differing issues or events, the protests often had similar underlying causes, including economic pressures from slow rates of economic growth since 2015, persistently high levels of inequality, discontent with the functioning of democratic institutions and processes, and enduring problems of corruption and abuse of power by political and economic elites.

4. ARMED CONFLICT AND PEACE PROCESSES IN ASIA AND OCEANIA

Seven countries in Asia and Oceania experienced active armed conflicts in 2019. There were three in South Asia: Afghanistan (major internationalized civil war), India (high-intensity interstate border and subnational armed conflicts) and Pakistan (high-intensity interstate border and subnational armed conflicts). The other four were in South East Asia: Indonesia (low-intensity subnational armed conflict), Myanmar (high-intensity subnational armed conflict), the Philippines (high-intensity subnational armed conflict) and Thailand (low-intensity subnational armed conflict).

Two emerging trends remained cause for concern in 2019: (*a*) the growing violence related to identity politics, based on ethnic or religious polarization or both; and (*b*) the increase in transnational violent jihadist groups. Some of the most organized of these groups are active in South East Asia, most notably in Indonesia, Malaysia and the Philippines.

Afghanistan and North Korea

Two peace processes deteriorated in 2019: on the Korean peninsula, discussions between North Korea and the United States stalled; and the collapse of the Taliban–USA peace talks in September 2019 led to renewed pessimism about the prospects of ending the long-running war in Afghanistan (despite the resumption of talks in November 2019). The war in Afghanistan was the deadliest armed conflict in the world, with nearly 42 000 fatalities in 2019. A rise in suicide and improvised explosive device attacks by anti-government groups, in particular the Taliban, and an expansion in US air strikes, contributed to increased civilian casualties.

ARMED CLASHES BETWEEN TWO NUCLEAR-ARMED STATES: INDIA AND PAKISTAN

A suicide attack in February 2019 by a Pakistan-based militant group in Indian-administered Kashmir—the deadliest attack in Kashmir for over three decades—sparked a sharp but short escalation in the conflict between India and Pakistan, both of which have nuclear weapons. Although the immediate crisis abated, tensions continued throughout the year as India indicated that the episode had brought to an end its unstated policy of strategic restraint, and that retaliation for any attack perceived to be linked to Pakistan was now the 'new normal'.

Myanmar

In Myanmar, an ongoing peace process made little headway during 2019, against a backdrop of rising violence, especially in Rakhine state. The voluntary return to Myanmar of almost a million Rohingya people forcibly displaced in 2017 seemed even less likely by the end of the year, even though humanitarian conditions in refugee camps in Bangladesh continued to worsen. Accountability and justice for alleged atrocities committed against the Rohingya people and other ethnic minorities in Myanmar remained elusive, despite legal efforts pending at the International Criminal Court and the International Court of Justice. ●

5. ARMED CONFLICT AND PEACE PROCESSES IN EUROPE

One armed conflict was active in Europe in 2019: the low-intensity internationalized, subnational armed conflict in Ukraine between Ukrainian Government forces and separatists backed by Russia. This armed conflict has led to about 13 000 deaths (at least 3330 civilians and approximately 9670 combatants) since April 2014. However, since 2018, combat-related deaths have been much lower than in earlier years. In 2019 there were an estimated 405 combat-related deaths, down from 886 in 2018.

Promising developments in Ukraine

Political changes in Ukraine during 2019, and especially the presidential victory by Volodymyr Zelensky and his acceptance of the so-called Steinmeier formula for resolving the conflict, created a new opportunity for further negotiations. Among other things, the formula would involve holding local elections in separatist-controlled districts in eastern Ukraine, which could result in the implementation of special self-governing status for these territories.

In December 2019 at the first Normandy Format meeting for more than three years, the leaders of France, Germany, Russia and Ukraine endorsed the Steinmeier formula, and agreed to implement a 'full and comprehensive' ceasefire by the end of the year and to hold further talks in the first half of 2020. Despite this promising new opening, fundamental disagreements endured among the parties about the nature of the conflict and their involvement in it, as well as about the sequencing and implementation of the formula.

Ongoing security concerns

Although most of Europe has seemed peaceful for about two decades, various tensions remain, including: (*a*) persistent tensions between Russia and large parts of the rest of Europe; (*b*) long-standing conflicts that have not yet been resolved—especially in the post-Soviet space, the Western Balkans and Cyprus; and (*c*) the security response to problems on Europe's southern flank, which encompasses several European states' involvement in armed conflicts in Afghanistan, the Middle East and North Africa, and sub-Saharan Africa. In Cyprus, for example, a political settlement to the conflict remained elusive in 2019, with oil and gas discoveries, maritime border disputes and regional power rivalries adding to tensions.

There were 18 multilateral peace operations active in Europe in 2019, all of which had been active in the previous year.

Irregular migration and terrorism

Two issues that have been at the forefront of European security thinking in recent years—irregular migration and terrorism—both have a strong connection to developments in the south. The European Union (EU) has been at the forefront of managing irregular migration to Europe, and it is an issue that has been a prominent driver in EU engagement with Libya and Turkey.

Terrorism continued to constitute a significant threat to security in Europe in 2019, although trend reports suggested that the risk is declining. Dealing with returning foreign fighters remained one of Europe's main counterterrorism challenges.

6. ARMED CONFLICT AND PEACE PROCESSES IN THE MIDDLE EAST AND NORTH AFRICA

There were seven countries with active armed conflicts in the Middle East and North Africa in 2019 (the same as in 2018): Egypt (high-intensity, subnational armed conflict), Iraq (internationalized civil war), Israel (low-intensity, extrastate armed conflict), Libya (internationalized civil war), Syria (major internationalized civil war), Turkey (low-intensity, extrastate and subnational armed conflict) and Yemen (major internationalized civil war). All the armed conflicts had fewer fatalities than in 2018, except for Libya. Many of these conflicts, which have resulted in the deaths of hundreds of thousands of people and displaced millions more, were interconnected and involved regional and international powers, as well as numerous non-state actors. On several occasions during 2019 tensions between Iran and the United States (and its Gulf allies) threatened to escalate into a more serious interstate military conflict. Large-scale anti-government protests occurred in Algeria, Egypt, Iran, Iraq, Jordan, Lebanon, Morocco, the Palestinian territories and Tunisia.

Complex and interlinked armed conflicts in Iraq, Syria and Turkey

Turkey continued its military operations in northern Iraq and carried out a new incursion into northern Syria, after an announced US withdrawal. Russia and Turkey subsequently created a 'safe zone' in north-east Syria in October 2019, while the Syrian Government consolidated its hold over most of the country and achieved further strategic gains. Iraq remained a fragile, largely post-conflict state—although available data suggested that combat-related fatalities remained at the level of a high-intensity armed conflict—with weak institutions and growing protests.

THE ISRAELI–PALESTINIAN CONFLICT

The complex Israeli–Palestinian conflict continued in 2019, with rising instability in the Golan Heights and the West Bank adding to tensions in Gaza. Although the USA unveiled the economic part of its proposed Israeli–Palestinian peace plan in mid-2019, by the end of the year it appeared that there had been no progress on resolving the underlying conflict.

Libya

In Libya the fighting escalated between the two competing governments in 2019. There was also a deepening internationalization of the conflict—with Egypt, Russia, Saudi Arabia and the United Arab Emirates on one side and Qatar and Turkey on the other.

Yemen

The humanitarian crisis in Yemen remained the worst in the world in 2019. While initial steps were taken to implement the December 2018 Stockholm Agreement, in Yemen's fractured south, fighting intensified and the rivalry within the anti-Houthi coalition risked escalating into a fully-fledged civil war within a civil war, until a peace deal was concluded in Riyadh in November 2019. The Stockholm and Riyadh agreements provide a potential path towards a political settlement of the Yemen civil war, but many challenges remain with continued inter- and intra-coalition fighting. ●

7. ARMED CONFLICT AND PEACE PROCESSES IN SUB-SAHARAN AFRICA

There were at least 15 countries with active armed conflicts in sub-Saharan Africa in 2019: Burkina Faso, Burundi, Cameroon, the Central African Republic (CAR), Chad, the Democratic Republic of the Congo (DRC), Ethiopia, Kenya, Mali, Mozambique, Niger, Nigeria, Somalia, South Sudan and Sudan. Eight were low-intensity, subnational armed conflicts, and seven were high-intensity armed conflicts (Nigeria, Somalia, the DRC, Burkina Faso, Mali, South Sudan and Cameroon). Almost all the armed conflicts were internationalized, including as a result of state actors (whether directly or through proxies) and the transnational activities of violent Islamist groups, other armed groups and criminal networks. The conflict dynamics and ethnic and religious tensions were often rooted in a combination of state weakness, corruption, ineffective delivery of basic services, competition over natural resources, inequality and a sense of marginalization. Two other cross-cutting issues continued to shape regional security: the ongoing internationalization of counterterrorism activities, and the growing impact of climate change—with water scarcity being a particularly serious challenge.

Peace operations

There were 20 multilateral peace operations active in sub-Saharan Africa in 2019 (two fewer than in 2018), including several large-scale operations in countries that were experiencing armed conflict such as the CAR, the DRC, Mali, Somalia and South Sudan. The number of personnel deployed in the region (97 519 on 31 December 2019) decreased for the fourth year in a row and reached the lowest point since 2012.

CONFLICT-RELATED DEATHS IN HIGH-INTENSITY ARMED CONFLICTS IN SUB-SAHARAN AFRICA, 2013–19

DRC = Democratic Republic of the Congo.
Source: Armed Conflict Location & Event Data Project, 'Data export tool', [n.d.].

EXTERNAL NATIONAL AND MULTILATERAL PEACE AND COUNTERTERRORISM OPERATIONS IN THE SAHEL AND LAKE CHAD REGION

Name	Contributing countries/ organizations	Launched/ established	Force level	Country of deployment
EU Capability Mission Sahel Niger	EU member states	2012	115 police and civilians	Niger
Multidimensional Integrated Stabilization Mission in Mali	UN (mainly African countries, Bangladesh, Egypt, China and Germany)	2013	14 438 troops, police and civilians	Mali
EU Training Mission in Mali	EU member states	2013	697 troops and 3 civilians	Mali
Multinational Joint Task Force	Benin, Cameroon, Chad, Niger and Nigeria	2014[a]	10 746 troops	Cameroon, Chad, Niger and Nigeria
Operation Barkhane	France	2014[b]	4 700 troops	Burkina Faso, Chad, Mali and Niger
EU Capability Mission Sahel Mali	EU member states	2015	127 police and civilians	Mali
Joint Force of the G5 for the Sahel	Burkina Faso, Chad, Mali, Mauritania and Niger	2017	5 000 troops	Burkina Faso, Chad, Mali, Mauritania and Niger

EU = European Union; G5 = Group of Five; UN = United Nations.
[a] Initiated as a solely Nigerian force in 1994; expanded to include Chad and Niger in 1998.
[b] Succeeded Operation Serval, which was launched in Jan. 2013 and ended in July 2014.

A worsening crisis in the Sahel and Lake Chad region

The armed conflicts in Burkina Faso, Cameroon, Chad, Mali, Niger and Nigeria all worsened in 2019. The security challenges are linked to the rise of violent extremism and the proliferation of armed non-state groups, such as Boko Haram, which has spread from Nigeria across the Lake Chad region. The violent extremist groups are interwoven with rural insurgent groups, feeding off intercommunal tensions and exploiting grievances of marginalized communities.

Armed conflict fatalities increased significantly in Burkina Faso in 2019 due to a broadening of three interconnected layers of conflict: the government's conflict with heavily armed Islamist groups, clashes between armed ethnic and Islamist groups, and intercommunal violence.

Central Africa

There were two main challenges in Central Africa in 2019: (*a*) the implementation of a new peace agreement in the CAR between the government and armed groups, and (*b*) a period of political transition in the DRC, which was accompanied by an increase in insecurity and political violence in the eastern provinces and an ongoing health emergency from measles and Ebola outbreaks. ●

8. MILITARY EXPENDITURE

World military expenditure is estimated to have been US$1917 billion in 2019. It accounted for 2.2 per cent of world gross domestic product (GDP) or $249 per person. Spending in 2019 was 3.6 per cent higher than in 2018 and 7.2 per cent higher than in 2010. The growth in total global military spending in 2019 was the fifth consecutive annual increase and the largest of the decade 2010–19, surpassing the 2.6 per cent rise in 2018. Military expenditure also increased in at least four of the world's five regions: by 5.0 per cent in Europe, 4.8 per cent in Asia and Oceania, 4.7 per cent in the Americas and 1.5 per cent in Africa. For the fifth successive year, SIPRI cannot provide an estimate of total spending in the Middle East.

The largest military spenders in 2019

The growth in total spending in 2019 was largely influenced by expenditure patterns in the United States and China, which together account for over half of the world's military spending. The USA increased its spending for the second straight year to reach $732 billion in 2019. This was 2.7 times larger than the $261 billion spent by China, the world's next highest spender. China's total was 5.1 per cent higher than in 2018 and 85 per cent higher than in 2010. With a 16 per cent decrease in its spending, Saudi Arabia fell from being the third-largest spender in 2018 to fifth position in 2019. India's spending of $71.1 billion ranked it as the third-largest spender for the first time, while Russia's increase of 4.5 per cent moved it up from fifth to fourth.

Among states in Western Europe, France continued to spend the most, with military expenditure of $50.1 billion in 2019.

WORLD MILITARY SPENDING, 2019

Region	Spending (US$ b.)	Change (%)
Africa	(41.2)	*1.5*
North Africa	(23.5)	*4.6*
Sub-Saharan Africa	17.7	*–2.2*
Americas	815	*4.7*
Central America and the Caribbean	8.7	*8.1*
North America	754	*5.1*
South America	52.8	*0.2*
Asia and Oceania	523	*4.8*
Central Asia	2.2	*16*
East Asia	363	*4.6*
Oceania	29.0	*3.5*
South Asia	88.1	*6.4*
South East Asia	40.5	*4.2*
Europe	356	*5.0*
Central Europe	31.5	*14*
Eastern Europe	74.0	*4.9*
Western Europe	251	*3.9*
Middle East	. .	. .
World total	**1 917**	***3.6***

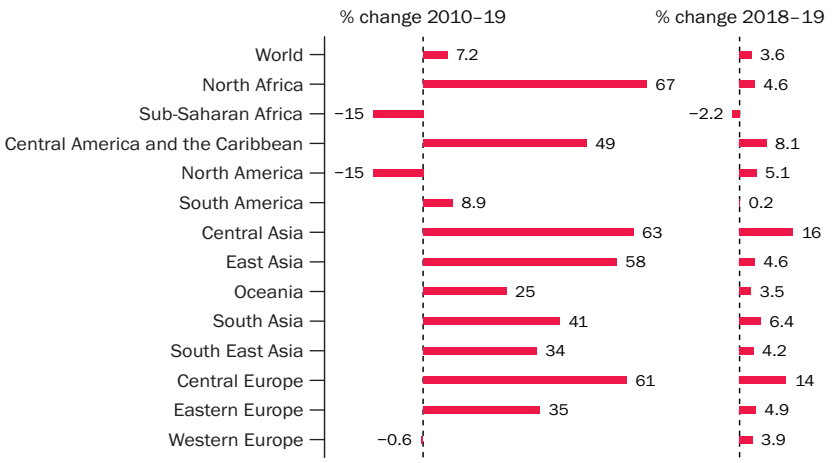
( ) = uncertain estimate; . . = data unavailable. Spending figures are in current (2018) US$. All changes are in real terms for the period 2018–19.

However, the largest increase in spending among the top 15 military spenders in 2019 was made by Germany: its military spending rose by 10 per cent to $49.3 billion.

Regional comparisons

Military expenditure is not evenly distributed among the world's regions. Total military expenditure in Europe totalled $356 billion in 2019, accounting for 19 per cent of global spending. This was behind spending by states in the Americas, at $815 billion (43 per cent of the world total), and Asia and Oceania, at $523 billion (27 per cent of world spending). Spending in the Middle East is estimated to have been around 9.4 per cent of the world total. The

PERCENTAGE CHANGES IN MILITARY EXPENDITURE BY SUBREGION



$41.2 billion spent by African countries was the lowest of all the regions, at only 2.1 per cent of global military expenditure.

Military spending by NATO members

In 2014, North Atlantic Treaty Organization (NATO) members pledged to increase their military expenditure as a share of GDP to 2 per cent and to spend at least 20 per cent of their military expenditure on equipment. The number of European NATO countries allocating 20 per cent or more of their military expenditure to equipment increased from 5 in 2014 to 14 in 2019. The five with the highest relative increase in equipment spending as a share of total military expenditure—Bulgaria, Hungary, Lithuania, Romania and Slovakia—are all in Central Europe. While their sharp increases were driven by numerous factors—such as the need to modernize their weaponry or to decrease their dependence on Russia for maintenance of existing weapon systems—the primary reason was their perception of a heightened threat from Russia. Among other European members of NATO, increases in equipment spending as a share of military expenditure have been more moderate.

Transparency in military expenditure

Tracking countries' military expenditure requires transparency. However, the rate of reporting to military spending information exchange mechanisms administered by the United Nations and the Organization for Security and Cooperation in Europe continued to decrease in 2019, while reporting to a South American registry seems to have ended entirely.

Transparency varies widely at the national level. In some states, often those ruled by military regimes, military expenditure is funded outside the government budget. The case of Myanmar—highlighted in a 2019 UN report—underscores how off-budget funding mechanisms and opacity in military expenditure can allow the military to act unchecked and to perpetrate crimes against minorities. ●

9. INTERNATIONAL ARMS TRANSFERS AND DEVELOPMENTS IN ARMS PRODUCTION

The volume of international transfers of major arms grew by 5.5 per cent between 2010–14 and 2015–19, reaching its highest level since the end of the cold war. This growth is a continuation of the steady upward trend that began in the early 2000s. However, the total volume for 2015–19 was still 33 per cent lower than the total for 1980–84, when arms transfers peaked.

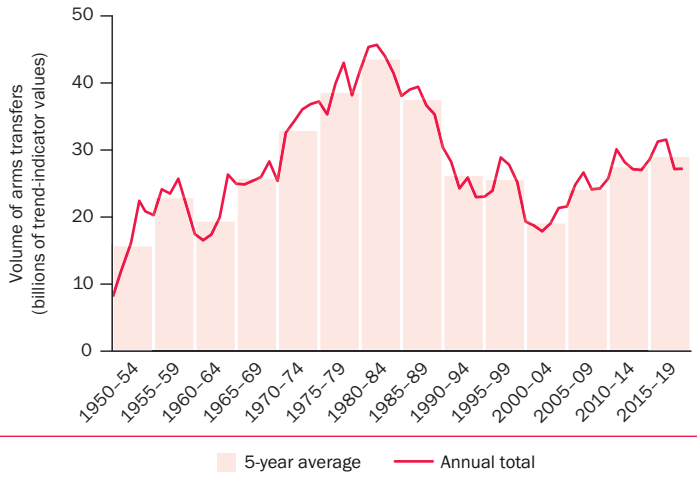
Importers of major arms

SIPRI identified 160 states as importers of major arms in 2015–19. The five largest arms importers were Saudi Arabia, India, Egypt, Australia and China, which together accounted for 36 per cent of total arms imports. The region that received the largest volume of major arms supplies in 2015–19 was Asia and Oceania, accounting for 41 per cent of the total, followed by the Middle East, which received 35 per cent—a higher share than in any of the 13 other consecutive five-year periods since 1950–54. The flow of arms to two regions increased between 2010–14 and 2015–19—the Middle East (61 per cent) and Europe (3.2 per cent)—while flows to the other three regions decreased—the Americas (–40 per cent), Africa (–16 per cent) and Asia and Oceania (–7.9 per cent).

Suppliers of major arms

The five largest suppliers in 2015–19—the United States, Russia, France, Germany and China—accounted for 76 per cent of the total volume of exports. Since 1950, the USA and Russia (or the Soviet Union before 1992) have consistently been by far the largest suppliers. In 2015–19 US arms exports accounted for 36 per cent of the global total and were 23 per cent higher than in 2010–14. By far the largest recipient of US arms in 2015–19 was Saudi Arabia, which received 25 per cent of US arms exports, up from 7.4 per cent in 2010–14. In contrast, Russian arms exports decreased by 18 per cent and its share of the global total

THE TREND IN TRANSFERS OF MAJOR ARMS, 1950–2019



THE MAIN EXPORTERS AND IMPORTERS OF MAJOR ARMS, 2015–19

	Exporter	Global share (%)		Importer	Global share (%)
1	USA	*36*	1	Saudi Arabia	*12*
2	Russia	*21*	2	India	*9.2*
3	France	*7.9*	3	Egypt	*5.8*
4	Germany	*5.8*	4	Australia	*4.9*
5	China	*5.5*	5	China	*4.3*
6	UK	*3.7*	6	Algeria	*4.2*
7	Spain	*3.1*	7	South Korea	*3.4*
8	Israel	*3.0*	8	UAE	*3.4*
9	Italy	*2.1*	9	Iraq	*3.4*
10	South Korea	*2.1*	10	Qatar	*3.4*

UAE = United Arab Emirates.

dropped from 27 per cent in 2010–14 to 21 per cent in 2015–19. Arms exports by the three other largest suppliers—France (72 per cent), Germany (17 per cent) and China (6.3 per cent)—all increased between 2010–14 and 2015–19.

The top 10 list of suppliers has historically been dominated by the USA, Russia and West European suppliers, and has generally only included suppliers that had previously appeared among the top 10. In 2015–19, South Korea was the first state in decades to become a top 10 supplier having never been one before. Many of the 68 states identified by SIPRI as exporters of major arms in 2015–19 are small exporters. The states in the top 25 supplied 99 per cent of total exports. States in North America and Europe (including Russia) accounted for 87 per cent of all arms exports.

Transparency in arms transfers

The number of states reporting their arms exports and imports to the United Nations Register of Conventional Arms (UNROCA) remained at a low level and no major changes occurred in the various national and regional reporting instruments. The number of states fulfilling their treaty obligation under the 2013 Arms Trade Treaty (ATT) to report arms exports and imports has grown: from 53 for 2016 to 61 for 2018*. However, as more states have ratified the ATT, the proportion of states parties submitting a report has fallen: from 71 per cent for 2016 to 66 per cent for 2018.

The financial value of states' arms exports

While 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 that the total value of the global arms trade was at least $95 billion in 2017*.

Arms production and military services

The SIPRI Top 100 list of arms-producing and military services companies ranks the largest companies in the arms industry (outside China) by their arms sales, both domestic and for export. The total value of the arms sales of the SIPRI Top 100 in 2018* was $420 billion, a 4.6 per cent increase compared with 2017. The growth in arms sales was mainly attributable to companies based in the USA, which dominate the SIPRI Top 100. ●

* The latest year for which data is available.

10. WORLD NUCLEAR FORCES

At the start of 2020, nine states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea—possessed approximately 13 400 nuclear weapons, of which 3720 were deployed with operational forces. Approximately 1800 of these are kept in a state of high operational alert.

Nuclear arsenals

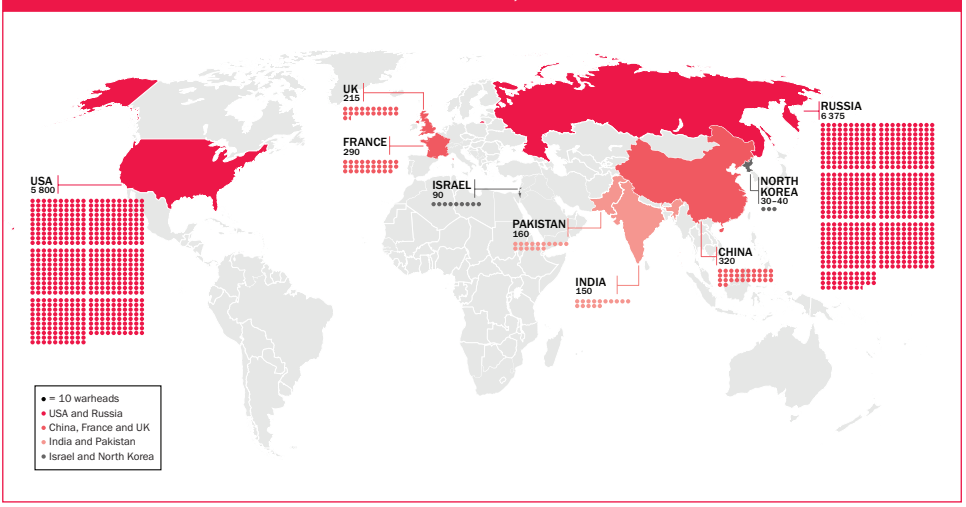
Overall, inventories of nuclear warheads continue to decline. This is primarily due to the USA and Russia dismantling retired warheads. At the same time, both the USA and Russia have extensive and expensive programmes under way to replace and modernize their nuclear warheads, missile and aircraft delivery systems, and nuclear weapon production facilities. In late 2019 the USA started to deploy a new low-yield warhead on some of its nuclear-powered ballistic missile submarines.

The nuclear arsenals of the other nuclear-armed states are considerably smaller but all the states are either developing or deploying new weapon systems or have announced their intention to do so. China is in the middle of a significant modernization and expansion of its arsenal, and India and Pakistan are also thought to be increasing the size of their nuclear arsenals. North Korea continues to prioritize its military nuclear programme as a central element of its national security strategy, although in 2019 it continued its moratorium on the testing of nuclear weapons and long-range ballistic missile delivery systems.

Low levels of 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 important information about its stockpile and nuclear capabilities but in 2019 the US administration ended the practice of publicly disclosing the size of the US stockpile. The UK and France have also declared some information. Russia refuses to publicly disclose the detailed breakdown

GLOBAL NUCLEAR WEAPON STOCKPILES, 2019



Note: The boundaries used in this map do not imply any endorsement or acceptance by SIPRI.

GLOBAL STOCKS OF FISSILE MATERIALS, 2019

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 is increasing its ability to produce plutonium. North Korea has produced plutonium for use in nuclear weapons but is believed to be producing HEU for nuclear weapons 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, 2019
Highly enriched uranium	~1 335 tonnes
Separated plutonium	
Military stocks	~220 tonnes
Civilian stocks	~300 tonnes

of its forces counted under the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START), even though it shares the information with the USA. China now publicly displays its nuclear forces more frequently than in the past but releases little information about force numbers or future development plans. 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. North Korea has acknowledged conducting nuclear weapon and missile tests but provides no information about its nuclear weapon capabilities. Israel has a long-standing policy of not commenting on its nuclear arsenal. ●

WORLD NUCLEAR FORCES, 2019

Country	Deployed warheads	Other warheads	Total inventory
USA	1 750	4 050	5 800
Russia	1 570	4 805	6 375
UK	120	95	215
France	280	10	290
China	–	320	320
India	–	150	150
Pakistan	–	160	160
Israel	–	90	90
North Korea	–	[30–40]	[30–40]
Total	**3 720**	**9 680**	**13 400**

– = zero; [ ] = uncertain figure not included in the total.

Notes: 'Other warheads' includes operational warheads held in storage and retired warheads awaiting dismantlement.

The figures for Russia and the USA do not necessarily correspond to those in their 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START) declarations because of the treaty's counting rules.

All estimates are approximate and as of Jan. 2020. SIPRI revises its world nuclear forces data each year based on new information and updates to earlier assessments.

11. NUCLEAR DISARMAMENT, ARMS CONTROL AND NON-PROLIFERATION

Russian–US nuclear arms control

The prospects for sustaining the achievements made in Russian–US nuclear arms control appear to be increasingly remote. During 2019, the long-running dispute between the United States and Russia over a seminal cold war-era arms control treaty, the 1987 Soviet–US Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty), culminated with the collapse of the treaty. The USA alleged that Russia had developed and deployed a mobile ground-launched cruise missile that had a flight range prohibited under the treaty—an allegation that Russia consistently dismissed as baseless. In August 2019 the USA confirmed its withdrawal from the INF Treaty in the light of Russia's failure to address US compliance concerns. The decision marked the effective demise of the treaty, which could result in the deployment of new nuclear weapons in Europe.

Russia and the USA also failed to make progress towards extending the sole remaining nuclear arms control agreement between them—the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START). The two countries achieved the final New START force reduction limits by the specified deadline in 2018. However, the treaty will lapse if there is no agreement between them to extend it by February 2021. The impasse over New START came against the background of tensions between Russia and the USA over missile defences and advanced weapon delivery systems as well as significant improvements in Chinese strategic capabilities.

North Korean–US nuclear dialogue

In 2019 tensions persisted between the USA and North Korea over the latter's ongoing programmes to develop nuclear weapons and ballistic missile delivery systems. The two countries remained locked in a diplomatic stalemate over the commitments made by their respective leaders during a summit meeting the previous year to work towards establishing peaceful relations and achieving the denuclearization of the Korean Peninsula. A second summit meeting between the leaders held in February 2019 ended with no concrete results. In addition, while North Korea continued to adhere to its self-declared moratorium on the testing of nuclear weapons and long-range ballistic missiles, during the year it conducted multiple flight tests of shorter-range ballistic missiles, including several new types of system.

Iran and the Joint Comprehensive Plan of Action

In 2019 there continued to be controversy over the implementation of the 2015 Joint Comprehensive Plan of Action (JCPOA), an eight-party agreement designed to limit Iran's proliferation-sensitive nuclear activities and to build international confidence about the exclusively peaceful nature of its nuclear programme. During the year, Iran announced that it would incrementally scale back its compliance with the limits set out by the agreement in response to the re-imposition of US sanctions (following the US withdrawal from the JCPOA in 2018). Iran appealed to the other JCPOA participants to provide guarantees that at least some degree of sanctions relief—one of

AGGREGATE NUMBERS OF RUSSIAN AND US STRATEGIC OFFENSIVE ARMS UNDER NEW START, AS OF 5 FEB. 2011, 1 MAR. 2019 AND 1 SEP. 2019

		Russia			United States		
Category of data	Treaty limits	Feb. 2011	Mar. 2019	Sep. 2019	Feb. 2011	Mar. 2019	Sep. 2019
Deployed ICBMs, SLBMs and heavy bombers	700	521	524	513	882	656	668
Warheads on deployed ICBMs, SLBMs and heavy bombers[a]	1 550	1 537	1 461	1 426	1 800	1 365	1 376
Deployed and non-deployed launchers of ICBMs, SLBMs and heavy bombers	800	865	760	757	1 124	800	800

ICBM = intercontinental ballistic missile; SLBM = submarine-launched ballistic missile.
Note: The treaty entered into force on 5 Feb. 2011. The treaty limits had to be reached by 5 Feb. 2018.
[a] Each heavy bomber is counted as carrying only 1 warhead.

Iran's principal benefits under the JCPOA—could be provided despite the extra-territorial impact of the US sanctions. Against the background of growing political tensions, the International Atomic Energy Agency confirmed that Iran continued to facilitate inspection and monitoring activities by the agency pursuant to the JCPOA.

Multilateral arms control and disarmament

In the framework of the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT), the third and final session of the Preparatory Committee for the 2020 NPT Review Conference was convened in New York in April and May 2019. Given persistent divisions among NPT members on several issues, the Preparatory Committee was unable to agree on joint recommendations for the 2020 NPT Review Conference.

There were also continued multilateral diplomatic efforts to promote the entry into force of the Treaty on the Prohibition of Nuclear Weapons (TPNW), which is the first treaty establishing a comprehensive ban on nuclear weapons, including their development, deployment, possession, use and threat of use. In December the United Nations General Assembly adopted a resolution calling on all states that had not yet done so to 'sign, ratify, accept, approve or accede to the Treaty at the earliest possible date'.

In September 2019 the 11th biannual Conference on Facilitating the Entry into Force of the 1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT) was convened in New York. The conference took place against the backdrop of US allegations that Russia was violating its commitments under the CTBT. In November a Conference on the Establishment of a Middle East Zone Free of Nuclear Weapons and Other Weapons of Mass Destruction held its first session at the UN in New York. Calls to establish a nuclear weapon-free zone in the Middle East date back to 1974. ●

12. CHEMICAL AND BIOLOGICAL SECURITY THREATS

Allegations of chemical weapon use in Syria and the United Kingdom

Allegations of chemical weapon use in Syria continued to be investigated by the Organisation for the Prohibition of Chemical Weapons (OPCW) in 2019. The Fact-Finding Mission in Syria reported in March 2019 that there were 'reasonable grounds' for believing that a chemical weapon attack occurred in Douma in April 2018. Some of the report's findings proved controversial and were challenged by a few states. Outside of Syria, investigations were ongoing into the use of a toxic chemical from the novichok nerve agent family in the United Kingdom in March 2018.

Attribution of responsibility for chemical weapon use

Divisions continued in 2019 among states parties to the 1993 Chemical Weapons Convention (CWC) over the decision adopted in 2018 to establish an Investigation and Identification Team (IIT) to identify the perpetrators of the use of chemical weapons. These divisions placed high levels of institutional stress on the OPCW. Nonetheless, the IIT became fully operational in March 2019 and is focusing on nine incidents of use.

The main conference of the year, the 24th Session of the Conference of States Parties to the CWC, agreed for the first time to additions to the lists of chemicals that come under routine verification. The families of chemicals that have been added include the novichok agent used in the UK in 2018.

Destruction of chemical weapons

As of 31 October 2019, 97.3 per cent of declared Category 1 chemical weapons had been destroyed under international verification. The USA remains the only declared possessor state party with chemical weapons yet to be destroyed, but is expected to complete its remaining destruction activities within the planned timeline.

Biological arms control

Key biological disarmament and non-proliferation activities in 2019 were carried out in connection with the second set of 1972 Biological and Toxin Weapons Convention (BWC) intersessional Meetings of Experts (MXs), the BWC Meeting of States Parties (MSP) and the First Committee of the United Nations General Assembly. The 2019 MSP meeting considered the reports of each MX, but as in 2018 the MSP report simply noted that 'no consensus was reached on the deliberations including any possible outcomes of the Meetings of Experts'. However, the chair proposed and initiated a new process to circumvent the reporting impasse and feed substantive MX work into the MSP and the 2021 Review Conference. The process encourages states parties to establish continuity between the work of the three intersessional years, to synthesize the work and identify areas of convergence, and to avoid a confrontational approach.

One of the developing trends in the field is the rise of civil society as a major contributor to shaping global dialogues around biological threats and appropriate responses to them. This could have significant implications for the direction of the biological disarmament and non-proliferation field in the years to come. ●

13. CONVENTIONAL ARMS CONTROL AND NEW WEAPON TECHNOLOGIES

Global instruments for conventional arms control

Despite growing international concern over the use of incendiary weapons and explosive weapons in populated areas (EWIPA), including the use of improvised explosive devices (IEDs) by non-state armed groups, discussions within the framework of the 1981 Convention on Certain Conventional Weapons (CCW Convention) failed to generate new concrete outcomes. The lack of progress under the CCW Convention is leading some states to explore the creation of new arms control instruments. Ireland convened the first of a series of open consultations on a political declaration on EWIPA in Geneva in 2019, with a view to finalizing and adopting a declaration in 2020.

International differences on the development of norms of responsible state behaviour in cyberspace led to two parallel processes starting in 2019: an Open-ended Working Group and a new Group of Governmental Experts. However, in the absence of consensus, a binding agreement within either seems unlikely in the near future.

While new uses of Anti-Personnel Mines (APMs) by states are now extremely rare, their use by non-state armed groups in conflicts is a growing problem, especially the use of victim-activated IEDs. APMs were used by such groups in at least six states between mid-2018 and October 2019: Afghanistan, India, Myanmar, Nigeria, Pakistan and Yemen. The non-state armed group Polisario Front of Western Sahara completed the destruction of its stockpiled landmines in 2019. There was continued use of cluster munitions in Syria in 2019.

LETHAL AUTONOMOUS WEAPON SYSTEMS

Efforts to regulate lethal autonomous weapon systems (LAWS) continued to take place in the format of a Group of Governmental Experts (GGE) within the framework of the 1981 Convention on Certain Conventional Weapons (CCW Convention). While a consensus has emerged among states that autonomy in weapon systems cannot be unlimited, there is still disagreement on whether additional regulation is needed. In 2019 the GGE adopted 11 guiding principles (10 of which had been proposed in 2018) and agreed to meet again in 2020 and 2021 to continue discussions. A majority of states would like the GGE to present substantial and politically ambitious recommendations at the 2021 CCW Review Conference, but a handful of technologically advanced military powers continue to impede progress.

Preventing an arms race in outer space

Since 2017, some states, most notably the United States, have openly declared space to be a domain of war or an area for both offensive and defensive military operations. Others, including France, India and Japan, announced new dedicated military space units in 2019, and in March 2019 India tested an anti-satellite weapon. In addition, the North Atlantic Treaty Organization (NATO) announced in 2019 that outer space is now a domain of operation. Despite the growing risk of a conflict in outer space, international discussions on both security and safety aspects of space activities, including the United Nations agenda item—the Prevention of an Arms Race in Outer Space (PAROS)—remained blocked.

14. DUAL-USE AND ARMS TRADE CONTROLS

Global, multilateral and regional efforts continued in 2019 to strengthen controls on the trade in conventional arms and in dual-use items connected with conventional, biological, chemical and nuclear weapons and their delivery systems. Membership of the different international and multilateral instruments that seek to establish and promote agreed standards for the trade in arms and dual-use items remained stable. At the same time, there were growing signs that the strength of these instruments is being increasingly tested by stretched national resources and broader geopolitical tensions. This could be seen in the shortfalls in compliance with mandated reporting and funding obligations under the 2013 Arms Trade Treaty (ATT), the various reported violations of United Nations arms embargoes, and differences both within and among groups of states about how the obligations generated by these different instruments should be implemented. However, states did make substantive progress on reaching agreement on expanding and developing many of the technical aspects of these agreements in 2019. For example, states continued to outline in more detail how key obligations under the ATT should be implemented and made a number of additions to the set of good practice documents and control lists connecting the various export control regimes.

The Arms Trade Treaty

The Fifth Conference of States Parties to the ATT took place in Geneva in August 2019. Despite tensions and disputes, progress was made on articulating how the treaty's provisions should be implemented, particularly those on gender-based violence (GBV). The ATT remains the only international agreement in the field of arms or arms transfer controls that includes explicit provisions on GBV, and states' attempts to specify what they mean in practice could have significance for other instruments. During 2019, the United States announced its intention to 'unsign' the ATT while China stated that it was taking steps towards acceding to the treaty. These

MULTILATERAL ARMS EMBARGOES IN FORCE, 2019

United Nations (13 embargoes)
• Central African Republic (Partial) • Democratic Republic of the Congo (Partial) • Iran (Partial) • Iraq (NGF) • ISIL (Da'esh), al-Qaeda and associated individuals and entities • Korea, North • Lebanon (NGF) • Libya (Partial) • Somalia (Partial) • South Sudan • Sudan (Darfur) (Partial) • Taliban • Yemen (NGF)

European Union (21 embargoes)
Implementations of UN embargoes (10):
• Al-Qaeda, the Taliban and associated individuals and entities • Central African Republic (Partial) • Democratic Republic of the Congo (Partial) • Eritrea (Lifted Dec. 2018) • Iraq (NGF) • Lebanon (NGF) • Libya (Partial) • Korea, North • Somalia (Partial) • Yemen (NGF)
Adaptations of UN embargoes (2):
• Iran • Sudan (Darfur)
In place before UN counterpart (1):
• South Sudan
Embargoes with no UN counterpart (8):
• Belarus • China • Egypt • Myanmar • Russia • Syria • Venezuela • Zimbabwe

Arab League (1 embargo)
• Syria

ISIL = Islamic State in Iraq and the Levant; NGF = non-governmental forces; Partial = Embargo allows transfers of arms to the government of the target state provided that certain conditions have been met.

contrasting moves will no doubt have implications for efforts to expand the membership of the ATT but the way in which this will happen remains hard to predict.

Multilateral arms embargoes

During 2019, 13 UN arms embargoes, 21 European Union (EU) arms embargoes and 1 Arab League arms embargo were in force. No new embargo was imposed and none was lifted. Ten of the EU arms embargoes matched the scope of embargoes imposed by the UN, three were broader in terms of duration, geographical scope or the types of weapon covered, and eight had no UN counterpart. The single Arab League arms embargo, on Syria, had no UN counterpart. As in previous years, investigations by the UN revealed numerous reported cases of violations of varying significance. The implementation of the UN arms embargo on Libya, for example, has done little to halt the flow of arms into the conflict. During 2019, some arms transfers raised questions about what specific activities and goods are covered by EU arms embargoes, and also highlighted the potential need for improved mechanisms of national reporting and independent monitoring.

Export control regimes

Each of the four multilateral export control regimes—the Australia Group (on chemical and biological weapons), the Missile Technology Control Regime, the Nuclear Suppliers Group, and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies—reviewed its respective trade control lists and guidelines in 2019. None of the four regimes admitted any new participating states (or partners) during 2019, despite a number of pending applications in several regimes. Geopolitical tensions continued to affect the work of the regimes, particularly work of a politically sensitive nature, such as information sharing on procurement efforts. In contrast, progress was made on the more technical aspects of the regimes' work, such as control list amendments. This included new controls on cyber-surveillance and cyber-warfare tools made by the Wassenaar Arrangement. Several regimes took steps to engage more substantially with each other on overlaps in their control lists, including with regard to their coverage of emerging technologies.

EU controls

To implement the four export control regimes in its common market, the EU has established a shared legal basis for controls on the export, brokering, transit and transshipment of dual-use items and, to a certain degree, military items. During 2019, the EU's two main instruments in this area—the EU Common Position on Arms Exports and the EU Dual-use Regulation—were the subject of review processes. The process of reviewing the EU Common Position was completed in September 2019 and led to limited changes to both the text of the instrument and its accompanying User's Guide. However, the review of the EU Dual-use Regulation, begun in 2011, was still ongoing at the end of 2019. While substantive progress was made in 2019, the discussions also highlighted differences among the parties—the European Commission, European Parliament and the Council of the EU—about the overall purpose of the regulation.

ANNEXES

Arms control and disarmament agreements in force, 1 January 2020

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, BWC)

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 and Nuclear Facilities

1981 Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be Deemed to be Excessively Injurious or to have Indiscriminate Effects (CCW Convention, or 'Inhumane Weapons' Convention)

1985 South Pacific Nuclear Free Zone Treaty (Treaty of Rarotonga)

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

2001 Protocol on the Control of Firearms, Ammunition and other related Materials

in the Southern African Development Community (SADC) Region

2004 Nairobi Protocol for the Prevention, Control and Reduction of Small Arms and Light Weapons in the Great Lakes Region and the Horn of Africa

2006 ECOWAS Convention on Small Arms and 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)

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)

2011 Vienna Document 2011 on Confidence- and Security-Building Measures

2013 Arms Trade Treaty (ATT)

Agreements not yet in force, 1 January 2020

1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT)

1999 Agreement on Adaptation of the CFE Treaty

2017 Treaty on the Prohibition of Nuclear Weapons

Security cooperation bodies

Developments in 2019 included Micronesia becoming a participant of the Proliferation Security Initiative; and Argentina, Brazil, Chile, Colombia and Paraguay withdrawing from the Union of South American Nations (Unión de Naciones Suramericanas, UNASUR), while Ecuador and Peru initiated the withdrawal process. Discussions to form a new regional group, known as the Forum for the Progress of South America (Foro para el Progreso de América del Sur, PROSUR), were ongoing. ●

CHRONOLOGY 2019, SELECTED EVENTS

16 Jan.	The United Nations Security Council establishes a UN Mission to support the Hodeidah Agreement in Yemen.
6 Feb.	The Government of the Central African Republic and 14 armed groups sign a peace agreement.
27 Mar.	India announces that it successfully tested an anti-satellite weapon for the first time.
30 Apr.	Juan Guaidó, the leader of the opposition in Venezuela, instigates an attempted uprising against President Nicolás Maduro.
19 May	A further allegation of chemical weapon use in Kabanah, Syria, is investigated by the Organisation for the Prohibition of Chemical Weapons.
20–21 June	Iran shoots down a US military drone. The United States responds with cyberattacks against Iranian intelligence and military assets.
17 July	The World Health Organization (WHO) declares the Ebola outbreak in the Democratic Republic of the Congo a Public Health Emergency of International Concern.
2 Aug.	The USA formally withdraws from the 1987 Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty).
8 Sep.	US President Donald J. Trump declares the Afghan peace talks 'dead'.
9 Oct.	Turkey announces the start of military operations in north-east Syria to create a 'safe zone'.
4 Nov.	The USA formally notifies the UN of its intention to withdraw from the 2016 Paris Agreement on climate change in 2020.
31 Dec.	A pneumonia of unknown cause detected in Wuhan, China, is reported to the WHO.

SIPRI DATABASES

SIPRI Military Expenditure Database

Gives the annual military spending of countries since 1949, 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 Industry Database

Contains annual data on total revenue and revenue from arms sales and military services since 2002 for the 100 companies with the highest arms sales in the world (with the exception of Chinese companies).

SIPRI Arms Transfers Database

Shows all international transfers of major conventional arms since 1950. It is 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, budgets and fatalities.

The SIPRI databases can be accessed at the SIPRI website. ●

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STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE
Signalistgatan 9
SE-169 72 Solna, Sweden
Telephone: +46 8 655 97 00
Email: sipri@sipri.org
Internet: www.sipri.org

sipri

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SIPRI YEARBOOK 2020

Armaments, Disarmament and International Security

The SIPRI Yearbook is as an authoritative and independent source of data and analysis on armaments, disarmament and international security. It provides an overview of developments in international security, weapons and technology, military expenditure, arms production and the arms trade, and armed conflicts and conflict management, along with efforts to control conventional, nuclear, chemical and biological weapons.

This booklet summarizes the 51st edition of the SIPRI Yearbook, which covers developments during 2019, including

- *Armed conflict and conflict management*, with an overview of armed conflicts and peace processes across the Americas, Asia and Oceania, Europe, the Middle East and North Africa, and sub-Saharan Africa, as well as a focus on global and regional trends in peace operations
- *Military expenditure, international arms transfers and developments in arms production*
- *World nuclear forces*, with an overview of each of the nine nuclear-armed states and their nuclear modernization programmes
- *Nuclear arms control*, featuring North Korean–US nuclear diplomacy, developments in the INF Treaty and Russian–US nuclear arms control and disarmament, and implementation of Iran's nuclear deal
- *Chemical and biological security threats*, including the investigation of allegations of chemical weapon use in Syria and developments in the international legal instruments against chemical and biological warfare
- *Conventional arms control*, with a focus on global instruments, including efforts to regulate lethal autonomous weapon systems, cyberspace and explosive weapons in populated areas, and the dialogue on preventing an arms race in outer space
- *Dual-use and arms trade controls*, including developments in the Arms Trade Treaty, multilateral arms embargoes and export control regimes, and review processes in the legal framework of the European Union for such controls

as well as annexes listing arms control and disarmament agreements, international security cooperation bodies, and key events in 2019.

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