



Literature review

for the Policy and Operations Evaluations Department of the
Dutch Ministry of Foreign Affairs

FINAL REPORT

August 2017

STOCKHOLM INTERNATIONAL PEACE RESEARCH INSTITUTE

Signalistgatan 9
SE-169 70 Solna, Sweden
Telephone: +46 8 655 97 00
Fax: +46 8 655 97 33
Email: bauer@sipri.org
Internet: www.sipri.org

Contents

Contents	2
Abbreviations	6
Preface	10
Executive Summary	11
1. Developments with respect to nuclear, biological and chemical weapons	11
2. Developments in the area of conventional weapons	14
3. Developments at the European Union level.....	15
4. Arms exports and developments in the Middle East	16
1. Developments with respect to nuclear, biological and chemical weapons	18
1.1. Nuclear weapon inventories and armament dynamics	18
Overview of world nuclear forces.....	18
Table 1.1.1. World nuclear forces, January 2017	19
Table 1.1.2. Changes in world nuclear weapon inventories, 1960–2017	20
Trends in nuclear weapons and doctrines.....	20
NATO and non-strategic nuclear weapons	23
Conclusions.....	24
References	25
1.2. Russian–US nuclear arms control	27
Implementation of New START	27
Table 1.2.1. Summary of Russian–US strategic nuclear arms reduction treaty force limits	28
Role of New START	29
Next steps after New START	29
INF Treaty controversy	31
Towards a new cold war?	31
Conclusions.....	32
References	32
1.3. Developments in the international juridical framework and related architecture	34
Nuclear Non-Proliferation Treaty	34
Nuclear weapon-free zones.....	38
Table 1.3.1. Summary of nuclear weapon-free zone treaties, 1 January 2017 ...	39
Comprehensive Nuclear-Test-Ban Treaty.....	40
Fissile Material Cut-off Treaty	43
Conclusions.....	46
References	46
1.4. Humanitarian concerns and nuclear disarmament	50
Humanitarian impact of nuclear weapons	50
Open-Ended Working Group	51
UN General Assembly adopts a ban resolution	53
Opening of negotiations on a nuclear ban treaty.....	53

Contending views on a nuclear ban treaty	54
Next steps	56
Conclusions	57
References	58
1.5. Main developments and discussions in the export control regimes.....	60
Mandate and functions	60
Table 1.5.1. The four multilateral export control regimes	61
Structure and way of operating	63
Issues under discussion	63
NSG relationships with Pakistan and India	64
Hague Code of Conduct on Ballistic Missile Proliferation.....	66
Conclusions	67
References	68
1.6. The Proliferation Security Initiative and UN Security Council Resolution	
1540	71
Introduction.....	71
The Proliferation Security Initiative	71
United Nations Security Council Resolution 1540	74
Conclusions	76
References	77
1.7. Actual use of chemical weapons in Syria	79
A chronology of the investigations of alleged CW use in Syria.....	79
Implications of chemical weapon use in Syria	84
Conclusions	88
References	88
2. Developments in the area of conventional weapons.....	93
2.1. The international arms trade in the last decade and the influence of	
economic crises and emerging markets on defence budgets and arms sales	93
Transparency in the arms trade and military spending.....	94
Table 2.1.1. Reports submitted to the United Nations Register of Conventional	
Arms and under the Arms Trade Treaty by region, 2011–15	95
Global trends in the arms trade and military spending	96
Table 2.1.2. Military expenditure by region, 2007–16	97
Table 2.1.3. Key military expenditure statistics by region, 2016	100
Exporters	101
Table 2.1.4. The 50 largest suppliers of major weapons, 2012–16.....	102
Table 2.1.5. The 10 largest suppliers of major weapons and their destinations,	
by region, 2012–16	105
Importers	107
Table 2.1.6. The 50 largest recipients of major weapons, 2012–16.....	110
Conclusions	115
References	116
2.2. The availability and military use of guided missiles.....	116
Long-range ballistic and guided missiles	117
Man-Portable Air Defence Systems	117
Precision-guided weapons.....	119
Conclusions	119

References	120
2.3. The availability and military use of UAVs	121
Development and proliferation of UAVs	121
Figure 2.3.1. Armed drones proliferation as of May 2017	122
The debate surrounding proliferation and use.....	123
Regulation of UAVs	126
Conclusions.....	127
References	128
2.4. The development and discussion on LAWS	132
Lethal autonomous weapon systems	133
Concerns surrounding their (potential) proliferation and use	133
Regulation of autonomous weapon systems	135
Conclusions.....	136
References	136
2.5. Improvised Explosive Devices	138
Controlling access to IED components	139
Conclusions.....	140
References	140
3. Developments at the European Union level	142
3.1. Controls on exports of arms and dual-use goods.....	142
Introduction.....	142
Key components of the EU's arms and dual-use export control regime	143
Assessments of the impact on member states' policies and practices	146
Recent changes and potential future developments	149
Conclusions.....	152
References	153
3.2. EU debates on WMD-related policies.....	156
The EU Strategy against the proliferation of Weapons of Mass destruction ..	156
Table 3.2.1. EU External and Internal policy services' activities in the field of	
WMD non-proliferation and related funding instruments.....	159
The impact of the EU WMD Strategy on the academic debate	160
The EU WMD Strategy after the adoption of the EU Global Strategy	168
Conclusions.....	169
References	170
3.3. EU technical and financial support for security-related multilateral	
organizations such as the OPCW and the IAEA.....	173
EU technical and financial support to the OPCW	173
Table 3.3.1. Activities implemented under Council Decision 2009/569/CFSP ..	175
EU technical and financial support to the IAEA	179
Table 3.3.2. Overview of the EU instruments in support to the IAEA.....	180
The impact of EU assistance to the OPCW and the IAEA.....	184
Conclusions.....	187
References	187

4. Arms exports and developments in the Middle East	193
4.1. Arms acquisitions by states in the Middle East and arms transfers to the region since 2011	193
Introduction.....	193
Table 4.1.1. Trends in arms imports by states in the Middle East.....	194
Middle East Arms Imports and Military Spending, 2007–16	194
Table 4.1.2. Military expenditure in the Middle East, 2007–16	195
Table 4.1.3. Arms exports to the Middle East as a share of total arms exports of the world’s top 11 exporters, 2012–16	196
Violence in Egypt and developments in arms exports: 2011–12.....	198
Table 4.1.4. EU member states’ arms exports licences for Egypt, 2009–15	199
Violence in Egypt and developments in arms exports, 2013–17.....	199
Developments in arms exports to Libya, 2003–10	202
Violence in Libya and developments in arms exports, 2011–16	203
Violence in Syria and developments in arms exports, 2003–16	204
Post-Arab Spring changes to EU member states’ arms export policies.....	206
Conclusions.....	209
4.2. Arms transfers and the military intervention in Yemen by Arab states.....	209
Introduction.....	209
Concerns about the use of force in Yemen	210
Arms exports to the Saudi-led coalition	211
Calls for arms export restrictions.....	212
Arms transfers to countries intervening in Yemen conflict in 2015–17	216
Table 4.2.1. Exports of major arms to Saudi Arabia and the UAE in 2016 by EU member states and the USA	217
Conclusions.....	218
References	218

Abbreviations

A2/AD	Anti access/Area denial
AFET	European Parliament Standing Committee on Foreign Affairs
AG	Australia Group
AOAV	Action on Armed Violence
ATDB	Arms Transfers Database
ATT	Arms Trade Treaty
BDA	Bilateral Destruction Agreement
BWC/BTWC	Biological and Toxin Weapons Convention
CAAT	Campaign Against Arms Trade
CBM	Confidence-building measure
CBRN	Chemical, biological, radiological and nuclear
CBRNe	CBRN explosives
CCW	Convention on Certain Conventional Weapons
CD	Conference on Disarmament
CFSP	Common Foreign and Security Policy
CIA	Central Intelligence Agency
C-IED	Counter-IED
CNCI	Indian–US Civil Nuclear Cooperation Initiative
COCOM	Coordinating Committee on Multilateral Export Controls
CONOP	Council Working Party on Non-Proliferation
COREPER	Committee of Permanent Representatives
CPGS	Conventional Prompt Global Strike
CRS	Congressional Research Service
CTBT	Comprehensive Nuclear-Test-Ban Treaty
CTBTO	CTBT Organization
CW	Chemical weapon
CWC	Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction
DAT	Declaration Assessment Team
DCI	Development Cooperation Instrument
DDPR	Deterrence and defence posture
DG	Directorate-General
DG DEVCO	Directorate-General for International Cooperation and Development
DG ECHO	Directorate-General for European Civil Protection and Humanitarian Aid Operations
DG ENER	Directorate General for Energy
DG Growth	Directorate-General for the Internal Market, Industry, Entrepreneurship and SMEs
DG Home	Directorate-General for Migration and Home Affairs

DG NEAR	Directorate-General for Neighbourhood and Enlargement Negotiations
DG SANTE	Directorate General for Health and Food Safety
DG Trade	Directorate-General for Trade in the European Commission
EC	European Community/European Commission
EC-SP	Cooperative Support Programme
EEAS	European External Action Service
EOV	Explanation of vote
ESS	European Security Strategy
EU	European Union
EU WMD Strategy	EU Strategy against the proliferation of weapons of mass destruction
EUC	End-user certificate
EUGS	EU Global Strategy
EURATOM	European Atomic Energy Community
FAC	Foreign Affairs Council
FARC	Revolutionary Armed Forces of Colombia (Fuerzas Armadas Revolucionarias de Colombia)
FFM	Fact-finding Mission
FMCT	Fissile Material Cut-off Treaty
FPI	Foreign Policy Instrument
G8	Group of Eight
GDP	Gross domestic product
GGE	Group of Governmental Experts
GLCM	Ground-launched cruise missile
GPS	Global positioning system
HCOC	Hague Code of Conduct against Ballistic Missile Proliferation
HD	Sulphur mustard gas
HEU	Highly enriched uranium
HRW	Human Rights Watch
IAEA	International Atomic Energy Agency
ICA	International cooperation and assistance
ICBM	Intercontinental ballistic missile
IcSP	Instrument Contributing to Stability and Peace
ICT	Information communication technology
ICT Directive	Directive on intra-EU-transfers of defence-related products
IED	Improvised explosive device
IfS	Instrument for Stability
IHL	International humanitarian law
IHRL	International human rights law
INF Treaty	Soviet–US Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles
INSC	Instrument for Nuclear Safety Cooperation

INTERPOL	International Police Organization
IOB	Policy and Operations Evaluation Department
IPA	Instrument for Pre-accession Assistance
IS	Islamic State
ISR	Intelligence, surveillance and reconnaissance
ITT	Intangible transfers of technology
JIM	Joint Investigative Mechanism
JRC	Joint Research Centre
LAN	Local area network
LAWS	Lethal autonomous weapon systems
LEU	Low-enriched uranium
MEP	Member of the European Parliament
MHC	Meaningful human control
MIRV	Multiple independently targetable re-entry vehicle
MOD	Ministry of Defence
MTCR	Missile Technology Control Regime
NAC	New Agenda Coalition
NAM	Non-Aligned Movement
NATO	North Atlantic Treaty Organization
NBC	Nuclear, biological or chemical
New START	Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms
NGO	Non-governmental organization
NNWS	Non-nuclear weapon states
NPA	New Partnership Approach
NPDI	Non-Proliferation and Disarmament Initiative
NPT	Treaty on the Non-Proliferation of Nuclear Weapons
NSG	Nuclear Suppliers Group
NWFZ	Nuclear weapon-free zone
NWS	Nuclear weapon states
OEG	Operational Experts Group
OEWG	Open-ended working group
OPCW	Organisation for the Prohibition of Chemical Weapons
MANPADS	Portable anti-aircraft missiles
PrepCom	Preparatory Committee
PSC	Political and Security Committee
PSI	Proliferation Security Initiative
PTSD	Post-traumatic stress disorder
R&D	Research and development
RPA	Remotely piloted aircraft
SALT 1	US–Soviet Strategic Arms Limitation Treaty
SALW	Small arms and light weapons
SAMS	Syrian American Medical Society
SATs	Structured analytical techniques
SEDE	Subcommittee on Security and Defence
SLBM	Submarine-launched ballistic missile

SME	Small and medium-sized enterprise
SORT	Strategic Offensive Reductions Treaty (Moscow Treaty)
SOU	Swedish Government Official Reports (Statens offentliga utredningar)
SSBN	Nuclear-powered ballistic missile submarine
SVC	Special Verification Commission
TACIS	Technical Assistance to the Commonwealth of Independent States
TAV	Technical Assistance Visit
TIV	Trend-indicator value
UAE	United Arab Emirates
UAV	Unmanned aerial vehicle
UNIDIR	United Nations Institute for Disarmament Research
UNODA	United Nations Office for Disarmament Affairs
UNOG	United Nations Office at Geneva
UNROCA	United Nations Register of Conventional Arms
USD	US dollar
WA	Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies
WCO	World Customs Organization
WMD	Weapon of mass destruction
WMDFZME	WMD-free Zone in the Middle East
WMEAT	World Military Expenditures and Arms Transfers

Preface

This literature review presents the ‘state of the art’ knowledge on the key topics in the area of disarmament, arms control and non-proliferation. It was prepared for the Dutch Ministry of Foreign Affairs to support its Policy and Operations Evaluation Department (IOB) in addressing the following questions:

1. How has the Ministry of Foreign Affairs implemented its policy on disarmament, arms control and non-proliferation of weapons of mass destruction in the period 2009–2016 and to what results has this contributed?
2. How has the Ministry of Foreign Affairs implemented its export control policy for strategic goods and to what results has this contributed?

In addition to a wide range of primary and secondary sources, the study draws on SIPRI archives and databases.

Chapter 1 addresses developments with respect to nuclear, biological and chemical weapons. It has a strong focus on nuclear weapons, covering nuclear weapon inventories and armament dynamics, Russian-US arms control, developments in the international treaties and the discussions on humanitarian concerns in relation to nuclear disarmament, including the ban treaty negotiations. It is complemented by a section on chemical weapons use in Syria as well as a range of cross-cutting issues: the export control regimes for items with uses in connection with biological, chemical and nuclear weapons and their delivery systems, as well as export controls for conventional weapons and related dual-use items; and an overview of developments regarding the Proliferation Security Initiative and UN Security Council Resolution 1540.

Chapter 2 surveys and analyses international developments in the area of the arms trade and military spending, including the influence of economic crises and emerging markets. It also comprises dedicated sections on missiles, improvised explosive devices, unmanned aerial vehicles and autonomy in weapons systems.

Chapter 3 gives an overview of developments and discussions on EU dual-use and arms trade controls; debates and developments regarding the implementation of the EU Strategy against the proliferation of weapons of mass destruction and EU technical and financial support for security-related multilateral organizations.

Chapter 4 analyses developments in the Middle East since 2009, from the perspective of European arms export policies. It summarises the debates and policy decisions taken at the national and EU levels related to arms and dual-use exports, particularly focusing on how these export controls have been affected by the Arab Spring and the Saudi-led coalition, and the extent to which there has been a coordinated EU-wide response to these challenges.

Executive Summary

1. Developments with respect to nuclear, biological and chemical weapons

Section 1.1 presents an overview of global nuclear forces. It begins by summarizing the current state of play with respect to the nuclear arsenals of the nine nuclear weapon-possessing states. While the overall number of nuclear weapons in the world has declined sharply from the cold war levels, all of the nuclear weapon-possessing states are either modernizing, or have announced plans to modernize, their nuclear forces. The section then describes three potentially destabilizing trends in nuclear forces and doctrines: (a) a less clear operational boundary between strategic nuclear and conventional forces; (b) a lower threshold for using nuclear weapons; and (c) an intensifying strategic arms competition between India and Pakistan. The technological and doctrinal developments underlying these trends are increasing the risk that nuclear weapons will be used—either deliberately or by accident—in times of crisis. Finally, the section reviews the continued role of nuclear weapons in the deterrence and defence strategy of the North Atlantic Treaty Organization (NATO). NATO is currently modernizing its nuclear posture in Europe with the deployment of an upgraded tactical nuclear bomb.

Section 1.2 presents an overview of the progress made since the end of the cold war in reducing Russian and United States nuclear forces and the challenges to making deeper cuts in the future. Russia and the USA—which together hold approximately 93 per cent of the nuclear weapons in the world—have significantly reduced their deployed strategic nuclear forces as a result of three arms limitation treaties since 1991 as well as unilateral force reductions. However, since the conclusion of the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START) there has been little progress on negotiating further nuclear arms reductions. Apart from the serious deterioration in bilateral political relations, the absence of progress reflects fundamental differences between US and Russian goals and priorities for arms control. These differences, especially over missile defence and advanced conventional weapon systems, effectively preclude the negotiation of a follow-on agreement that focuses narrowly on limiting nuclear warhead stockpiles. At the same time, there is continuing deadlock between Russia and the USA over allegations made by each country that the other has violated the 1987 Soviet–US Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty).

Section 1.3 provides an overview of recent developments related to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-proliferation Treaty, NPT), which serves as the principal normative and legal foundation of the multilateral juridical framework for nuclear disarmament and non-proliferation. It begins by examining the long-standing differences between NPT states parties over goals and priorities for nuclear disarmament and non-

proliferation and highlights key points of contention in the NPT review process—in particular, the implementation of the NPT’s disarmament obligation and the proposal for a weapons of mass destruction (WMD)-free zone in the Middle East. It then summarizes the current status of treaties establishing nuclear weapon-free zones in a number of regions, including the efforts to create one in the Middle East. Finally, the section describes recent initiatives to achieve two long-stalled objectives for strengthening nuclear disarmament and non-proliferation: securing the entry into force of the Comprehensive Nuclear-Test-Ban Treaty (CTBT); and opening negotiations on a Fissile Material Cut-off Treaty (FMCT). The initiatives come against the background of mounting frustration with the perennial dysfunction of the Conference on Disarmament as a negotiating forum. This in turn has led to a growing interest in shifting the negotiations to new forums, such as the United Nations General Assembly or an ad hoc body, that can make decisions by majority instead of having to move forward on the basis of consensus.

Section 1.4 summarizes the political and diplomatic developments leading up to the convening of a UN conference to negotiate a ‘legally-binding instrument to prohibit nuclear weapons leading towards their total elimination’ in 2017. It begins by describing the principal motivations for convening the nuclear ban treaty conference, in particular the growing international awareness in recent years of the devastating humanitarian impact of any use of nuclear weapons. Proponents of a nuclear ban treaty have also argued that such an instrument is needed to fill a ‘legal gap’ in international law regarding the prohibition and elimination of nuclear weapons, although some treaty opponents dispute that this exists. There is general agreement that the draft treaty text that was adopted by an overwhelming majority of states participating in the negotiations in July 2017 is unlikely to have an impact for the foreseeable future on the nuclear arsenals and doctrines of the nine nuclear weapon-possessing states—none of whom participated in the ban treaty negotiations. The section concludes by considering the extensive uncertainty about how the relationship between the nuclear ban treaty and the existing NPT regime will develop over time.

Section 1.5 discusses key developments in the four main multilateral export control regimes, namely the Australia Group (AG), the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG) and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies (Wassenaar Arrangement, WA). It provides an overview of the mandate and functions of the export control regimes; explains their structure and way of operating; and outlines current key discussions in the regimes, notably the expansion from export to trade controls encompassing transit, transshipment and brokering, and technological developments such as three-dimensional (3D) printing and the increase in intangible transfers of technology. It then discusses membership issues, in particular the controversy over Indian membership of the different regimes—particularly the NSG—and broader difficulties of expanding regime participation. The section concludes with a brief assessment of the impact of the regimes, which include:

generating consensus on the content of control lists and—to a lesser extent—the key elements of a functioning export control system; establishing norms for non-regime members; and the practical sharing of information among regime members.

Section 1.6 discusses the Proliferation Security Initiative (PSI) and UN Security Council Resolution 1540. These two international instruments complement the international non-proliferation and export control regimes in distinct but different ways. The PSI can be characterized as an activity or platform for cooperation and seeks to address trafficking and transshipment by deterring illicit trade and providing common standards for interdicting proliferation-relevant cargo. Resolution 1540 is a legal instrument and was, at least initially, intended to prevent non-state actors from acquiring and using WMD. It has since provided a common reference point for states to use when drafting and promoting strategic trade control legislation. The section examines both instruments by first introducing their key elements and highlighting their specific contributions to the international non-proliferation toolkit. It subsequently outlines the main developments that the two instruments have undergone and induced. Finally, it discusses the resulting academic, legal and political debates on the impact and effectiveness of the PSI and Resolution 1540.

Section 1.7 describes the status of the investigations into the use of chemical weapons in Syria. In the first part, it provides a historical background of the possible origins of the Syrian chemical weapons programme. In addition, the section gives an overview of the events that led to the accession of Syria to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (Chemical Weapons Convention, CWC), the implementation of an ambitious plan to destroy its chemical stockpiles under the auspices of the UN and the Organisation for the Prohibition of Chemical Weapons (OPCW), and the continuing efforts to investigate the responsibility of the chemical attacks perpetrated in the country. In this regard, the section highlights several critical issues, including the difficulty to identify clearly the terms under which the USA and Russia came to an agreement over Syria in the summer of 2013 and, consequently, to understand the inherent reasons why Syria decided to become a state party to the CWC. In addition, it notes how the initial understanding did not help in developing a common narrative of the Syrian events, with major disagreements rapidly emerging over the transparency of the initial declarations submitted by the government of President Bashar al-Assad and the attribution of responsibility for the chemical attacks. Finally, the section analyses the international debates triggered by these events over their possible implications both on the status of the Weapons of Mass Destruction Free-Zone in the Middle East (WMDZFZME) and on the larger chemical disarmament and non-proliferation regime as put forward by the CWC.

2. Developments in the area of conventional weapons

Section 2.1 examines recent developments in the arms trade and military spending. The section begins with an assessment of the level of official transparency in arms transfers, to outline some of the problems with the data on the arms trade and military spending that affect analysis, and to show how this important aspect of accountability and confidence building has developed in recent years. The section then examines: how the arms trade and military spending have developed in the past decade at the global and regional levels; the drivers of military spending and arms acquisitions and trade; and issues of concern that relate to these patterns and developments. The analysis in the section is largely based on SIPRI's datasets on arms transfers, military spending and arms production but other sources are also used, including those published by the US Congressional Research Service (CRS) and the US Department of State, official financial data from most of the larger arms exporting states, and evaluations by the Jane's Information Group and various others.

Section 2.2 examines the availability and military use of guided missiles. Missiles and their proliferation have been an issue on the arms control agenda for many decades. Originally, the focus was largely on the proliferation of missiles capable of carrying WMD over a longer range, or ballistic and cruise missiles. Since the 1990s, an additional concern has been the proliferation of missiles at the other end of the spectrum: portable anti-aircraft missiles (MANPADS), and to a limited extent portable anti-tank missiles. The section examines recent developments in the field of long-range, ballistic and guided missiles, MANPADS and precision-guided weapons. It focuses on: how they have developed and proliferated since 2009; the concerns this has raised with various actors; and the various responses to these concerns.

Section 2.3 discusses recent developments in the area of unmanned aerial vehicles (UAVs), colloquially referred to as drones. It starts with a presentation of the state of technology, which highlights that, while UAVs have a long history, the technology has only developed and proliferated rapidly in the past 15 years. UAVs have now become a staple in the arsenal of militaries all over the world. The second part of the section maps out the spectrum of concerns related to the proliferation and use of armed UAVs. These include legal, ethical, political and strategic considerations. The use of armed UAVs for targeted strikes is the most contested issue in the literature. The third and last part of the section takes stock of the debate on whether there is a need for new international regulations on the trade and use of armed drones. It concludes that competing attitudes, military interests and political sensitivity have meant that there is no consensus on this matter.

Section 2.4 focuses on a more recent concern in the arms control community, and one of the new areas of attention for the humanitarian disarmament movement: lethal autonomous weapon systems (LAWS). LAWS still lack an official definition, but are often described as weapon systems that, once activated, would be able to find, track, select and attack (human) targets

without human intervention. The section takes stock of the debate on LAWS that has taken place under the framework of the UN Convention on Certain Conventional Weapons since 2014. The conversation on LAWS within the arms control community is characterized by strong disagreements over their definition and therefore if these types of systems already exist today. These disagreements create substantial problems for regulation, as they preclude a shared understanding of the exact issue and both the target and manner of possible future controls. The issue is being pressed by organizations from civil society. However, considering that the development of autonomy in weapon systems could provide significant military benefits to major powers, it is unlikely that consensus on regulation will be achieved soon.

Section 2.5 discusses the significant limitations to efforts to control the availability and international movement of components for improvised explosive devices (IEDs). These limitations result from the fact that many of the items of concern have widespread and important civilian applications, and the proportion that are used in IEDs—as opposed to legitimate purposes—are small. Nonetheless, the various existing global activities in the area of counter-IED would benefit from enhanced leadership and coordination at the international level, in particular with regard to sharing information about the possible users of IEDs, and awareness raising among industry.

3. Developments at the European Union level

Section 3.1 analyses the European Union (EU) dual-use and arms export control regime. First, it describes the key and complementary elements of the regime, as well as the historical developments that led to the system in place at present. Second, it examines the impact that the EU export control regime has had at the member state level. Measuring the impact of the EU export control regime on the member states' policymaking poses challenges due to limitations on the availability of data. Nonetheless, the section argues that—while member states still retain a significant level of autonomy in the way they implement the EU Dual-use Regulation and the Common Position—the introduction of this legislation has had some influence at the national level in terms of increased transparency and assessments of what to export to which destinations. However, the different interests of EU member states with regard to foreign and security policy continue to affect processes of policy convergence. The final part of the section provides an overview of the current state of the debate on the regime's future development, illustrating the reasons that have led to a slowdown in the further expansion and deepening of the EU's policy mechanisms in the field of arms and dual-use export controls in recent years. The section also gives a detailed account of the recent developments in the process of revision of the EU Dual-use Regulation, highlighting the key elements of the proposed recast that was published by the European Commission in September 2016.

Section 3.2 focuses on the EU debate on WMD-related policies. It first describes the key elements of the EU Strategy against the proliferation of

WMD (EU WMD Strategy), while also providing an overview of the wide and diverse range of EU institutions, and services within them, that are involved in its implementation. It argues that there remains a lot of potential to improve coherence and synergies between the internal and external dimensions of the EU WMD-related policies. The section then provides an overview of the academic discussion on the implementation of the EU WMD Strategy, outlining the different positions on the EU efforts in the field of non-proliferation. The section further examines the current state of the debate on the new EU Global Strategy, acknowledging the difficulties in drawing conclusions at an early stage of implementation. The last part of the section provides an overview of the technical and financial support that the EU provided to the OPCW and the International Atomic Energy Agency (IAEA) over the period 2009–16, describing the different funding instruments used.

4. Arms exports and developments in the Middle East

Section 4.1 focuses on arms acquisitions by states in the Middle East and arms transfers to the region since 2011—particularly by EU member states—as well as the debates these transfers have generated. The first part provides an overview of military spending and arms acquisitions in the Middle East since 2011, highlighting key trends in the region and the respective motivations of buyer and seller states. The second part focuses on Egypt, where violence in 2011 and 2013 caused EU member states to review their arms exports to the country. The third part focuses on Libya, which has formed a key focus of the debate surrounding EU member states’ arms export controls generated in the period following the Arab Spring uprisings. The fourth part focuses on Syria, where different views about the utility of, and risks related to, supplying arms to opposition groups led to a major rift within the EU about the foundations for arms export controls. The final part looks at the different changes to EU member states’ arms and dual-use export controls, put in place as a result of the Arab Spring uprisings.

Section 4.2 focuses on arms exports to states involved in the Saudi Arabia-led military intervention in Yemen. The section first details some of the key concerns that have been raised in connection with the Saudi-led military campaign in Yemen. The section then focuses in turn on Germany, the Netherlands, Sweden, and the United Kingdom, looking—in each case—at the internal debate that has taken place about arms sales to the Saudi-led coalition. The section argues that the fact that some EU member states have limited exports of weapons to Saudi Arabia in reaction to its excessive use of force in Yemen, while others continue large-scale arms exports, serves to further underline the lack of harmonization in EU member states’ arms export policies, particularly towards states in the Middle East. Due to USA’s leading role as an arms supplier to most countries in the Middle East—and the internal debates about how its arms export controls should respond to the Arab Spring and the Saudi-led military campaign in Yemen—the section also discusses US policies and practices. In 2016 the Obama administration indicated that it was

placing restrictions on certain sales to Saudi Arabia due to concerns about its conduct in the war in Yemen, but these have since been reversed by the Trump administration.

1. Developments with respect to nuclear, biological and chemical weapons

1.1. Nuclear weapon inventories and armament dynamics

SHANNON N. KILE

There has been a sharp decrease in the number of nuclear weapons since the end of the cold war. At the same time, the number of states possessing nuclear weapon arsenals has increased by three (India, Pakistan and North Korea), to the current total of nine. All of the nuclear weapon-possessing states, with the exception of Israel, have affirmed the central role of nuclear deterrence in their national security strategies.¹ In the case of the United States, this includes so-called extended nuclear deterrence for allied countries in the North Atlantic Treaty Organization (NATO) and in Asia. In recent years at least three nuclear weapon-possessing states have given nuclear weapons expanded roles and missions in their military doctrines that increase the chance of the first-use of these weapons in a conventional conflict. Overall, while there are fewer nuclear weapons in the world today than at any time since the 1950s, the political and strategic salience of these weapons has not diminished and in some cases has increased.

This section begins by presenting an overview of global nuclear forces. It focuses on the current ‘state of play’ with respect to the nuclear arsenals of the nine nuclear weapon-possessing states. The section then describes three emergent trends in nuclear weapons and doctrines that pose increased risks for the use of nuclear weapons. Finally, the section examines the role of nuclear weapons in the deterrence and defence posture of NATO.

Overview of world nuclear forces

At the start of 2017 nine states—the United States, Russia, the United Kingdom, France, China, India, Pakistan, Israel and North Korea—possessed approximately 4100 operationally deployed nuclear weapons. If all nuclear weapons are counted, these states together possessed approximately 14 935 nuclear weapons, compared to approximately 15 350 in 2016 (see table 1.1.1).

Global nuclear weapon inventories have been declining since they peaked at more than 65 000 nuclear warheads in the mid-1980s (see table 1.1.2). The decline has been due primarily to cuts made in the Russian and US nuclear forces as a result of three arms limitation treaties since 1991 (see section 1.2) as well as unilateral force reductions. Neither Russia nor the USA—which

¹ Israel continues to maintain its policy of ‘nuclear ambiguity’, whereby it neither officially confirms nor denies that it possesses nuclear weapons.

Table 1.1.1. World nuclear forces, January 2017²

Country	Year of first nuclear test	Deployed warheads ^a	Stored warheads ^b	Other warheads	Total inventory
United States	1945	1 750 ^c	2 270 ^d	2 800 ^e	6 820
Russia	1949	1 950 ^f	2 350 ^g	2 700 ^h	7 000
United Kingdom	1952	120	95		215
France	1960	280	10	10	300
China	1964	–	270		270
India	1974	–	120–130	..	120–130
Pakistan	1998	–	130–140	..	130–140
Israel	..	–	80	..	80
North Korea	2006	–	..	(10–20)	(10–20) ⁱ
Totalⁱ		4 100	5 325	9 630	14 935

.. = not applicable or not available; – = zero; () = uncertain figure.

Note: All figures are approximate. The estimates are based on public information and contain some uncertainties.

^a ‘Deployed’ means warheads placed on missiles or located on bases with operational forces.

^b These are warheads in central storage that would require some preparation (e.g. transport and loading on launchers) before they become fully operationally available.

^c This number includes approximately 1600 strategic warheads (about 1310 on ballistic missiles and nearly 300 on bomber bases), as well as c. 150 non-strategic (tactical) nuclear bombs deployed in Europe for delivery by US and other NATO combat aircraft.

^d This figure includes c. 150 non-strategic nuclear bombs.

^e This figure is for retired warheads awaiting dismantlement.

^f This number includes approximately 1750 strategic warheads on ballistic missiles and about 200 deployed on heavy bomber bases.

^g This figure includes nearly 500 warheads for bombers and nuclear-powered ballistic missile submarines (SSBNs) in overhaul and c.1850 non-strategic nuclear weapons for use by short-range naval, air force and air defence forces.

^h This figure is for retired warheads awaiting dismantlement.

ⁱ There is no open-source evidence to confirm that North Korea has produced or deployed operational nuclear warheads.

Source: SIPRI Yearbook 2017.

together account for nearly 93 per cent of nuclear weapons in the world—have indicated that they will make further reductions in their nuclear forces beyond the cuts mandated by the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START). Furthermore, both Russia and the USA have extensive and expensive modernization programmes under way for their remaining nuclear delivery systems, warheads and production facilities. However, since they are not replacing obsolescent

² The figures in the table include both strategic and non-strategic (or tactical) nuclear warheads. There is no clear and universal definition of the two categories, which is legacy of the cold war. Within the context of Soviet/Russian–American nuclear arms control, the distinction between the two was based on the range of the delivery systems, with non-strategic weapons having ranges up to 5500 km. A more widely used distinction has to do with the roles and missions assigned to a nuclear weapon: one that is designated for use against selected military targets on the battlefield or against targets supporting activities on the battlefield is generally considered to be a tactical nuclear weapon.

weapon systems on a one-to-one basis, their arsenals are set to consist of newer but fewer nuclear weapons in the coming decade.

Table 1.1.2. Changes in world nuclear weapon inventories, 1960–2017

Country	1960	1970	1980	1990	2000	2010	2017
United States	18 638	26 008	24 104	21 392	10 577	9600	6820
Russia	1627	11 736	30 665	32 980	12 188	12 000	7 000
United Kingdom	105	375	500	350	280	225	215
France	–	36	250	505	470	300	300
China	–	75	205	232	232	240	270
India	–	–	–	–	13	60-80	120-130
Pakistan	–	–	–	–	14	70-90	130-140
Israel	–	8	31	53	72	80	80
North Korea	–	–	–	–	–	..	(10-20)
Total	20 370	38 238	55 755	55 512	23 846	22 600	14 935

.. = not applicable or not available; – = zero; () = uncertain figure.

Note: The figures are estimates of the total number of nuclear weapons in all categories (deployed/nondeployed; operational/reserve; strategic/tactical) held by the respective countries.

Sources: SIPRI Yearbook (various editions); and the Federation of American Scientists

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 is slowly increasing the size of its nuclear forces as part of a long-term modernization programme to develop more survivable and robust forces consistent with its nuclear strategy of assured retaliation. France and the United Kingdom are modernizing their current nuclear delivery systems and associated nuclear warheads while investing in new systems that will enter service in the 2030s.

India and Pakistan appear set to increase significantly the size of their nuclear weapon inventories over the next decade, as both expand their capabilities to produce fissile materials for nuclear weapons. Both countries are also developing new land-, sea- and air-based nuclear delivery systems. Israel, which neither officially confirms nor denies that it possesses nuclear weapons, is testing a long-range nuclear-capable ballistic missile. North Korea continues to prioritize its military nuclear and ballistic missile programmes and appears to have made technical progress in both (*SIPRI Yearbook 2017*).

Trends in nuclear weapons and doctrines

Less clear operational boundary between strategic nuclear and conventional forces

In recent years there has been a gradual erosion of the operational boundary between nuclear and conventional forces. This is particularly evident in the United States, which has adopted a new strategic ‘triad’ consisting of nuclear

and conventional offensive forces—known collectively as Global Strike—as one leg, missile defences as the second leg, and new information warfare technologies as the third. The idea is that the change will give the US Strategic Command a family of smaller and more flexible strike options to destroy—pre-emptively, if necessary—WMD threats such as those posed by North Korea. Consistent with this approach, the USA has been pursuing development of a set of capabilities, known as Conventional Prompt Global Strike (CPGS), that are based on precision-guided, long-range conventional strike systems together with improved intelligence, surveillance and reconnaissance (ISR) assets (Scheber 2012)

Russia and to a lesser extent China have publicly expressed concern about CPGS, in particular the potential threat that it would pose to the survivability of their strategic nuclear forces. Some analysts have warned that assigning advanced conventional weapons roles and missions previously given to nuclear weapons could undermine deterrence stability and increase the risk of an accidental or unintended nuclear escalation (Acton 2013). This is especially true in a deterrence relationship, such as that between China and the United States, in which there is a large asymmetry in the balance of nuclear forces between the two sides (Schreer 2015; and Zhao 2016).

However, other analysts argue that the perceived shift towards ‘conventionalized deterrence’ is probably exaggerated. They maintain that the advent of conventional capabilities such as CPGS serve as useful supplements to existing nuclear capabilities and will give the possessing states a greater range of strike options for dealing with WMD-related and other threats. However, the new capabilities will remain in ancillary roles and will not lead to a ‘conventionalized deterrence’ in which nuclear weapons lose their salience (Brustlein 2015).

Lower threshold for using nuclear weapons

In recent years Russia, Pakistan and North Korea have been giving new or expanded military roles and missions to nuclear weapons. This could make the use of such weapons more likely in pre-emptive scenarios or as part of conventional combat operations.

Russia is frequently described in the Western literature as having lowered the threshold for when it might potentially use nuclear weapons (Ven Bruusgaard 2016). US officials have warned that Russia’s purported doctrine of nuclear escalation to de-escalate a conventional conflict—so-called ‘escalate to de-escalate’—indicates a greater willingness to use nuclear weapons (Scher 2016: 3). This view is shared by non-governmental analysts (Sokov 2014). While Russia’s public military strategy has not undergone a significant change, Russian officials have made several explicit threats against NATO countries, and escalation to the use of tactical nuclear weapons appears to be a regular part of Russian military exercises (Kroenig 2016; Symonds 2017).

Pakistan's military doctrine appears to have moved towards a similar reliance on the first use of nuclear weapons (Khan 2015). Pakistan is developing new types of short-range battlefield nuclear weapons in response to concerns that India could carry out rapid but limited attacks on Pakistan territory using its superior conventional forces. Pakistan has explicitly acknowledged the possibility that it could be the first to use nuclear weapons in a confrontation with India, even one that began with conventional arms, in order to preserve its territorial integrity and to deter further Indian military aggression (Ahmed 2016; Hoodbhoy and Mian 2016).

Finally, North Korea may have given military roles and missions to its nascent arsenal of nuclear weapons. There is some evidence that North Korea has conducted military exercises involving simulated pre-emptive nuclear strikes against ports and airfields in South Korea and Japan (Lewis 2017).

Together, these cases suggest that nuclear weapons may be acquiring a renewed strategic and military salience that was widely seen as having disappeared with the end of the cold war. In the view of some observers, the greater reliance on nuclear signalling, the changing operational posture of dual-role forces (that is, having both conventional and nuclear roles) and concepts like 'preventative de-escalation' serve to lower the nuclear threshold. This in turn increases the risk that nuclear weapons could be used in a crisis (Davis 2017).

Emerging strategic arms competition and doctrinal asymmetries in South Asia

India and Pakistan are building new military fissile material production facilities that will allow them to significantly increase the number of weapons in their respective arsenals. By some estimates, there could be a two- or three-fold increase in the size of their respective nuclear weapon stockpiles over the next 10–15 years. Both countries are also developing and deploying new types of land-, sea-, and air-launched ballistic and cruise missiles. In some instances this may result in nuclear warheads being deployed in a more launch-ready posture.

These trends suggest that the strategic arms competition between India and Pakistan that has been under way for some time is gaining momentum. This is not a 'classic' nuclear arms race in terms of the same action-reaction dynamic as the cold war nuclear rivalry between the United States and the Soviet Union. However, the long-standing rivalry between India and Pakistan has become increasingly focused on the role of nuclear weapons in addressing or exploiting asymmetries in overall military capabilities.

In one echo of NATO's strategy during the cold war, Pakistan is developing new types of short-range battlefield nuclear weapons in response to concerns that India could carry out rapid but limited attacks on Pakistan territory using its superior conventional forces. Pakistani officials emphasize that Pakistan remains committed to a doctrine of nuclear no-first-use with respect to non-nuclear-weapons states. However, Pakistan reserves the option of the first-use of nuclear weapons against a nuclear-armed adversary.

In a mirror image of Pakistan's doctrine, India's long-standing nuclear doctrine calls for a massive nuclear counter-strike in retaliation for a first use of nuclear weapons against it. In the case of a limited nuclear strike by Pakistan against its conventional forces, India has been prepared to escalate with nuclear strikes against Pakistani military and civilian targets. However, a debate has recently emerged about whether India is abandoning its traditional no-first-use nuclear doctrine and planning instead for the launch of a pre-emptive strike against Pakistan if it fears that Islamabad is preparing to use such weapons first (Rajagopalan 2016). According to one analyst, India is preparing for 'a full "comprehensive counterforce strike" that attempts to completely disarm Pakistan of its nuclear weapons so that India does not have to engage in iterative tit-for-tat exchanges and expose its own cities to nuclear destruction' (Narang 2017).

Indian defence officials have denied that there has been any change in the country's no-first-use doctrine. However, the debate underscores concerns that nuclear weapons are increasingly seen as usable military instruments and assigned roles and missions that increase the risk that they will be used in combat (Sanders-Zakre and Davenport 2017).

NATO and non-strategic nuclear weapons

Nuclear weapons remain a central pillar of NATO strategy. In addition to the strategic nuclear forces of France, the United Kingdom and the United States, NATO's 'nuclear posture' consists of approximately 150 US B-61 nuclear gravity bombs deployed at six NATO airbases in five European countries: Aviano and Ghedi, Italy; Büchel, Germany; Incirlik, Turkey; Kleine Brogel, Belgium; and Volkel, the Netherlands. The Belgian, Dutch and possibly Turkish air forces, using F-16 combat aircraft, and German and Italian air forces, using PA-200 Tornado combat aircraft, are assigned nuclear strike missions with B61 bombs. In peacetime, however, these are kept under the custodial control of US Air Force personnel.

NATO has approved a modernization of its nuclear posture in Europe with the deployment, beginning in 2022, of the new US B61-12 guided nuclear gravity bomb. The B61-12 will have increased accuracy and a standoff capability that will enable it to destroy hardened targets that cannot be destroyed by current versions of the B-61 bomb. It will also enable strike planners to select lower yields for existing targets, which would reduce collateral damage.

The B61-12 bomb will be integrated on the US-built F-35A combat aircraft, which is expected to be nuclear certified in 2024–26. Italy and the Netherlands have received the first of their F-35A combat aircraft, some of which will be designated for a nuclear delivery role. Belgium is considering whether to buy the F-35A and will probably do so if it intends to maintain a nuclear role. Germany does not currently have a plan to replace the PA-200 Tornado in its nuclear role but is expected to extend its service life into the 2020s (Kile and Kristensen 2017).

Nuclear weapons in NATO strategy

NATO's most recent Strategic Concept, adopted in 2010, stated that NATO will remain a nuclear alliance for as long as nuclear weapons continue to exist. It explained that deterrence, based on an 'appropriate mix of nuclear and conventional capabilities', is a core element of NATO's overall strategy (NATO Strategic Concept 2010). In 2012 NATO's Deterrence and Defence Posture Review similarly noted that nuclear weapons were a 'core component of NATO's overall capabilities for deterrence and defence' and concluded that 'the Alliance's nuclear force posture currently meets the criteria for an effective deterrence and defence posture' (NATO DDP 2012). At the same time, however, NATO reduced its overall reliance on nuclear weapons in alliance strategy commensurate with improvements in the European security situation. The two documents were adopted against the background of disagreements among NATO member states about the role of nuclear weapons in NATO strategy—and in particular the future of US non-strategic nuclear weapons stored in Europe (Sauer and Van der Zwaan 2011; Thränert 2011; and Flockhart 2013).

The role of nuclear weapons in Europe has recently become a subject for renewed discussion against the background of the deterioration in relations between Russia and the West (Anderson 2016). While it is unlikely that NATO will make any significant modifications to its nuclear policies, it is re-evaluating the role of nuclear scenarios in its crisis-management exercises. In 2015 NATO defence ministers conducted a focused discussion around better integrating conventional and nuclear deterrence (Anthony and Davis 2016). As some analysts have noted, NATO currently carries out nuclear exercises of its own—but, unlike Russia, not in a closely integrated way with conventional weapons (Kroenig 2016).

At the same time, there has been a growing recognition that nuclear weapons are only one element of NATO's deterrence posture. At the Warsaw Summit in July 2016, for example, NATO leaders called for a re-examination of the organization's overall posture in deterring and defending against the full range of threats. These threats include so-called nonconventional forces, violent extremist groups, cyberwarfare and the manipulation of information. While not playing down the significance of nuclear deterrence, the leaders stated that NATO would prioritize steps to reinforce its collective defence to enhance its capabilities against new and emerging multidimensional threats (NATO summit 2016).

Conclusions

The overall number of nuclear weapons in the world has declined sharply over the past two decades, primarily due to cuts in the US and Russian arsenals from their cold war levels. However, in spite of renewed international interest in making progress toward achieving nuclear disarmament, none of the nine nuclear weapon-possessing states shows more than a rhetorical willingness to

give up its nuclear arsenal in the foreseeable future. All of these states are either modernizing, or have announced plans to modernize, their nuclear forces. In addition, NATO has approved a modernization of its nuclear posture in Europe with the deployment of an upgraded tactical nuclear bomb. Taken together, these developments portend a world in which there will be fewer but newer nuclear weapons over the next decade.

At the same time, the risk that nuclear weapons will be used—either deliberately or by accident—in times of crisis may be increasing due to technological and doctrinal developments in nuclear arsenals and force postures. In particular, these developments could make the use of nuclear weapons more likely in pre-emptive strike scenarios or as part of conventional combat operations. This in turn underscores the need to prioritize international efforts to address existing and emerging risks posed by nuclear weapons—for example, though agreements on the no-first-use of nuclear weapons and on ‘de-alerting’ weapon systems maintained on rapid launch postures—and to marginalize the role of nuclear weapons in military doctrines and national security strategies.

References

- Acton, J., *Silver Bullet: Asking the Right Questions About Conventional Prompt Global Strike*, Carnegie Endowment for International Peace, Sep. 2013.
- Ahmed, M., ‘Pakistan’s tactical nuclear weapons and their impact on stability’, *Regional Insight*, Carnegie Endowment for International Peace, 30 June 2016.
- Anderson, M., ‘Nato nuclear deterrence: the Warsaw Summit and beyond’, *Connections: The Quarterly Journal*, vol. 15, no. 4 (2016), pp. 5–30.
- Anthony, I. and Davis, I., ‘The 2016 NATO Summit: What will be on the agenda in Warsaw?’, *SIPRI Commentary*, 15 June 2016.
- Brustlein, C., *Conventionalizing Deterrence: US Prompt Strike Programs and Their Limits*, Proliferation Papers no. 52, Institut Français des Relations Internationales (IFRI), Jan. 2015.
- Davis, M., ‘Russia, military modernisation and lowering the nuclear threshold’, *Real Clear Defense*, 18 Jan. 2017.
- Flockhart, T., ‘NATO’s nuclear addiction—12 steps to “kick the habit”’, *Journal of European Security*, vol. 22, no. 3 (2013), pp. 271–87.
- Hoodbhoy, P. and Mian, Z., ‘Nuclear battles in South Asia’, *The Bulletin of the Atomic Scientists*, 4 May 2016.
- Khan, F. H., *Going tactical: Pakistan’s nuclear posture and implications for stability*, Proliferation Papers no. 53, Institut Français des Relations Internationales (IFRI), Sep. 2015.
- Kile, S. and Kristensen, H., ‘World nuclear forces’, *SIPRI Yearbook 2017: Armaments, Disarmament and International Security* (Oxford, UK: Oxford University Press, 2017).

- Kroenig, M., *The Renewed Russian Nuclear Threat and NATO Nuclear Deterrence Posture* (Washington, DC: Atlantic Council, Feb. 2016).
- Lewis, J., 'North Korea is practicing for nuclear war', *Foreign Policy*, 9 Mar. 2017.
- Narang, V., 'Beyond the nuclear threshold: causes and consequences of first use', Remarks prepared for the Carnegie International Nuclear Policy Conference, Washington DC, 20 Mar. 2017.
- North Atlantic Treaty Organization (NATO), Warsaw Summit Communiqué, Issued by the Heads of State and Government participating in the meeting of the North Atlantic Council, Warsaw, 8–9 July 2016.
- NATO, Deterrence and Defence Posture Review, Press Release (2012) 063, 21 May 2012.
- NATO, 'Active Engagement, Modern Defence', Strategic Concept for the Defence and Security of the Members of the North Atlantic Treaty Organisation adopted by Heads of State and Government, Lisbon, 19 Nov. 2010.
- Rajagopalan, R., 'India's nuclear doctrine debate', Regional Insight, Carnegie Endowment for International Peace, 30 June 2016.
- Sanders-Zakre, A., and Davenport, K., 'Is India shifting nuclear doctrine?', *Arms Control Today*, vol. 47, no. 4 (May 2017).
- Sauer, T., and Van der Zwaan, B., *US Tactical Nuclear Weapons in Europe after NATO's Lisbon Summit: Why Their Withdrawal Is Desirable and Feasible*, Belfer Center Discussion Paper, no. 201-05, Harvard Kennedy School of Government, May 2011.
- Scheber, T. et al., *Conventional Prompt Global Strike: A Fresh Perspective*, National Institute for Public Policy, June 2012.
- Sher, R., US Assistant Secretary of Defense for Strategy, Plans, and Capabilities, Statement before the Senate Armed Services Subcommittee on Strategic Forces, 9 Feb. 2016.
- Schreer, B., *US Conventional Prompt Strike: Potential Implications for the Asia Pacific*, Policy Brief, S. Rajaratnam School of International Studies, Singapore, June 2015.
- Sokov, N., 'Why Russia calls a limited nuclear strike "de-escalation"', *The Bulletin of the Atomic Scientists*, 13 Mar. 2014.
- Symonds, M., 'A lower nuclear threshold', *The Economist* (UK), The World in 2017.
- Thränert, O., 'After the bombs are gone: thinking about a Europe free of US Nuclear Weapons', in Chalmers, M., and Somerville, A. (eds), *If the Bombs Go: European Perspectives on NATO's Nuclear Debate*, Whitehall Report 1-11 (Royal United Services Institute, RUSI: London, 2011), pp. 51–58.
- Ven Bruusgaard, K., 'Russian strategic deterrence', *Survival*, vol. 58, no. 4 (Aug.–Sep. 2016).

Zhao, T., 'Ensuring stability with different nuclear postures: the United States and China', in Meier, O. and Suh, E. (eds), *Reviving Nuclear Disarmament: Paths Towards a Joint Enterprise*, Stiftung Wissenschaft und Politik, Working Paper, Dec. 2016.

1.2. Russian–US nuclear arms control

SHANNON N. KILE

Over the past two decades, US and Russian leaders have used a progression of bilateral agreements and other measures to limit and reduce their large nuclear arsenals that are legacies of the cold war nuclear arms race. In reducing the numbers of deployed long-range bombers and missiles, these agreements established an unprecedented level of transparency in nuclear weapon inventories and capabilities that has become an important confidence-building measure for improved US–Russian relations. Moreover, the steady reduction in the two countries' nuclear forces—which collectively account for more than 93 per cent of the global holdings of nuclear weapons—has served as an incentive for other countries to constrain the scope and scale of their nuclear forces modernization programmes.

However, maintaining momentum in arms control between the United States and Russia has proved challenging. Neither Russia nor the USA have shown any recent interest in negotiating deeper reductions in their deployed strategic nuclear forces beyond those mandated by the 2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START). At the same time, the USA has alleged that Russia has violated an important cold war-era arms control treaty—the 1987 Soviet–US Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty)—a charge that Russia has resolutely denied.

This section presents an overview of the progress made since the end of the cold war in reducing Russian and US nuclear forces and the challenges to making deeper cuts in the future. It begins by reviewing the status of current Russian–US strategic nuclear arms reduction treaties. It then identifies the main obstacles to negotiating further reductions in their respective arsenals and to sustaining the achievements to date. Finally, the section examines proposals for a broader approach to Russian–US arms control against the background of the deterioration in political relations between the two countries.

Implementation of New START

Russia and the United States continue to implement New START. Under the treaty, the two parties agreed to limit the number of their deployed strategic nuclear warheads to 1550 each and to limit the number of their deployed land- and sea-based strategic missile launchers and heavy bombers equipped for

nuclear armaments to 700 each (see table 1.2.1).³ Although the two parties have made uneven progress in implementing the New START-mandated force reductions, as of early 2017 there were no indications that either Russia or the United States would fail to reduce their strategic nuclear forces below the treaty limits by the February 2018 deadline (Kile and Kristensen 2017).

Table 1.2.1. Summary of Russian–US strategic nuclear arms reduction treaty force limits

Treaty	Date of signature/ entry into force	Total treaty-accountable nuclear warheads	Total strategic nuclear delivery vehicles ^a	Expiration date
START I	31 July 1991/ 5 Dec. 1994 ^b	6000	1600	5 Dec. 2009
START II	3 Jan. 1993/ .. ^c	3000–3500	None ^d	..
SORT	24 May 2002/ 1 June 2003	1700–2200	None	31 Dec. 2012
New START	8 Apr. 2010/ 5 Feb. 2011	1550	800 ^e	5 Feb. 2021

SORT = Strategic Offensive Reductions Treaty (Moscow Treaty); START = Strategic Arms Reduction Treaty.

^a Strategic nuclear delivery vehicles are intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs) and long-range bombers.

^b In May 1992 Belarus, Kazakhstan and Ukraine signed the Lisbon Protocol with Russia and the USA, making all 5 countries parties to START I.

^c START II never entered into force.

^d START II would have prohibited the deployment of multiple independently targetable re-entry vehicles (MIRVs) on ICBMs and limited parties to 1700–1750 SLBMs each.

^e No more than 700 may be deployed.

When fully implemented, New START will result in modest reductions in Russian and US deployed strategic nuclear forces. However, these forces constitute only a relatively small proportion of their total nuclear weapon inventories. New START does not limit the two countries' stocks of operational non-deployed strategic nuclear warheads or retired warheads awaiting dismantlement, which constitute a significant proportion of their overall warhead holdings. Nor does it limit their holdings of non-strategic (tactical) nuclear weapons, which in Russia's case is nearly a quarter of its total inventory of nuclear warheads.

³ Due to the New START's 'counting rules', however, these numbers do not reflect the actual deployment of strategic warheads and launchers. This is mainly because bombers are counted as carrying only one weapon each, even though they can carry many more air-launched cruise missiles (ALCMs).

Role of New START

New START is a continuation of an arms control process that goes back to the late 1960s, when the negotiations on the initial US–Soviet Strategic Arms Limitation Treaty (SALT 1) began. The overriding goal at that time was to enhance strategic and crisis stability between the two superpowers in the context of their cold war nuclear rivalry. The break-up of the Soviet Union ended the cold war, but one enduring legacy was an arms control framework that evolved from one for reducing the dangers of an unrestrained nuclear arms to one for promoting nuclear transparency and predictability in a more cooperative strategic relationship between Russia and the USA.

This transition has involved, first and foremost, the development and gradual expansion of a cooperative arms control verification and monitoring regime. While building on previous bilateral arms control treaties, New START focuses on fostering transparency, cooperation and openness, in addition to deterring and detecting potential violations. One aspect of this is evident in the incorporation of provisions on comprehensive data exchange, which provide considerably more information on the numbers, types and locations of items limited by the treaty than was the case under previous agreements. Another manifestation of the new treaty's focus on transparency and openness is that it expands the rules for conducting on-site inspections at each other's operating bases for nuclear-armed ballistic missiles. For example, New START provides for on-site inspections of missile and submarine bases, during which the parties are, for the first time, permitted to count the number of re-entry vehicles carried on randomly selected individual ICBMs and SLBMs, both deployed and non-deployed. New START also provides for the exchange and broadcast of telemetry information from strategic missile flight-tests, even though this data is not needed to monitor compliance with any particular limits in New START.

Next steps after New START

Since the conclusion of New START, there has been little progress on negotiating further US–Russian nuclear arms reductions. Apart from the serious deterioration in bilateral political relations, the absence of progress reflects fundamental differences in their respective goals and priorities for arms control.

Under the Obama Administration, the USA framed the discussion about next steps in terms of making deeper reductions, beyond New START limits, in existing US and Russian nuclear forces. In addition to lowering the ceiling on strategic nuclear weapon inventories, US officials sought to bring two other categories of nuclear weapons into future negotiations: (a) non-strategic nuclear weapons, which were seen as posing new risks to strategic stability in the light of Russia's 'escalate to deescalate' doctrine which postulates the use of low-yield nuclear arms to terminate a conventional conflict on favourable terms; and (b) non-deployed strategic nuclear warheads, which could be

‘uploaded’ back on to existing missile delivery systems, thereby allowing the parties to stage a rapid break-out from the New START limits on deployed nuclear warheads.

With this break-out potential in mind, during the New START negotiations Obama Administration officials raised the idea of putting in place a nuclear warhead dismantlement regime. This would ‘lock in’, or make irreversible, mandated force reductions by requiring the parties to verifiably eliminate the nuclear warheads withdrawn from deployment. If agreed, this would have marked a shift in US-Russian arms control from its previous focus on limiting launchers and their associated nuclear warheads to physically dismantling those warheads and disposing of the fissile material that they contain in a transparent and irreversible way. The idea of a warhead dismantlement regime has been further developed by proponents of making deep and irreversible cuts in current inventories of nuclear weapons (Persbo 2011).

In contrast, Russia has expressed little interest in engaging in a new round of arms control with the USA limited to negotiating further nuclear reductions. It has instead insisted on a so-called integrative approach to address concerns about other issues affecting Russian–US strategic stability, broadly defined. Chief among these issues are: (a) the deployment of US missile interceptors and associated missile defence infrastructure, especially on the territory of the newest NATO member states;⁴ (b) the USA’s development of a new family of long-range, precision-guided conventional strike systems, including new cruise missiles, that could be used for pre-emptive attacks against Russian nuclear command and control nodes and strategic systems, such as silo-based intercontinental ballistic missiles; and (c) so-called space weapons, such as anti-satellite interceptor systems. Russian officials have also cited the lack of an agreement limiting conventional armed forces in Europe—in particular, placing restrictions on the deployment of NATO troops and equipment on the territory of the newer NATO member states, as a reason for not proceeding with further nuclear arms reductions (Pifer 2016; Sokov 2016; Sputnik 2016).

In the light of these fundamentally different approaches, many observers predict that, other than a possible extension of New START’s central limits, little is likely to be achieved on the US–Russian arms control agenda in the foreseeable future. New START is set to expire in February 2021, ten years after its entry into force, but can be extended for up to five years beyond its 2021 expiration. However, even this step is likely to prove contentious. According to media reports in 2016, President Obama was considering proposing a five-year extension of New START, carrying forward its aggregate limits and associated verification arrangements to 2026. While not ruling out an extension, Russian experts and officials stressed that the negotiation of a deal would have to address Russia’s concerns about the other issues affecting Russian–US strategic stability (Kozin 2016).

⁴ The United States has consistently rejected Russian proposals for a legally binding treaty on missile defence, although President Obama offered Russia an executive agreement on transparency regarding missile defence programmes in 2013.

INF Treaty controversy

There is continuing deadlock between Russia and the United States over allegations made by each country that the other has violated the 1987 Soviet–US Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles (INF Treaty). Under the INF Treaty, the USA and the Soviet Union agreed not to possess, produce or flight test a ballistic missile or ground-launched cruise missile (GLCM) with a range capability of 500–5 500 km, or to possess or produce launchers of such missiles.⁵ It is widely regarded as a milestone achievement in arms control because it eliminated and permanently banned an entire class of nuclear weapon systems.

The INF Treaty has come under increasing strain over compliance disputes and a lack of transparency in bilateral information exchanges. In 2014 the US Government publicly alleged that Russia was conducting flight tests of a new GLCM with a range proscribed by the treaty (US State Department 2014). Russia denied the allegation and countered with its own allegations—charges that the USA was deploying a missile defence interceptor system in Europe that could also be used to launch cruise missiles, using targets for missile defence tests with characteristics similar to proscribed intermediate-range missiles and manufacturing armed drones that fall under the treaty’s definition of GLCMs (Russian Ministry for Foreign Affairs 2016).

In 2016, US officials called for a meeting of the Special Verification Commission (SVC), the dispute resolution mechanism established by the INF Treaty. The call reportedly came amid growing US concerns that Russia was preparing to deploy the GLCM at the centre of the compliance controversy. The SVC meeting, the first since 2003, took place in Geneva in November 2016. During this meeting, both sides raised their concerns but failed to make any progress in resolving them. Tensions over the allegations continued to mount when, in February 2017, news reports cited claims by US officials that Russia had secretly begun deployment of the new cruise missiles (Gordon 2017).

The Trump Administration has not yet identified a path forward in the INF Treaty dispute. However, the US Department of Defense has begun to consider a number of military responses as part of the Administration’s Nuclear Posture Review. These might include deploying new INF-range systems, to provide Russia with an incentive to reach a resolution and to provide the United States with options for future programmes if Russia eventually deploys new missiles and the treaty collapses (Woolf 2017).

Towards a new cold war?

While the sharp deterioration in Russian–US relations has several causes, one consequence has been a fundamentally changed political climate and operational dynamic between Moscow and Washington that, in the view of

⁵ The number of parties to the treaty expanded in 1991 to include successor states of the former Soviet Union—Belarus, Kazakhstan and Ukraine—as well as Russia.

many analysts, poses a serious challenge to the status and future of nuclear arms control. The bilateral relationship is increasingly characterized by mutual mistrust, and both sides have embarked on expensive and extensive nuclear weapons modernization programmes and more assertive nuclear war-gaming exercises. These developments are in turn raising concerns that Russia and the USA may be entering into a new cold war or even a nuclear arms race (Arbatov 2017; Pifer 2016).

In the light of these trends, many observers argue that there is an urgent need to overcome the inertia and lack of political interest in nuclear arms control that currently has prevailed in both Moscow and Washington, especially since the election of the new US Administration. The revival of bilateral arms control efforts should go beyond a narrow focus on limiting strategic offensive capabilities and instead be expanded to include Russian–US discussions on their respective nuclear postures and doctrines, with the goal of countering misunderstandings and avoiding worst-case defence planning. The discussions could also provide a useful forum for the United States to reaffirm its existing commitments to provide extended nuclear deterrence to allies in Europe and Asia (Durkalec 2017; Malygina 2017).

More generally, a bilateral dialogue is needed on issues affecting strategic stability, in particular, the relationship between strategic offensive and defensive forces and the role of advanced conventional weapons in military doctrines. In this regard, a broadly defined arms control agenda could provide important tools and measures for preserving and reinforcing strategic stability in an increasingly adversarial Russian–US relationship (Mount 2015; Kristensen 2017; Sokov 2016).

Conclusions

Russia and the USA have significantly reduced their strategic nuclear forces as a result of three arms limitation treaties since 1991 as well as unilateral force reductions. However, since the conclusion of New START in 2010, there has been little progress on negotiating further nuclear arms reductions. Apart from the serious deterioration in bilateral political relations, the absence of progress reflects fundamental differences between US and Russian goals and priorities for arms control. These differences effectively preclude the negotiation of a follow-on agreement that focuses narrowly on limiting nuclear warhead stockpiles. In the view of a growing number of analysts, a broader approach to nuclear arms control is needed that addresses concerns about a range of issues affecting Russian–US strategic stability.

References

- Arbatov, A., 'Understanding the US–Russia nuclear schism', *Survival*, vol. 59, no. 2 (Apr.–May 2017), pp. 33–66.

- Durkalec, J., 'Challenges to US-Russia strategic arms control during the Trump presidency', Polish Institute of International Affairs, Bulletin, no. 33 (973), 3 Apr. 2017.
- Gordon, M., 'Russia deploys missile, violating treaty and challenging Trump' *New York Times*, 14 Feb. 2017.
- Kile, S. N., and Kristensen, H., 'World nuclear forces', *SIPRI Yearbook 2017: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2017).
- Kozin, V., 'The New START: extension impossible', Russian Institute for Strategic Studies, 6 Sep. 2016.
- Kristensen, H., 'INF, New Start and what really matters for US–Russian nuclear arms control', *Russia matters.org*, 24 Feb. 2017, <<https://www.russiamatters.org/analysis/inf-new-start-and-what-really-matters-us-russian-nuclear-arms-control>>.
- Malygina, A., 'Re-launching US-Russia arms control dialogue: what role for Europe?', European Leadership Network, 30 Mar. 2017.
- Mount, A., 'Time for a different kind of US–Russian arms control', *Bulletin of the Atomic Scientists*, 28 Oct. 2015.
- Persbo, A. et al., *Irreversibility in Nuclear Disarmament: Practical Steps Against Nuclear Rearmament*, Verification Training, Information and Research Centre (VERTIC), Sep. 2011, <http://www.vertic.org/media/assets/Publications/Irreversibility_Report_Sept_2011.pdf>.
- Pifer, S., 'The future of US–Russian arms control', Research Report, Brookings Institute, 26 Feb. 2016.
- 'Reasons why Russia will not "recklessly" decrease its nuclear arsenal', *Sputnik News*, 5 Apr. 2017.
- Russian Ministry for Foreign Affairs, 'Comment by the Information and Press Department on the US Department of State's report on adherence to and compliance with arms control, nonproliferation, and disarmament agreements and commitments', 15 Apr. 2016, <http://www.mid.ru/en/foreign_policy/news//asset_publisher/cKNonkJE02Bw/content/id/2237950>.
- Sokov, N., *A Non-Ideological Reframing of the US–Russian Arms–Control Agenda*, James Martin Center for Nonproliferation Studies, CNS Issue Brief, Dec. 2016.
- US State Department, Bureau of Arms Control, Verification and Compliance, Unclassified Report on Adherence to and Compliance with Arms Control, Nonproliferation and Disarmament Agreements and Commitments, July 2014, <<http://www.state.gov/documents/organization/230108.pdf>>.
- Woolf, A., *Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty: Background and Issues for Congress*, Congressional Research Service, CRS Report R43831, 15 Mar. 2017.

1.3. Developments in the international juridical framework and related architecture

SHANNON N. KILE

The 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-proliferation Treaty, NPT) serves as the principal normative and legal foundation of the multilateral juridical framework for nuclear disarmament and non-proliferation. In doing so, it provides the basis for a number of disarmament-related initiatives around the world. Most notably, this includes the establishment of nuclear weapon-free zones, that is, specified regions in which countries voluntarily commit themselves not to manufacture, acquire, test, or possess nuclear weapons.⁶

At the same time, within this framework two important items of ‘unfinished business’ remain. The first is the Comprehensive Nuclear-Test-Ban Treaty (CTBT), which is a multilateral agreement that prohibits parties from carrying out of any nuclear weapon test explosion or nuclear explosion for peaceful purposes. The second is a Fissile Material Cut-off Treaty (FMCT), a proposal to prohibit the further production of fissile material for nuclear weapons or other explosive devices. Although disparate undertakings, the CTBT and the FMCT are integral components of the evolving multilateral juridical framework for nuclear disarmament and non-proliferation. If the NPT provides the ‘floor’ of that framework, then the CTBT and the FMCT are important parts of the ‘walls’ for constraining nuclear weapon inventories and capabilities in support of global nuclear disarmament.

This section provides an overview of recent developments in the NPT regime and related juridical framework. It begins by examining the long-standing differences between NPT states parties over goals and priorities for nuclear disarmament and non-proliferation and highlights key points of contention in the NPT review process. It then summarizes the current status of treaties establishing nuclear weapon-free zones, including efforts to create a zone in the Middle East. Finally, the section describes recent initiatives to achieve two long-stalled objectives for strengthening nuclear disarmament and non-proliferation: securing the entry into force of the CTBT; and opening negotiations on an FMCT.

Nuclear Non-Proliferation Treaty

The main objectives of the NPT are to prevent the spread of nuclear weapons and weapons technology, promote cooperation on the peaceful uses of nuclear energy and promote nuclear disarmament, with the ultimate goal of achieving general and complete disarmament. With 191 states parties as of January 2017, the NPT is the world’s most widely adhered to multilateral arms control agreement. It is the only treaty that codifies a binding commitment to nuclear

⁶ Five such zones exist today, with 4 of them spanning the entire Southern Hemisphere.

disarmament by the five legally defined nuclear weapon states (NWS)—China, France, Russia (as the successor state to the Soviet Union), the United Kingdom and the United States.⁷

The NPT opened for signature on 1 July 1968 and entered into force on 5 March 1970, on deposit of the signature and ratification instruments of 40 states parties and the three depositary states—the United Kingdom, the Soviet Union and the United States. At present, all the states in the world are party to the NPT apart from India, Israel and Pakistan, which have not signed the treaty, North Korea, which withdrew from the NPT in April 2003, and South Sudan—a state that emerged in 2011.

Broadly speaking, the NPT consists of a balance between the responsibilities and obligations of the two categories of states parties it defines—non-nuclear weapon states (NNWS) and the five NWS. This balance is built on three interrelated ‘pillars’: (a) a commitment not to develop nuclear weapons by the NNWS and acceptance of International Atomic Energy Agency safeguards to verify adherence to this commitment (articles II and III); (b) a commitment to pursue negotiations in good faith leading to general and complete nuclear disarmament (article VI); and (c) the inalienable right of all states parties to make peaceful use of nuclear energy, with due consideration for the needs of the developing world (article IV). Other provisions deal with: the right of any group of states to conclude regional nuclear weapon-free zone treaties to assure the total absence of nuclear weapons on their respective territories (article VII); and the right of states parties to withdraw from the Treaty, along with a procedure for doing so (article X.2)

In recognition of the balance of commitments between the NNWS and the NWS, the NPT was the first multilateral treaty in modern times to include a provision for the review of its operation, with a view to ensuring that the purposes in the Preamble and the provisions of the Treaty are being realized (article VIII.2). The NPT called for a review conference of the parties to be held five years after the entry into force of the Treaty, and at intervals of five years thereafter, if requested by a majority of states parties (article VIII.3) The first NPT review conference was held 1975 and review conferences have been held every five years since then.

Furthermore, article X.2 of the NPT called for the convening of a conference of states parties 25 years after its entry into force to decide whether the Treaty should continue in force indefinitely, or be extended for an additional fixed period, with the decision to be taken by a majority of states parties. At the 1995 Review and Extension Conference, the NPT was extended indefinitely by the states parties on the basis of an integrated package of decisions and a resolution adopted without a vote. The states parties also decided at the 1995 conference to strengthen the treaty review process by convening a Preparatory Committee (PrepCom), which meets annually in the

⁷ According to article IX of the NPT, only states that manufactured and exploded a nuclear device prior to 1 Jan. 1967 are recognized as nuclear weapon states.

three years preceding a review conference, to make recommendations on matters pertaining to the treaty.

The 2015 NPT Review Conference

The 2015 NPT Review Conference was widely seen as having ended in failure when the states parties were unable to achieve consensus on a final document.⁸ While not unexpected, the lack of an outcome dashed hopes that the review conference would be able build on the 64-point Action Plan agreed by the 2010 NPT Review Conference and the 13 ‘practical steps’ adopted by the 2000 NPT Review Conference.

The immediate cause of the failure of the 2015 conference was a disagreement over arrangements for a conference on establishing a weapon of mass destruction (WMD)-free zone in the Middle East, pursuant to the Resolution on the Middle East adopted at the 1995 NPT Review and Extension Conference. The adoption of the resolution was widely considered critical to the indefinite extension of the NPT.⁹ The draft final document presented at the end of the 2015 conference called on the United Nations to convene a conference on the zone issue by March 2016. While all states in the region would be urged to participate, the conference would proceed even if one or more states decided not to attend.

The planned conference was strongly opposed by Israel, which is not a party to the NPT, as well as Canada, the UK and the USA. The three states parties insisted on strict consensus as a prerequisite for moving forward with the proposed zone and demanded that any negotiations on a Middle East WMD-free zone include Israel. At the contentious final plenary, after a consensus could not be reached, the USA criticized the inflexibility of the Arab League on the subject, singling out Egypt. For its part, Egypt—as well as Russia and the Non-Aligned Movement (NAM)—blamed the obstructionism of Canada, the UK and the USA.

More generally, many observers noted that the lack of a consensus outcome highlighted long-standing differences in state parties’ views about the nature of the main challenges facing the NPT (Wan 2015). States parties belonging to the NAM were particularly critical of what they saw as the failure of the NWS to make sufficient progress towards fulfilling their commitment, codified in article VI of the treaty, to work towards nuclear disarmament. Language alluding to ‘specific and effective measures’ to implement nuclear disarmament had been removed from successive drafts of the outcome document because of resistance from the NWS. In the view of these NAM states parties, the nuclear weapon states’ ‘business as usual approach’ in reaffirming their deterrence postures and modernizing their nuclear arsenals

⁸ The NPT review conferences in 1980, 1990 and 2005 also failed to reach consensus on a final document.

⁹ The resolution had called for ‘all States in the Middle East to take practical steps’ to establish an effectively verifiable zone free of WMD and their delivery systems. It also called for all NPT states parties ‘to extend their cooperation and to exert their utmost efforts with a view to ensuring the early establishment by regional parties’ of the zone.

posed at least as serious a threat to the viability of the NPT as what is known as horizontal proliferation (that is, the spread of nuclear weapons to additional states) (Burroughs 2015). There was a similar divide between the NWS and the majority of NNWS over the draft language, put forward by Austria, on the urgency of pursuing nuclear disarmament in light of the growing awareness of the ‘catastrophic humanitarian consequences’ of the use of nuclear weapons (Smetana 2016) (see section 1.4).

More generally, some observers have argued that the failure of the 2015 NPT Review Conference represents a failure of the review process, linked to the increasing discord both between and among the NNWS and NWS, as well as the inflexibility and unwillingness of some delegations to make the necessary compromises on a range of issues. Others argued that it also reflected a lack of leadership in the conduct of conference (Rauf 2015). In the view of some disarmament advocates, one overarching consequence of the breakdown of the review conference was a loss of credibility for the NPT regime, which served to increase support for a new treaty prohibiting nuclear weapons as an alternative approach (Johnson 2015).

Strengthening the NPT regime

Although the 2015 NPT Review Conference was an acrimonious meeting that failed to agree on an outcome document, there is general agreement that, despite dire warnings from some quarters, the NPT regime is not in imminent danger of breaking down. The non-proliferation pillar of the NPT has been strengthened by the implementation of the additional protocol to safeguards agreements between the IAEA and non-nuclear-weapon states as well as more robust and inclusive nuclear export controls and relevant UN Security Council resolutions. There have also been advances in other areas, such as nuclear verification, and nuclear safety and security.

However, some observers have warned that an existential threat to the NPT has emerged over the lack progress towards nuclear disarmament, in particular the implementation of article VI, which underlies the NPT ‘grand bargain’ between the NWS and NNWS (Meyer 2017). This has led to growing concern that unless the gap between promises and effective measures is filled, the legitimacy, authority and appeal of the NPT will inexorably wane over time (Dhanapala and Duarte 2015). While acknowledging that frustration with the lack of implementation of the disarmament actions, principles and objectives agreed at previous review conferences has led to calls for the NPT review process to be de-prioritized, some diplomatic observers stress that the fundamental goals and values of the treaty remain of paramount importance and require further strengthening (Van der Kwast 2015).

At the first Preparatory Committee for the 2020 Review Conference, held in Vienna on 2–15 May 2017, a key issue was the potential impact of the draft text of a treaty prohibiting the possession of nuclear weapons. The text was expected to be finalized in July 2017. Specifically, questions were raised about whether the nuclear ban, once in place, would distract attention from

disarmament steps taken under the NPT and might widen existing divisions among the states parties. There were also questions about whether countries might choose to prioritize ways to implement the ban treaty, including the development of protocols, verification mechanisms or other follow-on actions, at the expense of measures under the NPT (Pitts-Kiefer and Williams 2017).

In the view of some observers, the prospect of the nuclear ban treaty detracting from the review process for the 2020 NPT Review Conference highlighted the need for a renewed commitment to the NPT's principles and objectives by the states parties (Acheson 2017: 22–23). Translating this commitment into effective steps and measures will require a renewed willingness by states parties to enter into negotiations in good faith and to make political compromises, especially on initiatives related to nuclear disarmament and the Middle East WMD-free zone.

Nuclear weapon-free zones

Regional arrangements establishing nuclear weapon-free zones (NWFZs) are important legal components of the global nuclear disarmament and non-proliferation regime and supplement international efforts to prevent the emergence of new nuclear weapon states (see table 1.3.1). The NPT explicitly refers to the right of any group of states to conclude regional treaties to assure 'the total absence of nuclear weapons in their respective territories'.

The UN Disarmament Commission recommended in 1999 a set of principles and guidelines for the establishment of a nuclear weapon-free zone. (UN Disarmament Commission, 1999). These included, *inter alia*:

1. Nuclear weapon-free zones should be established on the basis of arrangements freely arrived at among the states of the region concerned and be pursued by all states of that region;

2. The NWS should be consulted during the negotiations of a treaty establishing a nuclear weapon-free zone in order to facilitate their signature to and ratification of the relevant protocol(s) to the treaty, through which they undertake legally binding commitments to the status of the zone and not to use or threaten to use nuclear weapons against states parties to the treaty; and

3. A nuclear weapon-free zone should not prevent the use of nuclear science and technology for peaceful purposes and could also promote the peaceful use of nuclear energy in the zone.

According to the then-UN High Representative for Disarmament Affairs, NWFZs are a practical means for outlawing nuclear weapons within a specified geographic area and are an essential building block for a world free of nuclear weapons. They are also a means to ensure, in parts of the world where many individuals have suffered from the effects of nuclear weapon tests, that 'future generations will not endure the same fate' (Kane 2015).

As of 2017, nuclear-weapon-free zones collectively covered 117 countries. Proposals have been made for establishing NWFZs in the Middle East, which would include the non-NPT signatory state, Israel; in South Asia, which would

include the non-NPT signatory nuclear states, India and Pakistan; in Northeast Asia, including the former NPT state party, North Korea; and in the Arctic.

Table 1.3.1. Summary of nuclear weapon-free zone treaties, 1 January 2017

Treaty regime	Zone of application	Date of signature	Date of entry into force
Treaty of Tlatelolco	Latin America, Caribbean	14 Feb. 1967	22 Apr. 1968
Treaty of Rarotonga	South Pacific	6 Aug. 1985	11 Dec. 1986
Treaty of Bangkok	South-East Asia	15 Dec. 1995	27 Mar. 1997
Treaty of Pelindaba	Africa	11 Apr. 1999	15 July 2009
Central Asian Nuclear Weapon-Free Zone	Central Asia	6 Sep. 2006	21 Mar. 2009

Note: In addition, certain uninhabited areas have been formally denuclearized: Antarctica (1959 Antarctic Treaty); outer space, the moon and other celestial bodies (1967 Outer Space Treaty and the 1979 Moon Agreement); and the seabed and ocean floor (1971 Seabed Treaty).

Source: UN Office of Disarmament Affairs, Treaty Database.

Proposed Middle East WMD-free zone

Proposals for an expanded zonal concept in the Middle East have emerged as a major source of contention in the NPT review process. As part of the package of decisions that resulted in the indefinite extension of the NPT, the 1995 NPT Review and Extension Conference adopted a resolution, sponsored by Egypt, that called for ‘the establishment of an effectively verifiable Middle East zone free of weapons of mass destruction, nuclear, chemical and biological, and their delivery systems’ (NPT Review and Extension Conference, 1995).¹⁰ At the 2010 NPT Review Conference, following pressure from Egypt and the Arab League, the state parties agreed to five practical steps to make progress towards implementing the 1995 Middle East resolution (NPT Review Conference 2010). This included convening, in 2012, a regional conference on the establishment of a weapons of mass destruction (WMD)-free zone. However, no agreement was reached on the agenda and other issues, and the conference was never held (Kubbig and Weidlich 2015). The 2015 NPT Review Conference subsequently failed to achieve a consensus outcome, after Canada, the United Kingdom and the United States decided not to support the draft final document because of the language concerning the Middle East WMD-free zone (see above).

Practical progress toward establishing a Middle East WMD-free zone has been blocked by deep disagreements between countries in the region and their allies over the terms, including possible verification arrangements, and the sequence of steps leading to the establishment of the zone (see section 1.7). These in turn reflecting diverging perceptions of threat and security concerns existing in the region. Israel has linked discussions on the zone to a

¹⁰ The possession, manufacture or use of chemical weapons is banned by the 1993 Chemical Weapons Convention; biological weapons are banned by the 1972 Biological and Toxin Weapons Convention.

comprehensive peace settlement, including on Palestinian issues, as well as compliance with international obligations by states in the region (Landau and Stein 2012). Arab states have said that no such linkages should exist and that the establishment of the zone would be an important step toward peaceful relations in the region. Egypt has argued that the zone would be an important source of pressure on Israel to relinquish its policy of ambiguity about whether it possesses nuclear weapons and to join the NPT (Al-Assad 2013).

Since 2015 there has been very little movement toward establishing a Middle East WMD-free zone. Some observers have called for a more decisive involvement of the three co-sponsors of the 1995 Middle East resolution—Russia, the UK and the USA. Others have stressed that regional states should commit to greater engagement, both among themselves and with other concerned parties. However, there is general agreement that establishing the Middle East WMD-free zone should not be seen as solely a regional concern (Pugwash 2017). In addition to being a crucial component of the NPT's indefinite extension package, the zone would play a broader role in promoting global disarmament and non-proliferation goals.

Comprehensive Nuclear-Test-Ban Treaty

The 1996 Comprehensive Nuclear-Test-Ban Treaty (CTBT) is a multilateral treaty that prohibits the carrying out of any nuclear weapon test explosion or nuclear explosion for peaceful purposes and urges each state party to prevent any such nuclear explosion at any place under its jurisdiction or control.¹¹ It comprises a preamble, 17 articles, two annexes and a Protocol with two annexes. It also provides for a consultation and clarification process, on-site inspections, and confidence-building measures. Finally, the Treaty establishes a CTBT Organization (CTBTO), located in Vienna, to ensure the implementation of its provisions, including provisions on international verification measures.¹²

The opening for signature of the CTBT on 24 September 1996 marked the culmination of a half-century-long effort to ban nuclear testing. The treaty was described at the time by US President Bill Clinton as the 'longest sought, hardest fought prize in the history of arms control negotiations'. The treaty negotiations had involved a series of complex disputes over its basic obligations, technical scope, verification means and entry-into-force provisions (Mallin 2017, Johnson 2009).

At the beginning of 2017, 183 states had signed and 166 had ratified the CTBT. Pursuant to article XIV of the CTBT, the 44 states listed in annex 2 must sign and ratify the CTBT in order for it to enter into force. These are the

¹¹ Since 1945 there have been a total of 2055 known nuclear explosions carried out by eight states: the United States, the Soviet Union, the United Kingdom, France, China, India, Pakistan and North Korea.

¹² The Provisional Technical Secretariat (PTS) of the Preparatory Commission for the CTBTO began its work in 1997. The PTS supervises and coordinates the operations of the International Monitoring System (IMS), which involves a network of 321 seismic, infrasound, hydroacoustic and radionuclide monitoring stations located in 89 countries. It also has responsibility for the International Data Centre in Vienna, which provides analysis of CTBT verification data to member states.

states that formally participated in the 1996 session of the Conference on Disarmament and possessed nuclear power and/ or nuclear research reactors at the time.¹³ Of the 44 states listed in annex 2, 36 have ratified the CTBT; China, Egypt, Iran, Israel and the USA have signed but not ratified; and North Korea, India and Pakistan have yet to sign or ratify. Consequently, the CTBT has yet to enter into force, in spite of having broad global support.¹⁴

Normative and legal implications of the CTBT

Many observers have noted that while the CTBT has yet to enter into force, it has codified a de facto international norm against all nuclear test explosions. (a so-called true zero-yield prohibition). At the same time, the continued inability to bring the treaty into force has left a legal gap in the multilateral juridical framework on nuclear disarmament. In spite of the normative impact of the CTBT on the behaviour of the NWS, some observers point out that nuclear weapon tests per se are still not illegal under international law (Rietiker 2017).

Promoting the CTBT's entry into force

Achieving the entry into force and universalization of the CTBT remains a priority task for many states and international organizations that support the treaty's goal of an effectively verifiable, credibly enforceable, legal prohibition on nuclear test explosions.¹⁵ The year 2016 marked the 20th anniversary of the opening for signature of the CTBT and saw calls for renewed efforts to bring it into force (Zerbo 2017). On 15 September 2016, the NWS issued a Joint Statement on the CTBT in which they pledged to strive for its early ratification and prompt entry into force (US State Department 2016).

On 23 September 2016, the UN Security Council adopted Resolution 2310 affirming 'that entry into force of the Treaty will contribute to the enhancement of international peace and security'.¹⁶ The resolution urged all states that have not signed or ratified the CTBT to do so 'without further delay' and called on all states to refrain from conducting any nuclear explosion and to maintain the moratoria. It also encouraged states to 'provide

¹³ The states listed in Annex 2 of the CTBT are: Algeria, Argentina, Australia, Austria, Bangladesh, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Egypt, Finland, France, Germany, Hungary, India, Indonesia, Iran, Israel, Italy, Japan, Democratic People's Republic of Korea (DPRK, North Korea), Republic of Korea (South Korea), Mexico, the Netherlands, Norway, Pakistan, Peru, Poland, Romania, Russia, Slovakia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, the United States, Viet Nam and Zaire.

¹⁴ During the CTBT negotiations, Russia, Egypt, Pakistan and the UK—states which had resisted the adoption of the nuclear test ban—insisted on the treaty's strict procedural entry-into-force requirement set out in art. XIV (Johnson, 2009).

¹⁵ See, for example, Statement delivered on behalf of the European Union by High Representative/Vice-President Federica Mogherini at the Eighth Ministerial Meeting in support of the Comprehensive Nuclear-Test-Ban Treaty (CTBT), New York, 21 Sep. 2016.

¹⁶ The resolution was adopted by a recorded vote of 14 states in favour, none opposed and one abstention (Egypt).

the support required' to the CTBTO (United Nations 2016). The original version of the resolution was drafted to be adopted under the framework of Chapter VII of the UN Charter, which would have made it legally binding on all UN member states. However, some states had insisted that the resolution be made politically binding instead, arguing inter alia that the adoption of measures in the Security Council that would be legally binding on all UN member-states would circumvent the international forums mandated to negotiate conventions and treaties on nuclear disarmament and non-proliferation (UN Press Release 2016).

As of 2017, there were no indications that any of the eight states listed in Annex 2 of the CTBT that had not signed and/or ratified the treaty were prepared to do so in the short- to medium-term. The United States remained a key hold-out, with the Trump administration confirming its opposition to joining the treaty while proposing to reduce US financial support for the CTBTO. For its part, China has indicated that it will not ratify the CTBT before the USA has done so. Egypt and Israel have both signed the CTBT but have refused to ratify it because of regional policy considerations.

India and Pakistan, two of the CTBT 'hard cases', continue to rule out signing the treaty. However, both countries have voluntary nuclear testing moratoria in place and have reaffirmed their support for the objectives of the CTBT. In 2016, Pakistan announced that it was prepared to consider translating its unilateral moratorium on nuclear testing into a bilateral arrangement with India on 'non-testing'. This bilateral non-testing arrangement, if mutually agreed, could become binding immediately without waiting for the entry into force of the CTBT at the international level. (Pakistani Foreign Ministry 2016). According to Indian media reports, the proposal was rejected by India, in part because of concern that a bilateral nuclear test-ban agreement had the potential to be viewed as an indirect accession to CTBT.

More problematic is the situation with the third 'hard case', North Korea. It has carried out six nuclear tests since 2006, most recently in September 2016. North Korea has consistently rejected calls for it to sign and ratify the CTBT. North Korea has also repeatedly stated that it would continue to prioritize the development of a nuclear 'self-defence force'.

With many states expressing frustration with the deadlock over the CTBT's entry into force, there have been concerns that the impasse could ultimately undermine international support for the treaty (Istrate 2016). Since amending the treaty text is generally viewed as neither desirable nor feasible, one option that is mentioned regularly is for a majority of states that have ratified the CTBT to make a collective agreement on the 'provisional application' of the treaty. This would bypass article XIV pending the treaty's full entry into force; all other obligations, rights and provisions in the treaty would be applied

without modification.¹⁷ While would not a substitute for the actual entry into force of the CTBT, some observers have argued that provisional application could help to reinforce the legal authority of the treaty and strengthen the underlying norm against nuclear testing (Johnson 2013). Other analysts have noted that provisional application could broaden the scope of action of the CTBTO Preparatory Committee (PrepCom) in monitoring compliance with the nuclear-test ban as well as in delivering the benefits of verification technologies for disaster warning and response (Venturini 2017).

Fissile Material Cut-off Treaty

The Fissile Material Cut-off Treaty (FMCT) is a proposed international treaty to prohibit the further production of fissile material for nuclear weapons or other explosive devices. An FMCT would impose new restrictions on the five NPT-defined NWS and the four states possessing nuclear weapons that are not NPT members (Israel, India, Pakistan and North Korea).

In March 1995, the Conference on Disarmament approved a mandate (the so-called Shannon mandate) for an ad hoc committee to negotiate, without preconditions, ‘a non-discriminatory, multilateral and internationally and effectively verifiable treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices’.¹⁸ After a lengthy procedural impasse, in 2009 the CD finally adopted a programme of work that included the fissile materials negotiating mandate. In spite of the adoption of this programme of work, however, the CD was subsequently unable to adopt a framework for implementing the programme, due primarily to procedural reservations from Pakistan. To date no substantive negotiations have taken place, and the terms of the proposed treaty have yet to be defined.¹⁹

There are significant differences among CD member states over several fundamental issues that were left unresolved in the Shannon mandate. These are linked to defining the fissile materials that are to be subject to verification; the treatment of stocks of materials produced prior to the treaty’s entry into force; and the scope of the treaty, that is, whether verification activities should cover the entire nuclear fuel cycle of a state or should focus instead on a limited core of facilities and activities.

What is to be verified and how?

The 1995 mandate did not define the term ‘fissile material’. Nor is the term used in implementing IAEA safeguards. There is general agreement that an

¹⁷ During the negotiation of the CTBT, Canada, the Netherlands and other states submitted proposals for provisional application in the event that the specified article XIV and annex 2 conditions made it difficult for the treaty to enter into force on a timely basis (Johnson 2009).

¹⁸ The decision was based on the final report (CD/1299) of a Special Coordinator, Ambassador Gerald Shannon of Canada, who was appointed by the CD in Jan. 1994 to investigate the views of member states on the most effective way to negotiate a fissile materials ban treaty.

¹⁹ Draft treaty texts have been proposed by a number of states, such as the one jointly submitted to the CD by the Netherlands, Canada and Japan in 2009 (CD/1878, 2009).

FMCT should focus on ‘direct-use’ nuclear materials, as defined for IAEA safeguards purposes. This is material that could be used in the manufacture of nuclear weapons without further enrichment or transmutation, or more specifically weapon-grade uranium and plutonium. Some states have called for an expanded list of materials covered by an FMCT, to include elements in the actinide series, in particular neptunium and americium, which are in principle usable for weapons (UNIDIR 2010).

A second question left unresolved by the 1995 mandate is whether an FMCT should require states to declare and place under international monitoring, presumably by the International Atomic Energy Agency (IAEA), stocks of fissile material produced before the treaty entered into force. The purpose would be to provide assurances that these stocks are not being diverted for weapon use. Some states, in particular Pakistan, have demanded that the ban should go beyond mandating a production cut-off and cover existing stocks of such material as well. Pakistan has long maintained that the treaty would otherwise ‘freeze existing asymmetries’; that is, lock it into a disadvantageous position relative to India’s superior nuclear stockpile.

In contrast, the five NWS, along with India, have insisted that the mandate should apply only to future production of fissile material. The USA, the UK, France and Russia have all declared that they have stopped producing fissile material for nuclear weapons. It is widely believed that China has also stopped producing fissile material for nuclear weapons, ceasing production of highly enriched uranium (HEU) in 1987 and plutonium in 1991 (SIPRI 2017).

A third unresolved issue was whether verification and monitoring activities should cover the entire nuclear fuel cycle of a state or focus instead on a limited core of facilities and activities. Many diplomatic observers believe that if an FMCT is negotiated, it is likely to adopt a narrow-scope or ‘focused’ approach that concentrates on the most proliferation-sensitive production facilities and the treaty-relevant fissile materials being produced by these facilities. There is general agreement that for a ‘focused approach’ to verification to be credible, it will have to include measures to detect undeclared fissile material production facilities as well as the clandestine production of fissile material for weapon purposes in declared facilities (Kile and Kelley 2012).

Some observers have cautioned against placing too much emphasis on the technical side of the treaty and rather suggested that most of the issues that hold back the FMCT negotiations are political rather than technical in nature. For example, the reluctance of nuclear weapon states to open their facilities or their stocks to intrusive verification appears to be largely a political position that is unlikely to change even if a technical solution, such as managed access procedures, is found (Podvig 2016).

High-level preparatory group on the FMCT

The proposed FMCT has languished for more than two decades in the Conference on Disarmament. Frustration with the impasse in the CD has led to

calls to move the negotiations to another forum (Berger 2012). A number of states vowed to come together to negotiate in informal groups, but a separate process outside the CD failed to materialize. Instead, attention has turned to the idea of establishing an ad hoc committee through the General Assembly's First Committee to take up the FMCT issue.

On 26 October 2016, the First Committee adopted Resolution L.65 on a '[t]reaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices' (First Committee 2016). The resolution was adopted by a recorded vote with 177 in favour, 1 against and 10 abstentions. Pakistan, the only no vote, restated its well-known position that 'a treaty negotiated or considered under the Shannon Mandate does not guarantee the inclusion of existing stockpiles of fissile material in a manner that addresses the concerns [of Pakistan]' (Government of Pakistan 2016).

On 23 December 2016, the General Assembly acting on the report of its First Committee adopted a resolution urging the CD to agree on and implement a balanced and comprehensive programme of work that includes the immediate commencement of negotiations on a treaty banning the production of fissile material for nuclear weapons on the basis of the Shannon mandate (UN General Assembly 2016).²⁰ The resolution also requested the UN Secretary-General to establish 'a high-level preparatory group on a fissile material cut-off treaty with a membership of 25 States', which will operate by consensus to consider and make recommendations on substantial elements of a future non-discriminatory, multilateral and internationally and effectively verifiable FMCT.²¹

The Group will draw on earlier work in this field, in particular the 2015 final report of the Group of Governmental Experts (GGE) established by the UN General on possible elements for a treaty banning the production of fissile material for nuclear weapons (Report of the Group of Governmental Experts 2015). Although the GGE adopted the final report by consensus, some of the perspectives and positions of the expert panellists had diverged significantly, including on technical details on definitions and on aspects of verification (Podvig 2016).

The high-level preparatory group will convene two open-ended informal consultative meetings. The first took place in New York on 2–3 March 2017; the second will be held in 2018. The group will present its final report to the General Assembly in September 2018 (UNOG 2017).

²⁰ Adoption of the resolution was reached by a recorded vote of 158 in favour, 2 opposed (Italy and Pakistan) and 9 abstentions, including China, Egypt, Iran, Israel, Russia and Syria.

²¹ The HLPG is composed of experts from the following countries: Algeria, Argentina, Australia, Brazil, Canada, China, Columbia, Egypt, Estonia, France, Germany, India, Indonesia, Japan, Mexico, Morocco, Netherlands, Poland, Russia, Senegal, South Africa, South Korea, Sweden, the United Kingdom and the United States.

Conclusions

The NPT regime continues to be marked by long-standing differences between the states parties over goals and priorities for nuclear disarmament and non-proliferation. The main issues of contention—in particular, the implementation of the NPT’s disarmament obligation and the establishment of a proposed WMD-free zone in the Middle East—have not changed significantly over the last two decades. However, many observers note that the willingness of states to compromise and find consensus is fading against the background of mounting frustration with the perennial dysfunction of existing disarmament forums and processes. There has been growing interest in shifting long-stalled negotiations to new forums, such as the UN General Assembly or an ad hoc body, that make decisions by majority instead of consensus.

The consequences of such a shift for the current NPT regime are the subject of dispute. Some proponents claim that it will finally permit the completion of important items of ‘unfinished business’, such as the negotiation of an FMCT, that enjoy overwhelming international support. Critics have expressed concern that the move away from a consensus-based approach will not mitigate or reconcile differences between groups of states over specific instruments and initiatives. This in turn could lead to a fragmentation of the multilateral juridical framework for nuclear disarmament and non-proliferation that has traditionally aspired to universality.

References

- Acheson, R., *2017 NPT Briefing Book*, Women’s International League for Peace and Freedom, Apr. 2017, <<http://www.reachingcriticalwill.org/images/documents/Publications/2017-npt-briefing-book.pdf>>.
- Al-Assad, W., ‘An Arab perspective on the quest for a WMD-free zone in the Middle East: pipe-dream or security option?’, eds P. Foradori and M. Malin, *A WMD-Free Zone in the Middle East: Regional Perspectives*, Project on Managing the Atom, Belfer Centre, Harvard University Kennedy School of Government, Nov. 2013.
- Berger, A., ‘Finding the right Home for FMCT Talks’, *Arms Control Today*, vol. 42, no. 10 (Dec. 2012).
- Burroughs, J., ‘Robust debate but no agreement at the 2015 NPT Review Conference’, Lawyers Committee for Nuclear Policy, June 2015 <<http://lcnp.org/pubs/NPT-2015-outcome.pdf>>.
- Conference on Disarmament, Report of Ambassador Gerald E. Shannon of Canada on consultations on the most appropriate arrangement to negotiate a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, CD/1299, 24 Mar. 1995.
- Conference on Disarmament, Letter dated 16 September 2009 from the permanent representatives of Canada, Japan and the Netherlands to the Conference on Disarmament Addressed to the Secretary-General of the

- Conference transmitting the text of the 'Draft for discussion prepared by the International Panel on fissile materials: A treaty banning the production of fissile materials for nuclear weapons or other nuclear explosive devices, with article-by article explanations', CD/1878, 15 Dec. 2009.
- Dhanapala, J., and Duarte, S., 'Is There a Future for the NPT?', *Arms Control Today*, July/Aug. 2015.
- Dhanapala, J., and Rauf, T., *Reflections on the Treaty on the Non-proliferation of Nuclear Weapons: Review Conferences and the Future of the NPT*, Stockholm International Peace Research Institute, SIPRI Report, Apr. 2017.
- Report of the Group of Governmental Experts to make recommendations on possible aspects that could contribute to but not negotiate a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, A/70/81, United Nations General Assembly, 7 May 2015.
- Istrate, C., "'CTBT@20:" an uneasy anniversary', *Nonproliferation Review*, vol. 23, nos 3–4 (2016).
- Johnson, R., 'Embedding the CTBT in norms, law and practice', Report, United Nations Association, UK (May 2013), <<http://www.acronym.org.uk/new-website/wp-content/uploads/2013/03/Embedding-the-CTBT-in-norms-law-and-practice-Dr-Rebecca-Johnson.pdf>>.
- Johnson, R., *Unfinished Business: The Negotiation of the CTBT and the End of Nuclear Testing*, United Nations Institute for Disarmament Research, UNIDIR/2009/2 (2009).
- Kane, A., Statement by Ms Angela Kane, UN High Representative for Disarmament Affairs, 'Nuclear-weapon-free zones: building blocks for a world free of nuclear weapons', New York, 24 Apr. 2015.
- Kile, S. and Kelley, R., *Verifying a Fissile Material Cut-off Treaty: Technical and Organizational Considerations*, Stockholm International Peace Research Institute, SIPRI Policy Paper No. 26 (Jan. 2012).
- Kile, S. and Rauf, T., 'Nuclear arms control', *SIPRI Yearbook 2017: Armaments, Disarmament and International Security* (Oxford, UK: Oxford University Press, 2017).
- Kubbig, B., and Weidlich, C., *A WMD/DVs Free Zone For The Middle East. Taking Stock, Moving Forward Towards Cooperative Security*, Academic Peace Orchestra Middle East, Peace Research Institute Frankfurt, 2015.
- Landau, E. and Stein, S., 'Israel and the WMD-free zone: has Israel closed the door?', *Bulletin of the Atomic Scientists*, 28 Sep. 2012.
- Letter dated 16 Sep. 2009 from the Permanent Representatives of Canada, Japan, and the Netherlands to the Secretary-General of the Conference on Disarmament transmitting the text of the 'Draft for discussion prepared by the International Panel on Fissile Materials: a treaty banning the production of fissile materials for nuclear weapons or other nuclear

- explosive devices, with article-by-article explanations’, dated 2 Sep. 2009, CD/ 1878, 15 Dec. 2009.
- Mallin, M., *The Comprehensive Nuclear-Test-Ban Treaty Negotiations: A Case Study*, Center for the Study of Weapons of Mass Destruction, Case Study no. 7, United States National Defense University, Feb. 2017, <http://wmdcenter.ndu.edu/Portals/97/Documents/Publications/Case%20Studies/cswmd_cs7.pdf?ver=2017-02-24-091003-443>.
- Meyer, P., ‘The Nuclear Nonproliferation Treaty: Fin de Regime?’, *Arms Control Today*, vol. 47, no. 3 (Apr. 2017).
- Nikitin, M.B., *Comprehensive Nuclear-Test-Ban Treaty: Background and Current Developments*, Congressional Research Service, CRS Report RL33548, 1 Sep. 2016, <<https://fas.org/sgp/crs/nuke/RL33548.pdf>>.
- NPT Review and Extension Conference, ‘Resolution on the Middle East’, NPT/CONF.1995/32 (Part I), Annex, 11 May 1995, <https://unoda-web.s3accelerate.amazonaws.com/wpcontent/uploads/assets/WMD/Nuclear/1995-NPT/pdf/Resolution_MiddleEast.pdf>.
- NPT Review Conference, Final Document, NPT/CONF.2010/50 (vol. I), section 4, para. 7, 28 May 2010.
- Pakistani Ministry of Foreign Affairs, ‘Pakistan’s offer to India for a bilateral arrangement on non-testing of nuclear weapons’, Press release, 16 Aug. 2016.
- Pitts-Kiefer, S., and Williams, I., ‘2017 NPT PrepCom: sleepy conference masks continuing tensions’, PrepCom Primer, Nuclear Threat Initiative (NTI), 15 May 2017.
- Podvig, P., ‘Fissile Material (Cut-off) Treaty: elements of the emerging consensus’, in Podvig, P., Schaper, A., and Mian, Z., *FM(C)T: Elements of the Emerging Consensus*, FM(C)T Meeting Series, United Nations Institute for Disarmament Research, 2016, <<http://unidir.org/files/publications/pdfs/fmct-series-final-report-meeting-1-en-667.pdf>>.
- Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), ‘Overview of the CTBT verification regime’, <<https://www.ctbto.org/verification-regime/background/overview-of-the-verification-regime/>>.
- Pugwash Conferences on Science and World Affairs, ‘Vienna meeting on the WMD-free-zone in the Middle East’, 4 May 2017, <<https://pugwash.org/2017/05/04/vienna-meeting-on-the-wmd-free-zone-in-the-middle-east/>>.
- Rauf, T., ‘The 2015 NPT Review Conference: setting the record straight’, SIPRI Commentary, 24 June 2015, <<https://www.sipri.org/node/384>>.
- Rietiker, D., ‘The (Il?)legality of nuclear weapons tests under international law—filling the possible legal gap by ensuring the Comprehensive Test Ban Treaty’s entry into force’, *American Society of International Law, ASIL Insights*, vol. 21, no. 4, 16 Mar. 2017.

- Smetana, M., 'Stuck on disarmament: the European Union and the 2015 NPT Review Conference', *International Affairs*, vol. 92, no. 1 (2016), pp. 137–52.
- United Nations, General Assembly, Report of the Disarmament Commission, Fifty-fourth session Supplement no. 42 (A/54/42), Apr. 1999.
- United Nations, General Assembly, First Committee, 'Treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices', A/C.1/71/L.65/Rev.1, 26 Oct. 2016.
- United Nations, General Assembly, Government of Pakistan, 'Explanation of vote before the vote on draft resolution "Treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices" (L.65)', 2016, <http://www.reachingcriticalwill.org/images/documents/Disarmament-fora/1com/1com16/eov/L65_Pakistan.pdf>.
- United Nations, General Assembly, Resolution adopted on 23 Dec. 2016, 'Treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices', A/71/259, 11 Jan. 2017.
- United Nations, General Assembly, 'Group of Governmental Experts to make recommendations on possible aspects that could contribute to but not negotiate a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices', Note by the Secretary-General, A/70/81, 7 May 2015.
- United Nations Institute for Disarmament Research, *A Fissile Material Cut-off Treaty: Understanding the Critical Issues*, UNIDIR/2010/4 (2010), <<http://www.unidir.org/files/publications/pdfs/a-fissile-material-cut-off-treaty-understanding-the-critical-issues-139.pdf>>.
- United Nations Office at Geneva (UNOG), 'High Level Fissile Material Cut-Off Treaty (FMCT) Expert Preparatory Group', updated 13 Apr. 2017.
- United Nations Office for Disarmament Affairs, Member States' views on a treaty banning the production of fissile material for nuclear weapons or other nuclear explosive devices, Pursuant to General Assembly Resolution A/RES/67/53 adopted on 3 Dec. 2012.
- United Nations, 'Adopting Resolution 2310 (2016), Security Council calls for early entry into force of Nuclear-Test-Ban Treaty, ratification by eight Annex 2 hold-out states', Press release SC/12530, 23 Sep. 2016.
- US Department of State, Office of the Spokesperson, 'Joint statement on the comprehensive Nuclear-Test-Ban Treaty by the Nuclear Nonproliferation Treaty Nuclear-Weapon States', 15 Sep. 2016.
- Van der Kwast, H. C., 'The NPT: Looking Back and Looking Ahead', *Arms Control Today* (July/Aug. 2015).
- Venturini, G., 'The CTBTO PrepCom at twenty: beyond the CTBT?', *Nonproliferation Review*, vol. 23, nos 3–4 (2017).
- Wan, W., 'Why the 2015 NPT Review Conference fell apart', United Nations University, Centre for Political Research, 28 May 2015.
- Zerbo, L., 'The CTBT at 20: ambition on the road to success', *Arms Control Today*, vol. 47, no. 1 (Jan./Feb. 2017).

1.4. Humanitarian concerns and nuclear disarmament

SHANNON N. KILE

Although the number of nuclear weapons in the world has declined sharply since the end of the cold war, many non-nuclear weapon states (NNWS) remain frustrated by the slow pace of multilateral nuclear disarmament efforts. There has been particular dissatisfaction with the lack of progress made in the United Nations disarmament machinery, including, *inter alia*, the Conference on Disarmament, as well as the review process for the 1968 Treaty on the Non-Proliferation of Nuclear Weapons (Non-Proliferation Treaty, NPT). In December 2016, the UN General Assembly approved by a wide margin a resolution calling for the opening of negotiations on a treaty banning nuclear weapons.

This section summarizes the political and diplomatic developments leading up to the convening in March 2017 of a United Nations conference to negotiate a ‘legally-binding instrument to prohibit nuclear weapons leading towards their total elimination’. It begins by describing the principal motivations for convening the nuclear ban treaty conference, in particular, the growing international awareness in recent years of the devastating humanitarian impact of the use of nuclear weapons. It then summarizes the contending views in favour of and against a nuclear ban treaty. Finally, the section highlights the main substantive points of contention that emerged in the treaty negotiations as well as key issues left unresolved by the draft text adopted in May 2017.

Humanitarian impact of nuclear weapons

The interest in a nuclear ban treaty reflects the growing international awareness in recent years of the catastrophic humanitarian consequences of any use of nuclear weapons (Lewis 2015; Kmentt 2015). The humanitarian dimension was raised in the final document adopted by consensus at the 2010 NPT Review Conference, in which the states parties expressed ‘deep concern at the catastrophic humanitarian consequences of any use of nuclear weapons’ and reaffirmed the need ‘for all States at all times to comply with applicable international law, including international humanitarian law’ (NPT Review Conference 2010). This language was interpreted as a mandate to take forward the humanitarian perspective on nuclear weapons. In 2012, at the first preparatory committee meeting for the 2015 NPT Review Conference, a group of 16 NNWS delivered the first in a series of joint statements on the humanitarian impact of nuclear weapons, urging all nations to ‘intensify their efforts to outlaw nuclear weapons’ (NPT Review Preparatory Committee 2012).

Pursuant to these initiatives, a series of international conferences on the humanitarian impact of nuclear weapons was convened, which brought together states, international organizations and civil society actors. Norway

convened the first such conference in Oslo on 4–5 March 2013. Two further international conferences on the topic took place in Nayarit, Mexico on 13–14 February 2014, and in Vienna on 8–9 December 2014.

One of the main achievements of the conferences was to call international attention to the humanitarian dimension of nuclear disarmament by providing well-documented analyses of the ways in which the use of nuclear weapons would cause profound and long-term damage to the environment, the climate, human health and well-being, and socio-economic development irrespective of national borders. The overarching conclusion from the presentations was that no single state or international body could address the immediate humanitarian emergency caused by a nuclear weapon detonation in an adequate manner and provide sufficient assistance to those affected.

At the end of the third and final conference, Austria made a national pledge to work ‘to fill the legal gap for the prohibition and elimination of nuclear weapons’ and ‘to cooperate . . . in efforts to stigmatise, prohibit and eliminate nuclear weapons in light of their unacceptable humanitarian consequences and associated risks’ (Austrian Federal Ministry for Europe, Integration and Foreign Affairs 2014). The Austrian Pledge was subsequently internationalized as the Humanitarian Pledge for the Prohibition and Elimination of Nuclear Weapons and approved by the UN General Assembly on 7 December 2015 with 133 states in favour, 23 against and 28 abstentions (UN General Assembly 2015a).

The 2015 NPT Review Conference took up consideration of the outcomes of the three conferences on the humanitarian consequences of nuclear weapons. This led to a joint statement calling for the total elimination of nuclear weapons, which was endorsed by 159 states parties (Kurtz 2015). However, the Review Conference was unable to reach consensus on a substantive final document.

Open-Ended Working Group

The 2015 session of the General Assembly First Committee subsequently carried forward a number of new resolutions emanating from the humanitarian movement. It also called for the re-establishment, as a subsidiary body of the General Assembly, of an open-ended working group (OEWG) to take forward multilateral nuclear disarmament negotiations (United Nations First Committee 2015). For many disarmament advocates, the General Assembly was the preferred negotiating forum, since it reaches decisions by a majority vote of member states rather than by consensus, which means that a proposed action cannot be blocked by a single state or small group of states.

On 7 December 2015, concurrent with the approval of the Humanitarian Pledge, the General Assembly adopted Resolution 70/33 establishing an OEWG to address concrete legal measures, norms and recommendations for the advancement of multilateral nuclear disarmament negotiations (UN General Assembly 2015b). All nine nuclear weapon-possessing states indicated that they would not take part in the OEWG if it were established.

Three OEWG meetings were held in Geneva in February, May and August 2016. Pursuant to its mandate set out in General Assembly resolution 70/33, the OEWG structured its panel deliberations around two main tasks: (a) to substantively address the concrete effective legal measures, legal provisions and norms that would need to be concluded to attain and maintain a world without nuclear weapons; and (b) to substantively address recommendations on other measures that could contribute to taking forward multilateral nuclear disarmament negotiations (UN General Assembly 2016a).²²

Approaches to nuclear disarmament

The OEWG considered four distinct approaches to nuclear disarmament that have featured frequently in debates in the UN General Assembly First Committee and the NPT review cycle. These focused on: (a) a comprehensive nuclear weapon convention, involving the participation of all nuclear weapon-possessing states from the outset, that would establish provisions for the prohibition and elimination of nuclear weapons and include effective means for verification and inspection; (b) a nuclear weapon ban treaty that would provide the basic prohibitions and obligations for all states parties and establish political objectives for the complete elimination of nuclear weapons but would not include provisions on existing nuclear arsenals and their elimination or on verification, and would not necessarily need to be universal from the outset; (c) a framework (or ‘chapeau’) agreement that would establish key prohibitions and provide for the subsequent negotiation of protocols to elaborate measures for the elimination of nuclear weapons and related objectives; and (d) a progressive approach, building on existing nuclear disarmament, non-proliferation and security agreements and arrangements, that would elaborate parallel legal and non-legal measures as well as confidence-building measures leading to a comprehensive nuclear weapon convention after a ‘minimization point’ has been reached (UN General Assembly 2016a).²³

The OEWG discussions on the feasibility and effectiveness of the various approaches revealed a clear division among the participating states on preferred approaches to taking forward multilateral nuclear disarmament. This division tended to reflect a country’s status under the NPT and its membership of other treaty regimes and military alliances (Nielsen 2016).

A majority of the NNWS at the OEWG expressed support for a treaty banning nuclear weapons. At the May 2016 session, ten cross-regional NNWS jointly submitted a working paper formally proposing a 2017 conference to launch negotiations on a nuclear ban (UN General Assembly 2016d). The

²² The latter included but were not limited to transparency measures related to the risks associated with existing nuclear weapons; measures to reduce and eliminate the risk of accidental, mistaken, unauthorized or intentional nuclear weapon detonations; and actions to increase awareness and understanding of the devastating humanitarian consequences of any use of nuclear weapons.

²³ The ‘minimization point’ refers to a point where nuclear weapons have been greatly reduced from current numbers, to a minimal number from which the next step would be elimination of all nuclear weapons.

proposal was opposed by, among others, many of the non-nuclear weapon state members of NATO, along with Australia, Japan and South Korea. These so-called nuclear umbrella states favoured the so-called progressive approach, based on using effective legal and practical measures as ‘building blocks’ to support progress towards nuclear disarmament, without a defined timeline (UN General Assembly 2016e).

Because of this and other substantive disagreements, the OEWG was unable to adopt by consensus, during its August 2016 concluding session, the Chair’s draft final report summarizing the discussions and recommendations from the February and May sessions. On 19 August, following a series of procedural manoeuvres, the OEWG voted to adopt a final report—with 68 states in favour, 22 against and 13 abstentions—recommending the convening of a conference by the General Assembly in 2017 to begin negotiations on a legally binding instrument for the prohibition and elimination of nuclear weapons (UN General Assembly 2016a).

UN General Assembly adopts a ban resolution

The 2016 session of the UN General Assembly’s First Committee approved a draft resolution on convening negotiations in 2017 on a ‘legally binding instrument to prohibit nuclear weapons, leading towards their total elimination’ (UN General Assembly, First Committee 2016). France, the United Kingdom and the United States, which voted against, released a joint explanation of vote (EOV) in which they declared that the ban on nuclear weapons proposed in the resolution ‘can in no way constitute an acceptable basis for negotiations’. They stated that a consensus-based, ‘step-by-step approach is the only way to combine the imperatives of disarmament and of the maintenance of global security’ (UN General Assembly 2016c: 1).

On 23 December 2016 the UN General Assembly, acting on the resolution approved by the First Committee, adopted Resolution 71/258 on commencing negotiations in 2017 on a treaty banning nuclear weapons (UN General Assembly 2017). The resolution was adopted by a vote of 113 states in favour, 35 against and 13 abstentions. Of the 9 nuclear weapon-possessing states, only North Korea voted in favour; China, India and Pakistan abstained; and France, Israel, Russia, the United Kingdom and the United States voted against. Among the states voting against the resolution were all the NATO member states except the Netherlands, which abstained, and other states such as Australia, Japan and South Korea, which participate in defence arrangements with the USA based on nuclear deterrence.

Opening of negotiations on a nuclear ban treaty

The opening round of negotiations took place in New York on 27–31 March 2017. There were more than 130 participating states in attendance but none of the nuclear weapon-possessing states took part. An organizational meeting held on 16 February 2017 had agreed that the conference’s rules of procedure

would be those used by the UN General Assembly, that is, a requirement for a two-thirds majority for matters of substance and a simple majority for procedural matters.

The states agreed on the broad outline of what was to be included in the ban treaty, such as a prohibition on the use, possession, acquisition, transfer and deployment of nuclear weapons. However, there was disagreement on a number of issues. States were divided over whether the ban treaty would need its own verification protocols in addition to those that exist under the NPT. States also diverged on whether the treaty should include language banning nuclear testing; some expressed concern that such a prohibition could come into conflict with the Comprehensive Test Ban Treaty (CTBT) or undermine its entry into force. There were also disagreements over whether to prohibit the transit of nuclear weapons through the territories of signatory states—a provision which some states thought would be difficult to verify. Finally, there was disagreement over whether the treaty should contain provisions on eliminating nuclear weapon stockpiles, or leave this for later negotiations with nuclear weapon states, possibly in connection with discussions on a process for the accession of these states (Acheson 2017; Meier and Suh 2017).

A draft text of the treaty banning nuclear weapons was made public on 22 May 2017. The draft treaty obliges all state parties to prohibit nuclear weapon possession, development, production, transfer, use and testing, and assisting any other state with the same. It would prohibit states parties from stationing another nation's nuclear weapons on their territory. However, unlike prior efforts at comprehensive nuclear disarmament, the draft treaty does not create a verification regime. It stipulates that each state party shall 'undertake to accept safeguards', in cooperation with the International Atomic Energy Agency (IAEA), to prevent the diversion of peaceful nuclear technology for weapon purposes. Nor did the draft treaty create a regime for dismantling and physically eliminating nuclear weapons, such as that set out for chemical weapons in the Chemical Weapons Convention.

According to the 22 May draft, the nuclear ban treaty will enter into force 90 days after its 40th instrument of ratification has been deposited. This will not be contingent on the ratification of any particular state or group of states.

Contending views on a nuclear ban treaty

The opening of negotiations on a treaty prohibiting nuclear weapons has highlighted long-standing disputes and divisions over the proposed nuclear ban (Article 36 2013; and Borrie 2016). At the March 2017 conference, some states emphasized the need to bridge the division between nuclear weapon-possessing states and non-nuclear weapon states. For example, the Netherlands, the only NATO member state in attendance, said that while it supported a legally binding prohibition, it must be comprehensive and verifiable and have the support of the nuclear weapon-possessing states, which should be included in the negotiations (Statement by the Netherlands 2017).

Arguments in favour of a nuclear ban treaty

Proponents of the prospective prohibition treaty make at least three broad-brush arguments in support of a legal ban on nuclear weapons. These tend to focus primarily on its legal and normative implications.

First, many proponents argue that outlawing nuclear weapons is, above all, a moral and humanitarian imperative (Beenes 2017). As shown during the conferences on the humanitarian impact of nuclear weapons, the case for prohibiting nuclear weapons is clear: they are by nature inhumane and indiscriminate; and uniquely dangerous because they are uniquely destructive. There is accordingly a need for urgent global action to address the humanitarian risks posed by nuclear weapons in the light of the lack of progress on multilateral nuclear disarmament under the NPT (Sauer and Pretorius 2014).

Second, proponents of a ban treaty argue that it is also a legal imperative, required to fill the gap in international law regarding the prohibition and elimination of nuclear weapons (Nystuen and Egeland 2016). They note that biological and chemical weapons, the other two categories of non-conventional weapons, are explicitly prohibited because their use would conflict with the requirements of international humanitarian law. In contrast, there is no general and universally applicable authorization or prohibition in international law regarding the possession or use of nuclear weapons, which would have a far more devastating humanitarian impact. In the view of many ban treaty proponents, weapons that cause unacceptable harm to civilians cannot remain legal or be considered legitimate options in times of war.

Finally, proponents acknowledge that a treaty prohibiting nuclear weapons will not lead nuclear weapon-possessing states to begin eliminating their nuclear arsenals immediately. However, many believe that a prohibition treaty would engender a normative shift in the political discourse about nuclear weapons, away from the current focus on reducing their numbers and roles, and instead on stigmatizing and delegitimizing them (Fihn 2017). By challenging the acceptability of nuclear-weapon possession and thus use, the proposed ban treaty would help to change international and public attitudes regarding policies and practices that are premised on an acceptance of nuclear weapons. In so doing, it would provide an impetus for advancing multilateral nuclear disarmament efforts and reinvigorating the political vision of a world free of nuclear weapons.

Arguments against a nuclear ban treaty

Opponents of the draft treaty to prohibit and eventually eliminate nuclear weapons tend to argue that the prohibition is unnecessary, unrealistic and potentially detrimental to multilateral nuclear disarmament efforts.

First, a number of states opposing a nuclear ban treaty, such as Canada and the Netherlands, have explicitly rejected the claim that the absence of a law or legal norm prohibiting the possession of nuclear weapons constitutes a legal

gap (UN General Assembly 2016b). They note that while the advisory opinion issued by the International Court of Justice in 1996 imposed strict limits on the permissible circumstances for the use of nuclear weapons, under current customary international law the possession and use of such weapons is not illegal. In the view of these states, the NPT continues to provide the necessary and sufficient legal basis for making progress towards disarmament.

Second, many opponents of a nuclear prohibition treaty have stressed that it is unrealistic as a nuclear disarmament measure as well as inadvisable, since a ban could have adverse consequences for international security. The NWS, and many nuclear-umbrella states, have complained that the proposed ban does not take account of the international security environment, the current geopolitical situation and the role of nuclear weapons in existing security doctrines. The USA has cautioned that efforts to delegitimize weapons will undermine the long-standing strategic stability that underpins the international security structure and regional security arrangements. In particular, the treaty could—and '[is] designed by ban advocates [to]'—'destroy the basis for US extended nuclear deterrence' on which many US allies and partners depend (United States Mission 2016, p. 2). In this context, some observers have argued that, intentionally or not, the ban treaty will create divisions between democratic allies and could weaken deterrence of non-democratic governments that will be less constrained by public opinion and the norms reflected in the treaty. This, in turn, would make actual nuclear disarmament less likely (Harries 2017).

Finally, opponents have expressed concern that the proposed nuclear ban treaty could create confusion regarding the implementation of the NPT and complicate fulfilment of the NPT's nuclear disarmament obligations. It has been suggested that states frustrated with the slow pace of multilateral disarmament under the NPT might seek to defect to the new ban treaty. Some observers have warned that the ban treaty could even worsen existing non-proliferation problems. For example, the creation of an alternative treaty structure governing nuclear weapons could lead to 'forum-shopping', in which a state might hope to dilute international condemnation over its non-compliance with the strict verification requirements of the existing NPT by participating in the nuclear weapons ban treaty (Mount and Nephew 2017).

Next steps

It is now widely expected that the negotiations on a treaty to prohibit nuclear weapons will be successfully concluded by the 7 July 2017 deadline established by the UN General Assembly. Treaty proponents acknowledge that this does not mark the end of the road to nuclear disarmament and that there is a need to consider key issues left unresolved by the draft treaty. In particular, some observers have noted while the draft treaty does outline verification provisions for states that will have disarmed before the treaty's entry into force, the draft treaty itself does not clearly describe a path to accession for nuclear weapon-possessing states after it enters into force. One

possible path for the accession of these states at some point in the future would follow the model of South Africa's accession to the NPT—they could first verifiably dismantle their nuclear arsenals and then sign the treaty (Sanders-Zakre 2017).

Other observers have argued that the ban treaty must ultimately be complemented by a verifiable, enforceable nuclear disarmament regime if the current divide between the nuclear weapon 'haves' and 'have nots' is to be bridged. The process of designing a prototype disarmament regime will have to address questions not considered in the ban treaty negotiations, such as which activities, materials and facilities useful for developing and producing nuclear weapons must be prohibited, and how dual-use activities will be managed and monitored. It will also have to identify the national and international transparency and verification protocols required by disarming states, and which international body or bodies would have responsibility for enforcing such a regime (Perkovich 2017).

Conclusions

The opening of negotiations on a treaty to prohibit and eventually eliminate nuclear weapons reflected the growing frustration of many non-nuclear weapon states over long-standing complaints that the nuclear weapon states were not taking seriously their obligation under Article VI of the NPT to pursue nuclear disarmament. The path to nuclear disarmament chosen by these states therefore was to focus on the humanitarian consequences of the use of nuclear weapons and start negotiations on a parallel treaty within the UN but outside the context of the NPT.

The relationship between the ban treaty and the NPT will have to be defined over time. As some critics have pointed out, the draft treaty text sets up a comprehensive parallel review mechanism, to which it assigns a mandate that at least partially overlaps with that of the NPT. This could in turn lead to a fragmentation of disarmament efforts. It could also distract attention from the consideration in international forums of important operational steps connected with reducing the risks and dangers posed by nuclear weapons. However, some supporters of the treaty have noted that if the ban comes to be seen as a legal instrument that supplements, rather than supplants, the NPT, it could thereby serve to confirm the nuclear disarmament obligation binding on the nuclear weapon states under the NPT.

There is general agreement that the draft treaty prohibiting nuclear weapons is unlikely to have any impact for the foreseeable future on the nuclear arsenals and modernization plans of the nine nuclear weapon-possessing states. None of these states participated in the nuclear ban treaty negotiations and none has indicated that it will join the treaty when it is opened for signature. However, while there is unlikely to be any major progress in the foreseeable future towards eliminating nuclear weapons, many proponents of the ban treaty highlight its long-term normative impact: namely, it serves to

de-legitimize and stigmatize nuclear weapons for future generations and thereby contributes to achieving the ultimate goal of nuclear disarmament.

References

- Acheson, R., *Banning Nuclear Weapons: Principles and Elements for a Legally Binding Instrument*, Women's International League for Peace and Freedom, Mar. 2017.
- Article 36, 'Banning nuclear weapons: responses to ten criticisms', Briefing Paper, Dec. 2013.
- Austrian Federal Ministry for Europe, Integration and Foreign Affairs, 'Vienna Conference on the Humanitarian Impact of Nuclear Weapons, Austrian Pledge', 9 Dec. 2014.
- Beenes, M., 'Institutional arrangements', Statement delivered at the UN Conference to Negotiate a Legally Binding Instrument to Prohibit Nuclear Weapons, Leading Towards Their Total Elimination, 31 Mar. 2017.
- Borrie, J. et al., *A Prohibition on Nuclear Weapons: A Guide to the Issues*, United Nations Institute for Disarmament Research and International Law and Policy Institute, Feb. 2016.
- Fihn, B., 'The logic of banning nuclear weapons', *Survival*, vol. 59, no. 1 (21 Jan. 2017) pp. 43–50.
- Harries, M., 'The real problem with a nuclear ban treaty', Nuclear Policy Program, Carnegie Endowment for International Peace, 15 Mar. 2017.
- Kmentt, A., 'The development of the international initiative on the humanitarian impact of nuclear weapons and its effect on the nuclear weapons debate', *International Review of the Red Cross* (2015), 97 (899), pp. 681–709.
- Kurtz, S., 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Joint Statement on the Humanitarian Consequences of Nuclear Weapons delivered by H.E. Sebastian Kurz Federal Minister for Europe, Integration and Foreign Affairs of Austria, 28 Apr. 2015.
- Lewis, P. et al., *The Humanitarian Impacts of Nuclear Weapons Initiative: The 'Big Tent' in Disarmament*, Research Paper, Royal Institute of International Affairs, Chatham House, 31 Mar. 2015.
- Meier, O., Cordes, S. and Suh, E., 'What participants in a nuclear weapons ban treaty (do not) want', *Bulletin of the Atomic Scientists*, 9 June 2017.
- Mount, A. and Nephew, R. 'A nuclear weapons ban should first do no harm to the NPT', *Bulletin of the Atomic Scientists*, 7 Mar. 2017.
- Nielsen, J., '2016 Open Ended Working Group: towards 2017 nuclear weapon ban negotiations?', Arms Control Wonk, 13 Sep. 2016.
- Nystuen, G., and Egeland, K., 'A "legal gap"? Nuclear weapons under international law', *Arms Control Today*, vol. 46, no. 3 (Mar. 2016).
- Perkovich, G., 'The nuclear ban treaty: what would follow?', Nuclear Policy Program, Carnegie Endowment for International Peace, 31 May 2017.

- Sanders–Zakre, A., ‘Ban talks advance with treaty draft’, *Arms Control Today*, vol. 47, no. 5 (June 2017).
- Sauer, T. and Pretorius, J., ‘Nuclear weapons and the humanitarian approach’, *Global Change, Peace and Security*, vol. 26, no. 3 (Sep. 2014), pp. 233–250.
- Statement by the Netherlands, United Nations Conference to negotiate a legally binding instrument to prohibit nuclear weapons, leading towards their total elimination, Agenda item 8 (b), 28 Mar. 2017.
- United Nations, General Assembly, First Committee, Resolution on ‘Taking forward multilateral nuclear disarmament negotiations’, A/C.1/71/L.41, 14 Oct. 2016.
- United Nations, General Assembly, First Committee, Resolution on ‘Taking forward multilateral nuclear disarmament negotiations’, A/C.1/70/L.13/Rev.1, 29 Oct. 2015.
- United Nations, General Assembly, Report of the Open-ended Working Group taking forward multilateral nuclear disarmament negotiations, A/71/371, 1 Sep. 2016a.
- United Nations, General Assembly, Open-ended Working Group on taking forward multilateral nuclear disarmament negotiations, ‘Reflections on the “Legal Gap for the elimination and prohibition of nuclear weapons”, Submitted by Canada, A/AC.286/WP.20, 12 Apr. 2016b.
- United Nations, General Assembly, Explanation of Vote, France, United Kingdom and the United States, delivered by France, 27 Oct. 2016c.
- United Nations, General Assembly, Open-ended Working Group on taking forward multilateral nuclear disarmament negotiations, ‘Addressing nuclear disarmament: recommendations from the perspective of nuclear-weapon-free zones’, Working paper submitted by submitted by Argentina, Brazil, Costa Rica, Ecuador, Guatemala, Indonesia, Malaysia, Mexico, Philippines and Zambia, A/AC.286/WP.34/Rev.1, 11 May 2016d.
- United Nations, General Assembly, Open-ended Working Group on taking forward multilateral nuclear disarmament negotiations, ‘A progressive approach to a world free of nuclear weapons: revisiting the building blocks paradigm’, Working paper submitted by Australia, Belgium, Bulgaria, Canada, Estonia, Finland, Germany, Hungary, Italy, Japan, Latvia, Lithuania, Netherlands, Poland, Portugal, Romania, Slovakia and Spain A/AC.286/WP.9, 24 Feb. 2016e.
- United Nations, General Assembly, Resolution adopted on 23 Dec. 2016, ‘Taking forward multilateral nuclear disarmament negotiations’, A/RES/71/258, 11 Jan. 2017.
- United Nations, Conference to Negotiate a Legally Binding Instrument to Prohibit Nuclear Weapons, Leading Towards Their Total Elimination, ‘Draft Convention on the Prohibition of Nuclear Weapons’, A/CONF.229/2017/CRP.1, 22 May 2017.

- United Nations, General Assembly, Resolution on ‘Humanitarian pledge for the prohibition and elimination of nuclear weapons’, A/RES/70/48, 11 Dec. 2015a.
- United Nations, General Assembly, Resolution adopted on 7 Dec. 2015, ‘Taking forward multilateral nuclear disarmament negotiations’, A/RES/70/33, 11 Dec. 2015b.
- United States Mission to the North Atlantic Treaty Organization, Non-Paper, ‘Defense impacts of potential United Nations General Assembly nuclear weapons ban treaty’, 17 Oct. 2016.
- 2012 NPT Review Conference Preparatory Committee, ‘Joint Statement on the humanitarian dimension of nuclear disarmament by Austria, Chile, Costa Rica, Denmark, Holy See, Egypt, Indonesia, Ireland, Malaysia, Mexico, New Zealand, Nigeria, Norway, Philippines, South Africa, Switzerland’, 2 May 2012.
- 2010 NPT Review Conference, Final Document, NPT/CONF.2010/50 (Vol. I), para. 80, 28 May 2010.

1.5. Main developments and discussions in the export control regimes

SIBYLLE BAUER

The four main multilateral export control regimes are the Australia Group (AG), the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG) and the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies (Wassenaar Arrangement, WA).²⁴ Complementary to these, the Zangger Committee is sometimes referred to as the fifth export control regime, but does not play the same role as the other four due to its limited mandate.²⁵ This section: (a) provides an overview of the mandate and functions of the export control regimes; (b) explains their structure and way of operating; (c) outlines current key discussions in the regimes; (d) provides an overview of membership issues; and (e) concludes with a brief assessment of the impact of the regimes.

Mandate and functions

The export control regimes are politically binding agreements that operate by consensus. They are implemented and enforced through national and regional laws. They are also legally binding on EU member states through the EU Dual-use Regulation, even though not all of them participate in all the regimes (see section 3.1). Two of the regimes draw their normative foundations and

²⁴ For more details see <<http://www.australiagroup.net>>; <<http://www.mtcr.info>>; <<http://www.nuclearsuppliersgroup.org>>; and <<http://www.wassenaar.org>>.

²⁵ See <<http://www.zanggercommittee.org>>. For a history of the Zangger Committee, see Schmidt (1994). For a somewhat more recent analysis, see Viski (2011).

thus legitimacy from international treaties (see table 1.5.1). The MTCR has no clear treaty counterpart but since 2004 has used UN Security Council Resolution 1540 as an international legal reference, as well as various sanctions that refer to the MTCR list. Since the MTCR seeks to control WMD-capable delivery systems, it can base itself indirectly on the above-mentioned treaties. The MTCR is complemented by The Hague Code of Conduct against Ballistic Missile Proliferation (HCOC), which originated in the MTCR in 2002 but has developed into a separate initiative comprising 138 countries.²⁶

The Wassenaar Arrangement also has no treaty counterpart but since the entry into force of the Arms Trade Treaty in December 2014, has been actively exploring and highlighting linkages to the treaty. The Zangger Committee has a concrete link to the NPT, since its objective is to interpret article III.2 on ‘equipment or material specially designed or prepared for the processing, use or production of special fissionable material’.

Table 1.5.1. The four multilateral export control regimes

	<i>Scope</i>	<i>Treaty reference</i>	<i>No. of participants</i>	<i>2016 plenary</i>	<i>Year established</i>
AG	Materials, technology and software that could contribute to chemical and biological weapons activities	CWC ²⁷ BTWC ²⁸ Geneva Protocol ²⁹	42	6–10 June, Paris	1985
MTCR	Unmanned aerial vehicles capable of delivering weapons of mass destruction	–	35	19–21 Oct., Busan	1987
NSG	Nuclear and nuclear-related materials, software and technology	NPT	48 ³⁰	23–24 June, Seoul	1974
WA	Conventional arms and dual-use goods and technologies	–	41	6–8 Dec., Vienna	1995

²⁶ Further information is available at the HCOC website, <<http://www.hcoc.at>>.

²⁷ 1993 Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction.

²⁸ 1972 Biological and Toxin Weapons Convention.

²⁹ 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare.

³⁰ Plus, the European Commission and the Chair of the Zangger Committee as permanent observers.

The main functions of the regimes are the annual updating of lists of controlled goods and technologies, agreeing on good practice documents and confidential information exchange on denials and procurement patterns—both in person at their meetings and through electronic means.

The first drafting and annual updating of control lists is *a*, and arguably *the*, key function of the regimes. Apart from the CWC (to some extent), the treaties do not contain lists of items. Unlike the list annexed to the CWC, the Australia Group covers both chemicals, and production equipment and technology, and moreover is annually updated while the CWC list has not changed since its adoption. In addition, the control lists agreed in these regimes have become an informal part of international law, since they are—albeit in vague terms—referred to in UN Security Council Resolution 1540,³¹ and have been included in country-specific UN Security Council Resolutions, for example regarding North Korea and Iran. The MTCR control list has been subject to major modifications over the years, such as on UAVs and in 2015 solid fuel rocket technology. The Flemish Peace Institute commissioned a study on the way in which the control lists are drawn up in the different regimes (Evans 2014). This sheds a rare, but still limited light on a rather secretive process.

During the cold war, the regimes were inward looking and rather secretive. Now, all of them have public websites and active outreach programmes for engaging with non-members and sometimes industry. Their main functions can be divided into those that are exclusive to participating states (information exchange and decision making on control lists) and those that are also relevant to (publication of control lists and good practices) or primarily relevant (outreach) to non-members. The WA has developed the most comprehensive package of best practice documents, most of which are relevant to trade controls more broadly and not only applicable to conventional arms and related dual-use items. The regimes also have an important norm-setting function as an ever-increasing number of non-members apply their control lists and standards.

The composition and agendas of the regimes reflect broader developments that have taken place since the end of the cold war and the events of 11 September 2001. Consequently, they have evolved from a bloc-oriented to a more inclusive and cooperative approach; and from a territorial to an end-use focus. This is particularly evident of the WA, which has its origins in the cold war instrument of technology denial, the Coordinating Committee on Multilateral Export Controls (COCOM) (Lipson 1999), but now includes the very states from the former Warsaw Pact that COCOM was directed against. Additional developments are the shift from a focus on state-run procurement programmes to a focus on non-state actors, which is reflected in references to terrorism in regime statements and documents; and from the initial exclusive focus on export control (still reflected in the name export control regime) to

³¹ In a footnote, Resolution 1540 defines related materials as ‘materials, equipment and technology covered by relevant multilateral treaties and arrangements, or included on national control lists, which could be used for the design, development, production or use of nuclear, chemical and biological weapons and their means of delivery’.

broader trade control, which encompasses brokering, transit and transshipment, although it is important to keep in mind that these associated activities are also connected to exporting, and not stand-alone activities.

Structure and way of operating

Each regime has a similar structure and way of operating. Government representatives with policy, licensing, enforcement, technical and intelligence backgrounds meet annually in different groupings within the regimes and report to the respective plenary, which decides on list changes and issues guidance and good practice documents. In the WA, additional working groups were created in 2016 to carry out an internal assessment of the its functioning. No groundbreaking decisions were taken as part of this assessment, which is carried out in four- to five-year cycles. At the 2015 Rotterdam meeting of the MTCR, a licensing and enforcement operational exercise was for the first time organized in the context of a plenary meeting—an innovation introduced by the Netherlands chair. He also actively pursued outreach missions to Kazakhstan, Oman, Israel, the United Arab Emirates and Chile, and increased transparency by publishing mission reports on the MTCR website. This has not been done by other regimes, which makes public information on outreach activities difficult to find.³²

Apart from the AG, which has been chaired by Australia since its establishment, the regimes' chairs rotate among participating states on an annual basis. The chairs of the various sub-bodies usually serve for a set number of years and are agreed by consensus. The WA is the only regime to have a permanent secretariat with a head and support staff. At the MTCR's 29th plenary meeting held in Rotterdam in October 2015, the Netherlands and Luxembourg jointly assumed the rotating chair (MTCR 2015). This new model makes it easier for smaller countries to participate in a chairing role.³³ The 2017–18 chairmanship will be held jointly by Iceland and Ireland, building on the model of joint chairmanships thus far not replicated by other regimes.

Issues under discussion

While discussions in the regimes are confidential, some conclusions on ongoing discussions can be drawn from the annual statements, membership decisions, and from new documents being adopted. Where it is not possible to agree on a joint statement, but instead only a chair's statement is issued, this gives an indication of tensions and disagreements within the regimes. The overarching tensions between Russia and Western countries have undoubtedly affected discussions and decisions in the regimes. The very fact that one of the

³² See the Chair's report on each mission, available on the MTCR website <<http://mtrc.info/category/news/>>.

³³ Piet de Klerk of the Netherlands held the chair on behalf of Luxemburg and the Netherlands until the 2016 plenary in South Korea. He had previously been NSG chair in 2010–11.

participating states in the WA is subject to sanctions on conventional arms makes this obvious.

More generally, brokering, transit and transshipment are increasingly being brought within the scope of controls and made the subject of expert group and plenary discussions. Issues that pose major challenges to industry, licensing and enforcement authorities, such as intangible transfers of technology and emerging technologies such as three-dimensional (3D) printing, have been the subject of recent discussions. For the AG, apart from 3D printing, synthetic biology and nanotechnology have been the focus of discussions (Wabenhorst 2015).

All four regimes work to engage with non-participating states and expand their membership. In 2016 a new category of 'AG adherents' was created on the AG website, which currently only lists Kazakhstan. Since the 2015 plenary in Rotterdam when the formal adherent status was created, the MTCR now formally has two adherents: Estonia and Latvia. The WA does not have comparable arrangements. The NSG does not have a formal category of adherents, but the NSG plenary routinely invites all nuclear supplier states to express 'their responsible approach to nuclear exports by adhering to the NSG Guidelines' (Nuclear Suppliers Group 2016).

In 2016, India succeeded in becoming the first new MTCR member since 2004 (Roy 2016) and continued its efforts to join the NSG in particular, but also the AG and the WA. India formally applied for MTCR membership in 2015 and invested considerable diplomatic effort to secure support, given that this requires a consensus decision (Bauer 2016; Bauer and Maletta 2017; Vishwanathan 2016). These efforts gained momentum in early June 2016, when India joined The Hague Code of Conduct against Ballistic Missile Proliferation (HCOC). Italy withdrew its objections to India's MTCR membership, which were reportedly linked to an unrelated matter (Bauer and Maletta 2017).

None of the other regimes admitted new members in 2016, although a number of applications are pending. This can be attributed to political rather than technical considerations and the mutual blocking of countries' preferred candidates. In spite of a number of pending applications, the MTCR's membership did not change between 2004 (when Bulgaria joined) and 2016 (when India joined).

NSG relationships with Pakistan and India

The NSG's relationship with India has been an issue from the very start, given that India's nuclear tests were the very reason for setting up the NSG. The USA and India signed an agreement on nuclear cooperation in 2005 (the Indian-US Civil Nuclear Cooperation Initiative or CNCI), which was endorsed by the US Congress and signed into law by President George W. Bush in 2006 (Ahlström 2006; Paul 2007). The agreement has been the subject of substantial controversy in the arms control community due to India's status as a non-member of the NPT (Meier 2006; Anthony et al. 2007; Pant 2007;

Perkovich 2010). The agreement obliges India to put most of its civilian nuclear facilities under IAEA Safeguards and to adhere to MTCR and NSG export control guidelines, while effectively ending the restrictions on nuclear cooperation and trade with India (Paul 2007). In 2008, this led to NSG members agreeing to exempt India from their 1992 decision, included in the Group's Guidelines, to prohibit nuclear cooperation with countries outside the NPT (Anthony and Bauer 2009). This led to accusations of undermining the NPT and the current nuclear non-proliferation architecture. The NSG guidelines were revised at the 2011 NSG plenary meeting. The revision imposed additional conditions on the transfer of sensitive nuclear fuel cycle materials, equipment and technologies for use in uranium enrichment and the reprocessing of spent fuel to states that do not already possess them (Anthony 2008; Goff 2008; Bauer 2012; Viski 2011, 2012).

Since 2011, a number of NSG members have continued to expand their civilian nuclear trade with India, and 14 countries now have agreements with India (Bauer 2017; see also previous SIPRI Yearbooks). In parallel, India has been actively pursuing membership of the NSG, and subsequently also the other regimes. While MTCR membership was achieved in 2016, there is still no consensus within the NSG on admitting India. A coalition of countries led by China blocked India's application for NSG membership at the 2016 plenary (Balachandran 2016; Bauer and Bromley 2015). The countries that reportedly voted against India's application were: Austria, Brazil, China, Ireland, New Zealand, Switzerland and Turkey (Shubhajit 2016). China reportedly insisted that any 'concessions' applied to India should also be extended to Pakistan. Countries opposed to India's membership are reluctant to set a precedent of allowing a non-NPT state to join the NSG, since NSG membership requires that a participating state should be a member in good standing with the NPT (Balachandran 2016).

At an extraordinary meeting in December 2016, NSG participants discussed 'nine general commitments'. These would require non-NPT states joining the NSG: to clearly separate current and future civilian nuclear facilities from non-civilian facilities; to declare to the IAEA all current and future civilian nuclear facilities and submit these to IAEA safeguards and an additional protocol; not to use items obtained directly or indirectly from an NSG member in unsafeguarded facilities or activities; not to conduct a nuclear explosive test; and to support the Comprehensive Nuclear-Test-Ban Treaty, but stopping short of requiring signature (Davenport 2017; Kimball 2016; Tirone 2016). No decisions have been reached on this subject as yet.

Another NSG controversy is China's supply of nuclear technology to Pakistan (Parameswaran 2015).³⁴ China argues that its nuclear cooperation with Pakistan is bilateral and covered by a general and generic agreement with Pakistan that was signed before China joined the NSG in 2004 and 'grandfathered' under the NSG's provisions. China also argues that its support

³⁴ See previous SIPRI Yearbooks: 2011, pp. 432–34; 2012, pp. 384–85; 2013, pp. 453–55; 2014, pp. 466–69; 2015, pp. 635–36; and 2015, pp. 764–65. For Indian perspectives on this issue, see e.g. *Indian Express* (2016a) and *Indian Express* (2016b).

with building new nuclear power plants in Pakistan is consistent with international law because the new plants will be under full IAEA safeguards and oversight (Bauer and Maletta 2017). In 2015, China officially confirmed for the first time that it is involved in the construction of six nuclear reactors in Pakistan. It had reported its involvement in the first two on joining the NSG in 2004, but argued subsequently that two additional reactors for Pakistan fell under the so-called grandfather clause which permits countries to respect commitments made prior to joining the NSG. It had not previously confirmed media reports about two further reactors.³⁵ With reference to the grandfather clause, the US Assistant Secretary of State stated that when China joined the NSG, ‘there was not agreement that that was an open-ended clause’ (Countryman 2015).

Hague Code of Conduct on Ballistic Missile Proliferation

The International Code of Conduct against Ballistic Missile Proliferation entered into force in November 2002.³⁶ The treaty, which is more commonly known as the Hague Code of Conduct, is a politically binding treaty that seeks to prevent the proliferation of ballistic missiles through restraints on the testing, production and export of ballistic missiles, but does not ban ballistic missiles or the trade in them. While the aims of the HCOC are similar to those of the MTCR, the latter is purely aimed at restraining exports. At the time of its entry into force, the HCOC had 93 signatories. This had grown to 138 by the end of 2016, including the USA, all the European Union member states, India, Japan, Pakistan, Russia and Turkey. However, several important countries with relevant technologies and/or missile programmes are not party to the HCOC and some, such as Egypt and Algeria, have indicated that they have no plans to be (Kasprzyk 2016).

The 15th Regular Meeting, in which 72 states parties participated, was held in June 2016. The HCOC was negotiated and agreed outside the UN framework but the General Assembly has adopted annual resolutions in support of HCOC and encouraging all UN member states to join, the most recent of which was in December 2016.

The HCOC is seldom mentioned in the academic literature. Most of the attention on the issue of missile proliferation and WMD is either on the MTCR or on various bilateral and multilateral efforts linked to the prevention of ballistic missile proliferation. The fact that the HCOC is rather vague probably makes it difficult to assess its impact.

The HCOC is a transparency instrument. Members must provide annual reports on their launches of ballistic missiles. These reports are confidential and not made publicly available, however, and the HCOC does not provide any public information on how many members report annually. The HCOC does not define ‘ballistic missile’. It might be assumed that, like the MTCR, the HCOC is only concerned with the larger types of missiles. On the other

³⁵ On earlier developments see Bauer et al. (2015), pp. 635–36.

³⁶ See the website of HCOC, <www.hcoc.at>.

hand, given that the concern with ballistic missiles is their possible use as delivery systems for WMD, it is arguable that even most smaller missiles should be included. In the case of chemical and biological loads, as recently witnessed in Syria, this would be down to very small sizes indeed. Nonetheless, much of the limited literature on the HCOC treats the treaty as only covering large systems (Kasprzyk 2016).

The HCOC was actively promoted by the EU as part of the 2003 EU Strategy against the Proliferation of Weapons of Mass Destruction (Council of the European Union 2015). To encourage more states to join the HCOC, various outreach, seminar and other activities were organized or funded by the EU, at the UN, around the annual HCOC meetings and at the regional level.

Conclusions

The export control regimes have attracted little interest from the academic community. Articles by researchers are mostly limited to analyses in specialist journals such as *Arms Control Today*, the *Non-proliferation Review* and the *1540 Compass*, as well as articles by Indian academics on India's efforts to join the regimes. Most analyses of the regimes are older than 10 years; and arguments such as Joyner (2006) and Beck (2000), that the export control regimes should be merged, are rarely found in current academic or policy discussions. Similarly, the 1980s discussions on the technology denial function of regimes have largely faded away in both academic and policy discussions. The Strategic Trade Review, established in 2015, has so far has not included any articles on the export control regimes.

The main impact of the regimes has been: (a) their harmonizing function regarding control lists and some degree of consensus regarding the key elements of a functioning export control system, such as the catch-all; (b) a norm setting function beyond the membership of the regimes, as evident in the geographically broad adoption of control lists from Ukraine to Malaysia and use of the good practice guidance, although that is not so easy to measure; and (c) the practical sharing of information for regime members, since these are the only international forums for licensing officials (and to a certain extent customs officials) to meet their counterparts regularly. Regime practices and tools are commonly referred to during outreach and capacity-building seminars.

Of all the regimes, the NSG has been analysed more than the others and received more coverage in the newspapers, especially in relation to India. In a recent piece, Hobbs and Young (2015) discuss the shortcomings of the NSG and propose supplementing the export control regimes with 'punishments, incentives, and new normative standards' to enhance industry compliance. The underlying question about the NSG's mission, which was the subject of a 2011 Carnegie seminar on the future of the regime (Hibbs 2011), still has not been resolved. It has been formulated as follows by Carnegie's Hibbs and Dalton: 'Should it be a universal export-control organization incorporating all countries that have nuclear capabilities and materials? Or should it instead be

a group of “like-minded” states dedicated to upholding nearly-universal global nonproliferation norms and principles?” (Hibbs and Dalton 2012).

It should also be pointed out that in addition to the obvious relevance of missile and nuclear control regimes, after nearly 30 years with no uses of chemical weapons, the role of the AG has been highlighted by the alleged and actual use of chemical weapons in Iraq and Syria. Concern has also been expressed about chemical and biological weapon-related activities in North Korea (Australia Group 2016).

The MTCR guidelines are based on a major distinction between ballistic and cruise missiles capable of carrying a 500 kg payload over a range of at least 300 km. Whether these thresholds should remain primary criteria for export decisions has been subject to discussion in expert circles, but not in the public domain.³⁷ The MTCR’s 30th anniversary plenary in October 2017 will be an occasion for reflections on the regime’s purpose and possible adjustments.

The WA has promoted greater transparency among states through information sharing, enhanced harmonization of control lists, and agreement on good practices regarding brokering and so on. Whether it has indeed led to greater responsibility regarding transfers of conventional arms and related dual-use goods and technologies, and more specifically it seeks to prevent ‘destabilising accumulations’ of such items and their acquisition by terrorists according to its stated purpose, is difficult to assess, but would be worthy of a systematic analysis (Wassenaar Arrangement 2011).

References

- Ahlström, C., ‘Legal aspects of the Indian-US Civil Nuclear Cooperation Initiative’, *SIPRI Yearbook 2006: Armament, Disarmament and International Security* (Oxford University Press: Oxford 2006), pp. 669–85
- Anthony, I., Ahlström, C. and Fedchenko, V., *Reforming Nuclear Export Controls: The Future of the Nuclear Suppliers Group*, SIPRI Research Report, no. 22 (Oxford University Press: Oxford, 2007).
- Anthony, I., ‘Civilian nuclear cooperation: an Indian exemption?’, *European Security Review*, no. 40 (Sep. 2008).
- Anthony, I. and Bauer, S., ‘Controls on security-related transfers’, *SIPRI Yearbook 2009* (Oxford University Press: Oxford, 2009), pp. 467–71.
- Australia Group, ‘Statement by the Chair of the 2016 Australia Group Plenary’, Press release, 10 June 2016.
- Balachandran, M., ‘China has foiled India’s bid to join the Nuclear Suppliers Group’, *Quartz India*, 24 June 2016.
- Bauer, S., ‘Developments in the Nuclear Suppliers Group’, *SIPRI Yearbook 2012* (Oxford University Press: Oxford 2012).

³⁷ For example at the 2017 Consultative Meeting of the EU Non-proliferation Consortium, Brussels, 14 June 2017.

- Bauer, S. and Bromley, M., 'The export control regimes', *SIPRI Yearbook 2015* (Oxford University Press: Oxford 2012), pp. 630–40.
- Bauer, S. et al., 'Dual-use and arms trade controls', *SIPRI Yearbook 2015* (Oxford University Press: Oxford 2015), pp. 635–36.
- Bauer, S., 'The export control regimes', *SIPRI Yearbook 2016* (Oxford University Press: Oxford 2016), pp. 758–67.
- Bauer, S. and Maletta, G., 'The export control regimes', *SIPRI Yearbook 2017* (Oxford University Press: Oxford, 2017, forthcoming).
- Beck, M., 'Reforming the multilateral export control regimes', *Nonproliferation Review*, vol. 7, no. 2 (Summer 2000), pp. 91–103.
- Council of the European Union, Decision 2014/913/CFSP, 15 Dec. 2015.
- Countryman, T. M., Assistant Secretary, US Department of State, 'The President's submission to the Congress of the US-China Agreement for Peaceful Nuclear Cooperation (123 Agreement)', Testimony before the Senate Foreign Relations Committee, 12 May 2015.
- Davenport, K., 'Export group mulls membership terms', *Arms Control Today*, vol. 47, no. 1 (Jan./Feb. 2017).
- Evans, S. A. W., 'Revising export control lists', Flemish Peace Institute, Mar. 2014.
- Goff, P., 'Nuclear Suppliers Group approves Indian exemption', New Zealand Government, News release, 7 Sep. 2008.
- Hibbs, M., *The Future of the Nuclear Suppliers Group*, Carnegie Endowment for international Peace, 2011.
- Hibbs, M. and Dalton, T., 'Nuclear Suppliers Group: don't rush new membership', Carnegie Endowment for International Peace, 14 June 2012.
- Hobbs, C. and Young, E., 'Calling all actors: A holistic framework for tackling supply-side proliferation', *International Journal of Nuclear Security*, vol. 1, no. 1 (Sep. 2015).
- Indian Express*, 'China continues to sell nuclear reactors to Pakistan, says report', 1 Aug. 2016a.
- Indian Express*, 'China says its nuclear cooperation with Pakistan under NSG norms', 4 Aug. 2016b.
- Kasprzyk, N. et al., 'The Hague Code of Conduct against Ballistic Missile Proliferation: Relevance to African states', Policy Brief, ISS, Sep. 2016.
- Joyner, D. H. (ed.), *Non-proliferation Export Controls: Origins, Challenges and Proposals for Strengthening* (Aldershot: Ashgate, 2006).
- Kimball, D. G., 'NSG membership proposal would undermine nonproliferation', *Arms Control Now*, 21 Dec. 2016.
- Lipson, M., 'The reincarnation of CoCom: Explaining post-cold war export controls' *Nonproliferation Review*, vol. 6, no. 2 (Mar. 1999), pp. 33–51.
- Meier, O., 'The US-India nuclear deal: the end of universal non-proliferation efforts?', *Internationale Politik Und Gesellschaft*, no. 4 (Apr. 2006), pp. 28–43.

- Missile Technology Control Regime, Public Statement from the Plenary Meeting of the Missile Technology Control Regime (MTCR), Rotterdam, 9 Oct. 2015.
- MTCR, 'Chairs' statement on the accession of the Republic of India to the Missile Technology Control Regime (MTCR)', 27 June 2016.
- NSG, 'Public statement: Plenary Meeting of the Nuclear Suppliers Group', Seoul, 23–24 June 2016.
- Pant, H. V., 'The US-India nuclear deal: the beginning of a beautiful relationship?', *Cambridge Review of International Affairs*, vol. 20, no. 3 (Sep. 2007), pp. 455–72.
- Parameswaran, P., 'China confirms Pakistan nuclear projects', *The Diplomat*, 10 Feb. 2015
- Paul, T. V., 'The US-India nuclear accord: implications for the nonproliferation regime', *International Journal*, vol. 62, no. 4 (Fall 2007), pp. 845–61.
- Perkovich, G., 'Global implications of the US-India deal', *Daedalus*, vol. 139, no. 1 (Winter 2010), pp. 20–31.
- Schmidt, F., 'The Zangger Committee: its history and future role', *Nonproliferation Review* (Fall 1994), pp. 38–44.
- Roy, S., 'After NSG upset, India set to become member of MTCR', *Indian Express*, 27 June 2016.
- Shubhajit, R., 'PM Modi opens a window, NSG doors still shut; 7 nations hold out at Seoul', *Indian Express*, 24 June 2016.
- Strategic Trade Review*, <www.str.ulg.ac.be>.
- Tirone, J., 'India stokes nuclear weapon concern in bid for atomic cartel', Bloomberg, 20 Dec. 2016.
- Vishwanathan, A., 'India's entry into the NSG: a long-winded process', *Indian Foreign Affairs Journal*, vol. 11, no. 3 (July 2016), pp. 217–23.
- Viski, A., 'International Nuclear Law and Nuclear Export Controls', *International Journal of Nuclear Law*, vol. 3, no. 3 (2011), pp. 216–29.
- Viski, A., *The Revised Nuclear Suppliers Group Guidelines: A European Union Perspective*, Non-Proliferation Papers, no. 15 (SIPRI: Stockholm, May 2012).
- Wabenhorst, A., 'Preventing CW and BW proliferation: the Australia Group', Axel Wabenhorst representing the Australia Group Chair, Department of Foreign Affairs and Trade, Australia, Presentation to the 22nd Asian Export Control seminar, Tokyo, 17–19 Feb. 2015.
- Wassenaar Arrangement, 'Guidelines and procedures, including the initial elements', Dec. 2011.

1.6. The Proliferation Security Initiative and UN Security Council Resolution 1540

SIBYLLE BAUER AND KOLJA BROCKMANN

Introduction

This subsection discusses the Proliferation Security Initiative (PSI) and United Nations Security Council Resolution 1540. Both are international non-proliferation instruments, but they are distinctly different to the non-proliferation regimes and the multilateral export control regimes. Although quite different in both scope and legal status, the two instruments added novel elements to the international approach to non-proliferation and export control at the time of their introduction in 2003 and 2004. This subsection examines the PSI and Resolution 1540 by subsequently discussing their respective key elements, the main developments in the instruments since their introduction and the resulting academic, legal and political debates.

The PSI and Resolution 1540 were introduced at the initiative of the US Government in the aftermath of the terrorist attacks on the USA of 11 September 2001. The PSI can be characterized as an activity or platform for cooperation and seeks to address trafficking and transshipment, which represent a weakness in the international export control system and a commonly used proliferation loophole, by seeking to deter illicit trade and providing common standards for interdicting nuclear, biological or chemical (NBC) weapon relevant cargo. UN Security Council Resolution 1540 is a legal instrument and was, at least initially, intended to prevent non-state actors from acquiring and using weapons of mass destruction, thereby explicitly expanding the range of targeted actors beyond states. The public revelation of the procurement network facilitated by A. Q. Khan, initially to supply the Pakistan nuclear weapons programme and later to provide nuclear and missile technology to various countries, was a catalysing factor in the introduction of these instruments in 2003 and 2004 (Fitzpatrick 2007).

The Proliferation Security Initiative

Key elements of the Proliferation Security Initiative

In a speech in Poland in May 2003 the then President of the United States, George W. Bush, announced the creation of the PSI, a new instrument in the fight against proliferation that would provide agreement between states to ‘search planes and ships carrying suspect cargo and to seize illegal weapons or missile technologies’ (White House 2003). The PSI was the first international framework focused on the interdiction, or interception, of shipments of proliferation-relevant cargo, complementing the efforts of the four export control regimes to prevent states and non-state actors from developing or otherwise obtaining NBC weapons (Anthony 2004). At the time of its

inception, the PSI envisaged a system of cooperation on the disruption of procurement networks supporting states with NBC programmes by interdicting and seizing cargoes of proliferation concern during their transport by sea, air or land, and by introducing sanctions against countries that supply goods and technologies for such programmes (Dunne 2013; Winner 2005). The PSI was designed as a multilateral forum for law enforcement cooperation and has often been described as ‘an activity, not an organization’ (US Department of State Archive 2006; Durkalec 2012; Kile 2014). The PSI does not have an institutional framework or a secretariat, but its activities are coordinated by an Operational Experts Group (OEG). The OEG includes delegates from those governments of the 21 PSI endorsing states that are ‘described as the “most active” and “strongly engaged”’ PSI participants (Dunne 2013), although Dunne has argued that not all the members of the OEG satisfy these criteria (Dunne 2013). Experts from academia, think tanks, international organizations and industry are regularly invited to contribute to their meetings. As of June 2017, the PSI had been endorsed by 105 countries (US Department of State, n.d.).

In the central Statement of Interdiction Principles (PSI 2003), participants agree to ‘undertake effective measures, either alone or in concert with other states, for interdicting the transfer or transport of WMD, their delivery systems, and related materials to and from states and non-state actors of proliferation concern’ (PSI 2003). To this end, participants agree to implement a number of specific actions to improve cooperation on interdiction efforts in their respective jurisdictions and/or territories, increase rapid information sharing, and strengthen relevant national legal authorities and international legal frameworks. The interdiction principles seek to enable more cooperative actions by alligning and improving common standards. Durkalec notes that in the light of the voluntary nature of the agreement, a number of participating states have chosen not to adopt these proposed standards in their own national legislation (Durkalec 2012). The PSI does not provide for a common interpretation of the relevant legal norms or international law, and their specific application to different actions (Joyner 2005). When PSI principles were explicitly included in certain country-specific sanctions in the form of UN Security Council resolutions (e.g. UN Security Council Resolution 1929 on Iran and UN Security Council Resolution 1874 on North Korea), this provided a clear international legal basis for those types of activities. The extent to which international law, such as UN sanctions, is in turn implemented nationally, through the allocation of institutional competence and standard operating procedures, presents another complication that can limit practical application (Dunne 2013).

Main developments and the resulting academic, legal and political debate

Since 2003, the PSI has helped to strengthen cooperation on the interdiction of proliferation-relevant cargoes and preventing illicit trafficking and transshipment (Bauer et al. 2011). The PSI has introduced elements of a

counterproliferation strategy to complement ‘an effective licensing and export control system’, such as disruption and dissuasion through the threat of seizure of goods, interception of illicit cargoes, increased information sharing, capacity building and multilateral interdiction training exercises (Bauer et al. 2011). However, adaptation by traffickers and the states engaged in NBC weapon and missile programmes through adjustment of trafficking routes and transshipment points poses a number of challenges for the future development of the PSI. For example, with regard to participation, many of the large emerging economies, such as China and Brazil, have so far chosen not to endorse or participate in the PSI, calling its reach into question (Lewis and Maxon 2010). China is one of the major PSI sceptics, especially with regard to the decisive leadership that the USA has exerted over the Initiative, shaping its development (Onderco and van Hooft 2016). In addition, Chinese vessels and cargo have been the target of PSI and other counterproliferation measures in the past. The 1993 ‘Yinhe’ incident, in which the USA pressured states to search a Chinese vessel but found no illicit cargo, sparked questions over compensation for ‘false’ interdictions well before the formation of the PSI that remain unresolved (Holmes and Winner 2007). This incident has been a key factor in China’s scepticism towards interdiction, and in particular the PSI.

In 2009, the then US President, Barack Obama, called on states to turn the PSI into a durable international institution and established the USA as the PSI Focal Point, providing support, information and coordination to PSI participant activities (White House Archives 2009; Durkalec 2012). One key development within the PSI has been a shift in the focus of activities from mainly establishing military interdiction and enforcement capabilities to involving more relevant actors, such as customs, export control and port authorities (Bauer et al. 2011). Initially, the model interdiction scenario was a forced interception on the high seas, executed by the military, although the vast majority of PSI interdictions take place in ports and thus in reality rely mostly on customs assets (Dunne 2013). While this has been reflected in the types and focus of later exercises, a certain misperception of the PSI as an instrument for interdictions on the high seas persists.

The main debate that has persisted since the inception of the PSI is on the legality of the actions that the PSI prescribes under international law and maritime law, especially when conducted in international waters or airspace (Durkalec 2012). Since then, developments in maritime law and a number of UN resolutions explicitly authorizing interdiction efforts targeting illegal nuclear weapons programmes have provided additional legal references to support the mission of the PSI (Koch 2012; Holmes and Winner 2007). Despite these developments, whether the PSI and related measures could in the future establish an international norm that would generally allow for such interdiction or interception measures remains controversial.

At the 10th anniversary summit in 2013, participants expressed their intention to hold more regular and more robust interdiction exercises, expand capabilities and expertise on interception practices, engage in negotiations on ‘binding international treaties to criminalize international WMD-related

trafficking by commercial ships and aircraft' and conduct further outreach to increase participation in and the impact of the PSI (US Department of State 2013; Kile 2014). Early evidence of the implementation of these measures was provided by the new annually rotating interception exercises in the Asia-Pacific region, with US participation (US Department of State 2013). However, while it is clear that the PSI has enhanced enforcement cooperation and added tools to the counterproliferation toolbox, properly assessing the effectiveness and impact of the PSI has proved difficult, largely due to operational secrecy and the fact that participating states do not disclose detailed information or data on PSI operations (Oswald 2013). There is thus no clear picture of the extent of the cooperation that takes place within the framework of the Initiative, which invites criticism. For example, members of the US Congress criticized declining numbers of interception efforts in the run-up to the summit in 2013 (Dunne 2013). By contrast, some scholars and supporters of the PSI have argued that the effectiveness of the PSI cannot be evaluated merely on the basis of the number of interceptions (Davis 2013).

The informal, non-binding nature of the PSI has allowed it to be used as a highly flexible tool for combating proliferation (Lewis and Maxon 2010). However, this characteristic, legal concerns and the perceived dominance of the USA have been the major reasons for it falling short of universalization and thus still failing to cover large portions of international sea-and airborne transport.

United Nations Security Council Resolution 1540³⁸

Key elements of United Nations Security Council Resolution 1540

UN Security Council Resolution 1540 was also adopted at the initiative of the George W. Bush Administration. Bush called on the Security Council to agree on a binding resolution to prevent the proliferation of weapons of mass destruction in a speech in September 2003 (United Nations 2003). After several months of negotiations, Russia submitted the initial draft and following a number of amendments, the Resolution was adopted under Chapter VII of the UN Charter on 28 April 2004 (Bosch and van Ham 2007). The main reason for adding another instrument to the international non-proliferation effort, only shortly after the inception of the PSI, was the growing concern about the possibility of the acquisition by non-state actors, particularly terrorists, of NBC weapons technologies. The likelihood or risk of such acquisitions has been assessed in different ways on the basis of a limited number of case studies, which often vastly over- or underestimate such risks (Zanders 1999; Koblentz 2011). The use of NBC weapons by non-state actors occurred in Japan in 1995 when members of the apocalyptic religious sect Aum Shinrikyo released sarin gas in the Tokyo Subway (Kaplan 2000); and also in Syria and Iraq (see section 1.6).

³⁸ This section was drafted by SIPRI Bauer and draws on an earlier, unpublished paper.

The key provisions of Resolution 1540 require states to: (a) 'refrain from providing any form of support to non-state actors' that engage in activities related to the proliferation of NBC weapons and their delivery systems; (b) adopt and enforce legislation prohibiting non-state actors from engaging in NBC proliferation activities; and (c) 'take and enforce effective measures to establish domestic controls to prevent the proliferation of nuclear, chemical, or biological weapons and their means of delivery, including by establishing appropriate controls over related materials'. These are specified as accounting, NBC security, physical protection, border and law enforcement controls, and controls on export, transit, trans-shipment, financing and transport. While the resolution identifies many elements that are crucial to an effective control system, it does not elaborate in detail on how they are to be implemented, leaving this up to the states' interpretation. It does however urge states to engage in cooperation and mutual assistance to support the universal implementation of the above-mentioned provisions.

The resolution sets up a subsidiary of the Security Council, the 1540 Committee, which is composed of the 15 members of the Security Council and supported by a Group of Experts. Unlike the Sanctions Committees, it does not have an enforcement mandate. Instead, the resolution limits its task to reporting to the Security Council on its examination of the implementation of the resolution, based on reports to be submitted by member states within six months of adoption. This is intended to enable the Security Council to monitor implementation of the resolution.

Main developments and the resulting academic, legal and political debates

The traditional approaches to non-proliferation and arms control were mostly designed to address states, and it has proved difficult to adapt existing treaty regimes to accommodate new challenges (Anthony 2005). Resolution 1540 created an obligation on states to develop control lists for 'materials, equipment and technology, covered by relevant multilateral treaties or arrangements' (United Nations Security Council 2004). The informal export control regimes had previously accumulated such lists in the absence of an international legal instrument. The resolution declared the proliferation of NBC weapons and their delivery systems to be a threat to international peace and security, thereby enabling it to be adopted under Chapter VII as a binding obligation on all states. The inclusion and definition of delivery systems for NBC weapons is especially significant with regard to the Missile Technology Control Regime (MTCR), which until that time was lacking an international legal reference for its mission and has since been recalling the obligations under Resolution 1540 when legitimizing its activities. The resolution also created the first institutional framework that cuts across NBC weapons and their delivery systems, thereby obliging states to introduce appropriate trade controls on dual-use goods.

The 1540 Committee has cooperated with participating states, the European Union and other relevant regional organizations as well as the United Nations

Office for Disarmament Affairs (UNODA) to assist with the implementation of Resolution 1540, especially in the form of ‘voluntary national implementation and capacity building plans’ and ‘regionally coordinated approaches’ (Grip 2012; UNODA website). The tasks of the Group of Experts have evolved and been cautiously expanded over the years. They now comprise: (a) identification, verification and reporting of measures adopted by states in fulfilment of their 1540 obligations; and (b) the promotion of states’ obligations through attendance of, and participation in, 1540-relevant events. Industry is slowly emerging as a more active 1540 actor. Governments around the world increasingly recognize that partnership with industry is a prerequisite for preventing—or at least increasing barriers to—the proliferation of NBC weapons and their delivery systems. While a very broad range of legal and political measures can be said to be relevant to Resolution 1540, and thus be considered a contribution to 1540 implementation, this does not establish a causal link. For example, a broad spectrum of CWC implementation measures that were the result of OPCW activities have been listed under 1540 implementation in reports of the 1540 Committee in the context of the 2016 Comprehensive Review (United Nations Security Council 2016).

In the academic sphere, and especially among legal practitioners, Resolution 1540 has sparked controversy due to the implications of the use of a binding Security Council Resolution under Chapter VII to effectively introduce international legislation (Ahlström 2007). Resolution 1540 was instrumental in the introduction of dual-use export controls in many countries. The original controversy over the role of the Security Council as a legislator, however, has faded from international discussions. Instead, Resolution 1540 has become the legitimizing factor in strategic trade controls/dual-use export, transit, transshipment and brokering controls, regardless of whether for non-state actors or state-run WMD programmes. This is the case even for prominent representatives of the Non-Aligned Movement, such as Malaysia. This development is also reflected in the way in which new strategic trade control legislation is presented to industry and other stakeholders, with frequent reference to the 1540 rationale.³⁹ Resolution 1540 has thus moved beyond its original purpose and wording.

Conclusions

The PSI established common standards in form of the Interdiction Principles and provided a forum for cooperation on capacity building and exercising, especially at the crucial intersection of customs, military, intelligence and enforcement capabilities. The PSI has only been able to establish a limited reach due to the strong opposition of some major economies, such as China, and the adoption and implementation of the common standards still varies

³⁹ This observation is based on the capacity-building seminars the author attended since 2005 in South East Asia and Europe, and her capacity as regional coordinator South East Asia for the EU Programme on Cooperation of Dual-use Items, later re-named the EU P2P programme.

considerably among the participants. The development from military interdiction exercising to a more practical and comprehensive cooperation has increased the benefits of PSI activities, however, secrecy and a lack of public information on actual PSI interdictions limit the ability to assess the impact and effectiveness of the PSI.

Resolution 1540 introduced a legal requirement for all states to have an effective export control system and a number of specific additional measures in place in order to prevent the proliferation of NBC weapons and their delivery systems to both states and non-state actors. The Resolution was innovative both in cutting across NBC weapon types and in introducing an international legal requirement in the non-proliferation field under Chapter VII. Mainly due to this unique quality it has become a widely used legal reference in the establishment of new export control standards, monitoring, outreach and assistance programmes. The results of Resolution 1540 have transcended the original purpose and wording of the Resolution. It has provided a rationale for increased engagement of relevant actors and has legitimized expanding the scope of new strategic trade control legislation.

References

- Ahlström, C., ‘United Nations Security Council Resolution 1540: non-proliferation by means of international legislation’, *SIPRI Yearbook 2007: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2007), pp. 460–73.
- Anthony, I., ‘Arms control and non-proliferation: the role of international organizations’, *SIPRI Yearbook 2005* (Oxford University Press: Oxford, 2005), pp. 529–47.
- Anthony, I., ‘Major trends in arms control and non-proliferation’, *SIPRI Yearbook 2004* (Oxford University Press: Oxford, 2004), pp. 575–601.
- Bauer, S., Dunne, A. and Mičić, I., ‘Strategic trade controls: countering the proliferation of weapons of mass destruction’, *SIPRI Yearbook 2011* (Oxford University Press: Oxford, 2011), pp. 431–45.
- Bosch, O. and van Ham, P. (eds), *Global Non-Proliferation and Counter-Terrorism: The Impact of UNSCR 1540* (Brookings Institution Press: Baltimore, 2007).
- Davis, I., ‘The Proliferation Security Initiative: Effective multilateralism or “smoke and mirrors”?’ eds C. Daase and O. Meier, *Arms Control in the 21st Century: Between Coercion and Cooperation* (New York: Routledge, 2013).
- Dunne, A., *The Proliferation Security Initiative: Legal Considerations and Operational Realities*, SIPRI Policy Paper no. 36 (SIPRI: Stockholm, May 2013).
- Durkalec, J., ‘The Proliferation Security Initiative: Evolution and future prospects’, *Non-Proliferation Papers*, no. 16 (EU Non-Proliferation Consortium, June 2012), <<https://www.nonproliferation.eu/web/documents/nonproliferationpapers/jacekdurkalec4fcc7fd95cfff.pdf>>.

- Fitzpatrick, M. (ed.), *Nuclear Black Markets: Pakistan, A. Q. Khan and the rise of Proliferation Networks, a Net Assessment* (International Institute for Strategic Studies: London, 2007).
- Grip, L., 'The role of the European Union in delivering Resolution 1540 implementation assistance', *Non-Proliferation Papers*, no. 22 (EU Non-Proliferation Consortium: Oct. 2012).
- Holmes, J. R. and Winner, A. C., 'The Proliferation Security initiative: A global prohibition regime in the making?', *Defense & Security Analysis*, vol. 23, no. 3 (Sep. 2007), pp. 281–95.
- Joyner, D. H., 'The Proliferation Security Initiative: Nonproliferation, counterproliferation, and international law', *Yale Journal of International Law*, vol. 30 (2005), pp. 507–48.
- Kaplan, D. E., 'Aum Shinrikyo (1995)', ed. J. B. Tucker, *Toxic Terror: Assessing Terrorist Use of Chemical and Biological Weapons* (MIT Press: Cambridge and London, 2000), pp. 207–26.
- Kile, S. N., 'Developments related to multilateral treaties and initiatives on nuclear arms control and non-proliferation', *SIPRI Yearbook 2014* (Oxford University Press: Oxford, 2014).
- Koblentz, G. D., 'Predicting peril or the peril of prediction? Assessing the risk of CBRN terrorism', *Terrorism and Political Violence*, vol. 23, no. 4 (Sep. 2011), pp. 501–20.
- Koch, S. J., 'Proliferation Security Initiative: Origins and evolution', Center for the Study of Weapons of Mass Destruction Occasional Paper, no. 9 (June 2012).
- Lewis, J. and Maxon, P., 'The Proliferation Security Initiative', *Disarmament Forum*, vol. 2. (2010), pp. 35–43.
- Onderco, M. and van Hooft, P., 'Why is the Proliferation Security Initiative a problematic solution?', *Chinese Journal of International Politics*, vol. 9, no. 1 (Jan. 2016), pp. 81–108.
- Oswald, R., 'US-led WMD interdiction program could do more, GOP lawmakers say', Nuclear Threat Initiative, Global Security Newswire, 14 Mar. 2013.
- Proliferation Security Initiative, 'Statement of Interdiction Principles', 4 Sep. 2003, <<http://www.mofa.go.jp/policy/un/disarmament/arms/psi/state.pdf>>.
- United Nations, General Assembly, 'Address by Mr George W. Bush, President of the United States of America', A/58/PV.7, 23 Sep. 2003.
- United Nations Office for Disarmament Affairs, 'UN Security Council Resolution 1540 (2004)', <<https://www.un.org/disarmament/wmd/sc1540/>>.
- United Nations, Security Council, 'Report of the Security Council Committee established pursuant to resolution 1540 (2004)', S/2016/1038, 9 Dec. 2016.
- United Nations Security Council Resolution 1540, 28 Apr. 2004.
- United Nations Security Council Resolution 1874, 12 June 2009.

- United Nations Security Council Resolution 1929, 9 June 2010.
- US Department of State, 'Proliferation Security Initiative', accessed 1 July 2017, <<http://www.state.gov/t/isn/c10390.htm>>.
- US Department of State, 'Proliferation Security Initiative 10th anniversary high-level political meeting outcomes', 28 May 2013.
- US Department of State Archive, 'Broadening and deepening our Proliferation Security Initiative cooperation', Robert G. Joseph, Under Secretary for Arms Control and International Security, Warsaw, Poland, 23 June 2006.
- White House Archives, 'Remarks by President Barak Obama, Hradcany Square, Prague, Czech Republic', 5 Apr. 2009.
- White House Archives, 'Remarks by the President to the people of Poland', President George W. Bush, Krakow, Poland, 31 May 2003.
- Winner, A. C., 'The Proliferation Security Initiative: The new face of interdiction', *Washington Quarterly*, vol. 28, no. 2 (Spring 2005), pp. 129–43.
- Zanders, J. P., 'Assessing the risk of chemical and biological weapons proliferation to terrorists', *Nonproliferation Review*, vol. 6, no. 4 (Fall 1999), pp.17–34.

1.7. Actual use of chemical weapons in Syria

JOHN HART, MAAIKE VERBRUGGEN AND GIOVANNA MALETTA

This section addresses the alleged use of chemical weapons in Syria, with a focus on the investigations and reactions from the international community. It first summarizes the events leading to the 2013 Syrian accession to the 1993 Chemical Weapons Convention (CWC) and the work of the various international missions under the auspices of the Organisation for the Prohibition of Chemical Weapons (OPCW) and the UN. Investigation findings and the corresponding debates they triggered within the international community are summarized. The second part of this section contextualizes these events, with a focus on how the debate has been conducted and the broader implications for chemical disarmament and arms control.

A chronology of the investigations of alleged CW use in Syria

Allegations that Syria possessed a chemical weapons programme have been made in various 'status of proliferation reports' and similar documents (mainly from national intelligence agencies and Jane's) since at least the 1980s. The allegations have centred on sulphur mustard, sarin and VX (Gwertzman 1986; Lesham 1997). This understanding was partly based on the fact that personal and institutional relationships existed between Syrian and Soviet officials, including at least one former commander of the Shikhany chemical weapons test facility (*Jane's Defence Weekly* 1988). In 2009 Syrian

President Bashar al-Assad suggested that Syria had developed chemical weapons (Assad 2009). Reports began to circulate with increasing frequency in 2012 that chemical weapons were being used in the Syrian Civil War by both the government and opposition forces. On 23 July 2012 a Syrian Ministry of Foreign Affairs spokesman confirmed during a press conference that Syria possessed chemical weapons but stated that such weapons would not be used against civilians and would be used only against external aggressors (Hart 2013). The allegations on chemical warfare intensified the debate whether the international community should intervene militarily in Syria. This was considered seriously by the USA, France and the UK in 2012 and 2013 (Nikitin, Kerr and Feickert 2013). In August 2012, President Barack Obama stated that the use of chemical weapons in Syria constituted a 'red line' for the USA, strongly suggesting military intervention (Kessler 2013).

On 20 March 2013 UN Secretary-General Ban Ki-moon received a request from the Syrian Government to investigate a case of alleged chemical weapon use on 19 March at Khan al-Assal, which the government maintained was conducted by terrorists.⁴⁰ On 21 March the UN Secretary-General accepted this request on the basis of a longstanding investigative mechanism that, in its current form, dates to 1987 and permits him to initiate investigations of alleged chemical and/or biological weapon use on his own authority in the case of suspected violations of the 1925 Geneva Protocol for the Prohibition of the use in war of asphyxiating, poisonous or other gases, and of bacteriological methods of warfare. Syria acceded to the protocol in 1968 (UNGA 1987; OPCW 2013a; US Department of State).

The next day, the UN announced that it would launch an investigation on the possible use of chemical weapons in Syria, headed by Dr Åke Sellström of Sweden. This mandate limited the investigations to confirm whether chemical weapons had been used, and did not allow for assigning responsibility to any party in order to preserve the impartiality of the investigative team. The Syrian Government called for the mandate to comprise allegations of use by the opposition forces, while the UK and France jointly requested the UN Secretary-General to also investigate other allegations of use where they suspected Syrian government forces had used chemical weapons. Russia supported the Syrian view that the rebel forces 'faked a chemical attack by the government to provoke international intervention' (MacFarquhar 2013). These discussions on the mandate delayed the start of the investigation as the Syrian Government did not provide Sellström's team access based on an agreed mandate. The team remained in Cyprus for several months, while continuing to collect information on both the original attack at Khan al-Assal, as well as new allegations that arose. This political impasse was finally broken when the mission entered Syria on 18 August 2013. A large-scale sarin attack occurred at Ghouta on 21 August 2013 which became the focus of the team's

⁴⁰ The Syrian and Russian governments call all non-state actors participating in the Syrian Civil War terrorists. Thus, when they speak of investigating chemical weapon use by terrorists, they do not solely refer to the actors that Western governments generally classify as terrorist groups (e.g. Islamic State, Al Nusra), but also groups commonly referred to as 'opposition forces' in the West.

investigation. The attack in Ghouta differed from the previous attacks in terms of scale (as more than one thousand people died) and the amount of video footage, pictures and corroborating witness accounts that highlighted the gravity of the incident (Zanders and Trapp 2013).

The day before the publication of the report on the Ghouta incident, the Director-General of the OPCW received a letter from the Syrian Ministry of Foreign Affairs informing him of the decision by the Syrian Government to join the Chemical Weapons Convention (CWC) (OPCW 2013d). The instrument of accession to the CWC was officially deposited with the UN Secretary-General on 14 September 2013. The Executive Council (EC) of the OPCW decided on 27 September 2013 that Syria should complete the elimination of all chemical weapons material and equipment in the first half of 2014 (OPCW 2013b). This time frame for destruction was unusually short for any multilateral disarmament and arms control regime (Gordon 2013). However, the maritime removal of chemicals implied a shorter than normal destruction time frame.

On 16 October 2013 the UN–OPCW Joint Mission to eliminate Syria’s chemical weapons was established on the basis of a UN Security Council (UNSC) resolution and OPCW decision.⁴¹ It operated until September 2014 and was headed by the UN Special Coordinator Sigrid Kaag of the Netherlands. Normally, countries are responsible for destruction of their stockpiles under their jurisdiction and control. However, given the fact that Assad did not exercise full control over all of Syria’s territory, governments came to a general understanding that the toxic chemicals and their precursors should be removed from the country (Friedman 2016; Walker 2014). Several countries were unwilling to host the most toxic chemical disposal efforts; reasons included environmental concerns, legal questions about whether this constituted the import of chemical weapons, and ‘not in my backyard’ politics (Walker 2014; Bleek and Kramer 2016). It was thus decided to hydrolyse the sulphur mustard and DF (a precursor for sarin), at sea on board the US vessel *MV Cape Ray*. Other chemicals were shipped to Finland, Germany, the UK and the USA for treatment and final disposition. The maritime chemicals removal operation from Latakia was carried out by Denmark and Norway, while security escorts were provided by a NATO combined task force stationed just outside Syrian territorial waters (Bleek and Kramer 2016; Mauroni 2017). Chinese and Russian ships provided additional security within the Syrian territorial waters to the south of Latakia. Other governments, including the Netherlands, as well as the EU, provided financial and other support via a UN trust fund (the OPCW Syria Trust Fund) and in-kind multilateral/bilateral contributions, although the final consolidated numbers appear not to have been published (Hart 2014).

The CWC entered into force for Syria on 14 October 2013, one month after its accession. Its initial declaration to the OPCW, submitted on 25 October, was challenged by some states as being incomplete. For example, Syria made available little documentation on its chemical weapons programme, stating

⁴¹ This mission was distinct from the UN Secretary-General’s investigative team.

that most of the related documents had been destroyed so that they would not fall into the hands of the opposition forces (Lynch 2016). Prior medical work on ricin was also not accepted by all members of the EC as having been for solely peaceful purposes. Some governments also maintained that hexamine should be included as part of Syria's chemical weapon declaration in view of its possible use for sarin synthesis. To further resolve these questions, the OPCW established a Declaration Assessment Team (DAT)⁴² in 2014, which continues to assist the Syrian Government to fill in gaps in its declaration, and seeks to clarify whether the Syrian Government possesses any undeclared chemical weapons or precursors.

In 2014 the OPCW also established a Fact-Finding Mission (FFM) to document and investigate the ongoing allegations of use of chemical weapons. The DAT and the FFM continue to work to confirm the full nature and role, in the prior programme, of the Syrian Scientific Studies and Research Centre (SSRC), which was reportedly tasked in the 1970s with supervising Syria's chemical and biological programmes and was later said to be 'the main body in charge of research and development (R&D), procurement and production' of chemical and biological weapons (Elleman et al. 2012). Together with the DAT, the FFM also analyses samples to investigate whether there are undeclared chemicals and to compensate for the general absence of programme documentation. The FFM also investigated the 4 April 2017 attack in Idlib Province (see below).

FFM information and analysis were also used to support the initial mandate of the OPCW-UN Joint Investigative Mechanism (JIM) in Syria to investigate nine cases of use of chemical weapons in accordance with UNSC Resolution 2235 (2015). The JIM was established on 7 August 2015 with the mandate to identify 'to the greatest extent feasible, individuals, entities, groups, or governments who were perpetrators, organizers, sponsors or otherwise involved in the use of chemicals as weapons' in Syria, 'where the OPCW-Fact-finding Mission determines or has determined that a specific incident involved or likely involved the use of chemicals as weapons' (UNSC 2015). Russia has opposed efforts to investigate attribution that focuses on the Syrian Government, but agreed to the establishment of the JIM perhaps in connection to broader geopolitical considerations emanating from Iraqi invitations to investigate the alleged use of chemical weapons against Kurdish fighters by the Islamic State (IS) (Meier 2016). It is the responsibility of the UNSC to respond to the findings of the JIM (McCormack 2016). In other words, the JIM will investigate who was responsible for this attack and its findings will then be reviewed for possible follow-up action by the UNSC.

In 2016 the UNSC extended the JIM's mandate through 2017 with an increased emphasis on non-state actor threats. In 2016 the JIM concluded that, of the nine cases in its mandate, the Syrian Government was responsible for at least three, while it held IS responsible for one (JIM 2016). Iran, Russia and Syria, with some support from China, rejected the findings of the JIM concerning Syrian Government responsibility (but accepted those where the

⁴² The DAT is specific for Syria.

JIM held opposition forces responsible) and supported the new explicit focus of the JIM mandate on terrorism instead of potential state activities. As of July 2017 the JIM is investigating two cases (an incident in September 2016 and the April 2017 incident in Idlib Province), while the FFM is prioritizing a further six to seven cases for possible referral to the JIM. The JIM is scheduled to present its findings to the UNSC in October 2017 (UN–OPCW 2017).

While the OPCW stated in January 2016 that the elimination of the declared chemical weapons had been completed, there is concern that Syria held back some stocks from its declarations to the OPCW (Entous 2015; statements at the 54th EC). In 2016 a report of the OPCW EC to the organization's Director-General also stated that the OPCW's Technical Secretariat was 'unable at present to verify fully that the declaration and related submissions of the Syrian Arab Republic' were 'accurate and complete' (as reported by Horner 2016). The April 2017 attack added to these concerns.

The international community also remains concerned about the use of chemical weapons by non-state actors. Several explanations have been mentioned as for how they have come to acquire them. These include access to residual stockpiles of the Syrian Government; removal of chemical weapons from the stockpiles of the former Libyan Government, which may have fallen into the hands of non-state actors in Syria; and that IS has developed a crude capacity to develop chemical agents itself, using, for example, the captured laboratories at the University of Mosul (Bleek and Kramer 2016). It remains difficult to establish a link between the allegation of IS attacks and toxic chemicals (Zanders 2015a). Allegations of use of chemicals in warfare by non-state actors also pose a problem in terms of interpretation of the CWC (i.e. how to act when attacks of this kind take place in areas that are not under the control of any government) (Zanders 2015b).⁴³ These developments have led to increased interest and concern by European states in chemical weapon possession by non-state actors in Syria, partly because IS might use chemical weapons in Europe (Bartholomew 2016; Rathore 2016; Hummel 2013). According to the 2016 Europol report on terrorism in the EU, the possibility of a chemical, biological, radiological or nuclear (CBRN) attack in Europe remains low: thus far terrorists seem more interested in weapons that are 'easily available' and 'not too complex to operate', while CBRN materials are 'difficult to acquire, transport, handle and deploy' without a specific technological and academic background (Europol 2016). The most recent report expressed concern that IS groups may have developed chemical weapons expertise and/or recruited scientists previously working in the sector (Europol 2017).

⁴³ Russia therefore proposed on March 2016 that the Conference on Disarmament should begin negotiations for a stand-alone convention for the suppression of acts of chemical terrorism (Meier and Trapp 2016).

Implications of chemical weapon use in Syria

The use of chemical weapons in Syria and the subsequent investigations have led to heated debates, both about the events themselves and the larger implications for the status of the Weapons of Mass Destruction Free-Zone in the Middle East (WMDZFZME) and the use of chemical weapons.

The accession of Syria to the CWC

The exact explanation for how and why Syria acceded to the CWC and the actions of the other countries involved are still discussed. The attack in Ghouta in 2013 marked a turning point in the international debate, as this attack provided stronger indications than any of the previous allegations that chemical warfare had occurred. As such, it could not be ignored and the international community pressed for international onsite access. Political pundits in the USA, UK, France and elsewhere pushed for military intervention. President Obama stated that the USA should have responded militarily (Nikitin, Kerr and Feickert 2013; Zanders and Trapp 2013). However, the tone of this debate shifted when the British Parliament rejected a motion to intervene, and international opposition to military action also began to emerge from the BRICS countries, as they valued the norm of non-intervention (Abdenur 2016; Makdisi and Pison Hondawi 2017). Obama himself proved reluctant to deploy US troops, and eventually the US congressional vote to authorize the use of military force was postponed so as to allow the US Administration more time to pursue diplomatic initiatives instead (Nikitin, Kerr and Feickert 2013). There is no consensus that the threat of military action led Syria to accede to the CWC. Indeed, there is no consensus in the literature on why Syria acceded to the CWC. Other explanations include pressure by Russia and/or by Iran, or an attempt to recover international standing, acceptance and credibility (Fitzpatrick 2013; Trapp 2014). It should also be noted that discussions on Syrian accession to the CWC pre-dated the conflict and were conducted as part of OPCW universal treaty membership initiatives (Makdisi and Pison Hondawi 2017).

Despite the expressions of surprise from a large part of the international community about Syria's sudden accession to the CWC, the accession was actually preceded by negotiations and consultations on the modalities that had been undertaken by governments throughout 2013. Much of this work was carried out by Russian Foreign Minister Sergei Lavrov and US Secretary of State John Kerry, including in the lead-up to and at the margins of a June 2013 G8 Global Partnership meeting. It was reported in Western media that Kerry misspoke by publicly suggesting that Syria could avoid being targeted by the US military should it join the CWC (thus circumventing President Obama's 'red line' policy position). However, Kerry's statement likely was made so as to provide a public opening for Russia to follow-up by announcing Syria's willingness to accede to the CWC (Zanders and Trapp 2013). It should also be noted that Syria's 2013 accession to the CWC and the elimination of its chemical weapons holdings were made possible through a Russian-US

framework document of 14 September 2013 (OPCW 2013c). The precise sequence of consultations and understandings in this regard will probably only become known once the relevant documentation is declassified.

The politics behind the investigations of chemical warfare in Syria

In the discussion on chemical warfare in Syria, analysts, commentators, officials and members of the public have generated a large and varied amount of conjecture and rationalization that refers selectively to information that runs the gamut of reliability. To illustrate how contentious and political the debate has become, this subsection focuses on the discussion surrounding the attack of 4 April 2017 in Idlib Province. An estimated 86 people died from exposure to sarin in the town of Khan Shaykhun following the attack. The deaths occurred when Sukhoi Su-22s operated by the Syrian Government attacked the town.⁴⁴ A number of scenarios have been put forward to explain the incident. These range from a Syrian air attack with a nerve agent to complete denial that a chemical weapon attack occurred or that the Syrian Government destroyed a warehouse containing chemical weapons belonging to opposition forces, and/or that the incident was the result of dispersal from an improvised explosive device (IED) planted by opposition forces. Syria and Russia have also stated that chemical weapons were employed as a provocation by opposition forces (France 2017; Human Rights Watch 2017; Postol blog 2017⁴⁵). On 29 June 2017 the FFM issued a report concluding that sarin (or a ‘sarin-like’ chemical) had been used at Khan Shaykhun on 4 April (FFM S/1510/2017). While the FFM did not visit the site and could not determine the nature of the dispersal device (due to safety concerns), it did conclude that the deaths and casualties were caused by a chemical emanating from a single crater. The crater has been the topic of intense discussion and debate as to what munition created it and whether the chemical warfare agent originated from it. This case has now been transferred to the JIM for attribution of responsibility. The findings are scheduled to be released to the UNSC in October 2017.

Russia has criticized both the findings and the process. It currently takes the view that the FFM has undermined its credibility, partly due to its over-reliance on Internet sources (such as its use of information provided by the Syrian American Medical Society, SAMS), and has cast doubt on the professional integrity of the head of the FFM—a British national. Russia’s Ministry of Defence (MOD) also criticized a May 2017 Human Rights Watch report as having been drafted by ‘fairy tale writers’ (Russian MOD 2017). Iran, Russia and Syria have thus called for the establishment of an impartial, independent technical body to investigate the incident (Iran 2017). This would

⁴⁴ The fact that a Syrian fighter flew over is not disputed by either the Syrians or the Russians. What is disputed is the target, the timing of the flight (morning, midday), and what it released (rocket or air bomb/chemical or conventional munition etc.).

⁴⁵ Later removed due to factual errors and other criticisms such as conflating details of the 4 Apr. 2017 Idlib attack with those of the August 2013 Ghouta attack.

be in addition to the JIM, the DAT and the FFM (see 54th EC meeting statements, including by Cuba, Iran, Russia, the UK and the USA). On the other hand, France, the UK and the USA have issued statements and summary reports that conclude that sarin (or a sarin-like substance) was used in the April attack (UK 2017; USA 2017). A qualitative analysis by Brown comparing media reporting in Russia and the West of allegations of chemical weapon use in Syria sheds light on the competing narratives. The analysis suggests that Russian perspectives are ‘significantly shaped by [a] strong rhetorical commitment to international principles’ and that these are the ‘conservative principles of stability, sovereign equality, and non-interference’ rather than Western ‘liberal principles of justice and human rights’. Brown therefore argues that the prospects for Russian–Western geopolitical cooperation are poor, partly because the differences are not merely those of government policy, but are rooted in the broader public discourse (Brown 2015).

Some of the literature published before the 2017 attack displays an underlying sense of ‘denial’ that the Syrian Government would ever employ chemical weapons. Hersh states that the fact that it has declared the possession of chemical weapons is ignored by Syrian Government critics (Hersh 2013). Porter argues that sarin attacks in Syria prior to August 2013 were false flag operations (i.e. an attack purposefully executed in a manner that makes it seem another party was responsible) meant to draw the USA into the conflict. He maintains that there is ‘overwhelming evidence that alleged Sarin attacks in April 2013 had involved smoke grenades, which can create symptoms similar to those caused by Sarin’, based on witness accounts, the type of canisters used and the marks left on the ground (Porter 2016: 103). This narrative is heavily disputed by more Western-oriented media such as the investigative journalism publication Bellingcat (Kaszeta 2017).

The differing political viewpoints on the events in Syria have had a serious effect on the debate and the investigations. The public debate is heavily influenced by the frequent publication of opposing pieces of information, creating difficulty for the public to establish what has actually occurred and often leading to allegations of ‘fake news’ (e.g. TASS 2017).

Implications of the events in Syria for controlling chemical warfare worldwide

Events in Syria have given rise to several debates about the wider, longer term implications. Technical methods have been further elaborated in the light of the Syria experience that will aid chemical weapons inspections, but there are also concerns about future chemical weapon use.

The mandate of the UN–OPCW JIM is to identify the actors responsible for chemical weapon use. However, Iran and Russia actively dispute any evidence or argument that suggests or concludes that the Syrian Government is responsible for a given chemical attack. Leaving aside the validity of these approaches, the investigative processes have resulted in useful discussions about how to conduct such investigations. In some cases, the chain-of-custody

of samples and other evidence could not be ensured. Improvements have been made to OPCW sampling and analysis procedures and biomedical sampling standards have now been adopted by some OPCW designated laboratories (Trapp 2015). It is important to underline that the purpose and processes associated with disarmament and arms control are traditionally distinct from those of legal inquiries (e.g. with respect to the taking of biomedical samples, interview procedures and the question of whether prosecutions are possible). As the available evidence could be interpreted in multiple ways, the investigations have shown that there is value in incorporating methods from other fields such as medical forensics, structured analytical techniques (SATs) from the intelligence field and ‘big data’ principles and applications (e.g. using data sets that while containing incorrect information, nonetheless in their totality meet sufficient legal standards of proof) (Velsko 2012). In other words, methodologies and experience of evaluating data sets for investigations and prosecutions exist that are distinct from those found in multilateral disarmament and arms control regimes.

Another effect is that some authoritative literature has been produced on the impact of alleged chemical weapon use such as the cohort studies of family members exposed to sulphur mustard from an artillery shell attack in Syria in August 2015,⁴⁶ as well as work that permits conclusions to be drawn regarding some sulphur mustard production routes (OPCW 2017). The maritime removal mission was a novel approach to chemical weapons elimination, developed and executed in an extremely short period in a country at war, an effort that required significant international cooperation. This might provide a model for possible responding to any future investigations of use (Bleek and Kramer 2016).

The events in Syria have also prompted wider debate about the state of the chemical weapons disarmament and arms control regime. Some have argued that, given repeated use of chemical weapons in Syria, the taboo against chemical warfare is weakening, because the international community did not intervene militarily, and the use of chemical warfare might become normalized (Bentley 2014; UNSC 2016). Moreover, some commentators argue that the chemical weapon disarmament process had a legitimizing effect on the Syrian regime (Makdisi and Pison Hindawi 2017). Others maintain that while zero tolerance of chemical weapon use is to be preferred in the abstract, its continued use in the current armed conflicts in Iraq and Syria does not fundamentally alter international, including customary, law, and that states and civil society do not openly advocate or accept the development, stockpiling or use of such weapons (Hart 2017).

⁴⁶ The immediate and longer-term effects of the single family exposed to a sulphur mustard shell in Marea in August 2015 are documented by researchers at the Department of Medical CBRN Defence at the Saglik Bilimleri University (Ankara, Turkey), and Tarsus State Hospital (Mersin, Turkey). The researchers are S. Sezigen, K. Ivelik, R. K. Eyison, Z. Kuna, M. Ortatli and L. Kenar.

Conclusions

The Civil War in Syria has prompted investigations by the UN and the OPCW regarding the possession and use of chemical weapons in the country. There were some notable successes, such as the accession of Syria to the CWC, the maritime chemical removal mission and the establishment of an investigation mechanism to assign responsibility for chemical weapons use. However, there have also been significant, longer term challenges: Syria is suspected to not have declared its entire chemical weapon stockpiles, and Russia, Syria and Iran have maintained that the investigations have not been truly impartial. Nonetheless, the Syria case demonstrates a continued need for the OPCW to maintain technical and logistical capacities associated with verifying future chemical weapon declarations, allegations of chemical weapon use and, perhaps, additional out-of-country removal operations of elements of chemical weapons programmes. New insights have been developed as a result of the investigations in Syria, and the OPCW's capacity will continue to be drawn upon by the CWC Member States in the context of countering IS and, perhaps, if possible North Korea chemical weapon holdings become subject to some form of international verification process.

References

- 'Al Jazeera Stages "Fake News" Clip Alleging "New Syrian Chemical Weapons Attack"', TASS, 4 May 2017.
- 'Soviet CW chief in talks with Syria', *Jane's Defence Weekly*, 2 Apr. 1988, p. 613.
- Abdenur, A. E., 'Rising Powers and International Security: The BRICS and the Syrian Conflict', *Rising Powers Quarterly*, vol. 1, no. 1 (2016), pp. 109–33.
- Assad, B., 'Peace without Syria is unthinkable', Spiegel Online, 19 Jan. 2009.
- Ayrault, J.-M., 'Syria—chemical attack—statement by M. Jean-Marc Ayrault, Minister of Foreign Affairs and International Development, following the Select Defence Council meeting', 26 Apr. 2017, Paris. [official translation from the French].
- Bar-Yaacov, N., 'Achieving universality of the Chemical Weapons Convention in the Middle East', *Survival*, vol. 57, no. 6 (2015), pp. 159–80.
- Bartholomew, R. E., 'The Paris Terror Attacks, Mental Health and the Spectre of Fear', *Journal of the Royal Society of Medicine*, vol. 109, no. 1 (2016), pp. 4–5.
- Bechtol, B. E., 'North Korea and Syria: partners in destruction and violence', *Korean Journal of Defense Analysis*, vol. 27, no. 3 (Sep. 2015), pp. 277–92.
- Bentley, M., 'Strategic taboos: chemical weapons and US foreign policy', *International Affairs*, vol. 90, no. 5 (2014), pp. 1033–48.
- Bleek, P. C. and Kramer, N. J., 'Eliminating Syria's Chemical Weapons and Implications for Addressing Nuclear, Biological, and Chemical Threats

- Elsewhere', *Nonproliferation Review*, vol. 67, (Dec. 2016), pp. 197–230.
- Brown, J. D. J., “‘A Nightmare painted by Goya’”, Russian media coverage of the Syrian chemical weapons attacks in comparative perspective’, *Problems in Post-Communism*, vol. 62 (2015), pp. 236–46.
- Cuba, ‘Statement by H. E. Mrs. Soraya Alvarez Núñez, Permanent Representative of Cuba to the OPCW at the 54th meeting of the Executive Council of the Organization for the Prohibition of Chemical Weapons’, 13 Apr. 2017, The Hague.
- DeYoung, K., ‘How the United States, Russia Arrived at Deal on Syria’s Chemical Weapons’, *Washington Post*, 16 Sep. 2013.
- Elleman, M., Esfandiary D., Hokayem E., ‘Syria’s Proliferation Challenge and the European Union's Response’, Non-proliferation paper no. 20, SIPRI, July 2012.
- Entous, A. and Bendavid, N., ‘Mission to purge Syria of chemical weapons comes up short’, *Wall Street Journal*, 23 July 2015, electronic edn.
- Esfandiary, D., ‘In the Middle East, Get Rid of Chemical Weapons First’, *Arms Control Today*, vol. 44, (Jan. 2014).
- Europol (2016), ‘European Union terrorism situation and trend report 2016’, <<https://www.europol.europa.eu/activities-services/main-reports/european-union-terrorism-situation-and-trend-report-te-sat-2016>>.
- Europol (2017), ‘European Union terrorism situation and trend report 2017’, <<https://www.europol.europa.eu/activities-services/main-reports/eu-terrorism-situation-and-trend-report-te-sat-2017>>.
- Fact-Finding Mission report, ‘Letter dated 16 January 2017 from the Secretary-General addressed to the President of the Security Council’, UN document S/2017/45, 17 Jan. 2017.
- Fact-Finding Mission report, ‘Letter dated 24 November 2015 from the Secretary-General addressed to the President of the Security Council’, UN document S/2015/908, 24 Nov. 2015.
- Fact-Finding Mission report, ‘Letter dated 25 February 2015 from the Secretary-General addressed to the President of the Security Council’, UN document S/2015/128, 25 Feb. 2015.
- Fact-Finding Mission report, ‘Letter dated 28 March 2016 from the Secretary-General addressed to the President of the Security Council’, UN document S/2016/285, 29 Mar. 2016.
- Fact-Finding Mission report, ‘Letter dated 4 May 2017 from the Secretary-General addressed to the President of the Security Council’, UN document S/2017/400, 5 May 2017.
- Fact-Finding Mission report, ‘Note by the Technical Secretariat, report of the OPCW Fact-Finding Mission in Syria regarding an alleged incident in Khan Shaykhun, Syrian Arab Republic, April 2017’, UN document S/1510/2017, 29 June 2017.
- Fitzpatrick, M., ‘Destroying Syria’s Chemical Weapons’, *Survival*, vol. 55, no. 6 (2013), pp. 107–14.

- France, 'National Evaluation: Chemical Attack of 4 April 2017 (Khan Sheikhoun), Clandestine Syrian Chemical Weapons Programme', Apr. 2017, [official English-language translation].
- Friedman, R. A., 'Legal aspects of weapons of mass destruction elimination contingencies', *Non-proliferation Review*, vol. 23, no. 1-2 (2016), pp. 61–82.
- Gordon, M. R., 'U.S. and Russia Reach Deal to Destroy Syria's Chemical Arms', *New York Times*, 14 Sep. 2014.
- Gwertzman, B., 'US includes Syria in Chemical Ban', *New York Times*, 6 June 1986.
- Hart, J., 'Chemical and biological weapons programmes', *SIPRI Yearbook 2013*, (Oxford: Oxford University Press).
- Hart, J., 'The maritime component of the Syrian chemical disarmament operation: lessons for maritime security cooperation'. Paper presented at SIPRI Maritime Security Forum, 2014, Stockholm, 11 July 2014.
- Hart, J., 'Preparing for the 4th CWC Review Conference: some observations on process and outcomes', *CBW Magazine: Journal on Chemical and Biological Weapons*, (Jan.–June 2017), pp. 28–39.
- Hersh, S., 'Whose Sarin?', *London Review of Books*, vol. 35, no. 19 (19 Dec. 2013).
- Horner, D., 'OPCW Pressing Syria on Declaration Gaps', *Arms Control Today*, vol. 46 (Apr. 2016).
- Human Rights Watch, 'Death by chemicals, the Syrian Government's widespread and systematic use of chemical weapons', 1 May 2017.
- Hummel, S., 'The risk of non-state actors acquiring chemical weapons in Syria', *CTC Sentinel*, vol. 6, no. 9, September 2013, <<https://ctc.usma.edu/v2/wp-content/uploads/2013/09/CTCSentinel-Vol6Iss91.pdf>>.
- Iran, 'Statement by H. E. Dr. Alireza JAHANGIRI, the Ambassador Extraordinary and Plenipotentiary to the Netherlands and Permanent Representative of the Islamic Republic of Iran to the OPCW at the Fifty-Forth [sic] meeting of the Executive Council', 13 Apr. 2017, The Hague.
- Kaszeta, D., 'The Chemical Realities of Russia's Khan Sheikhoun Chemical Warehouse Attack Claims', Bellingcat, 5 Apr. 2017.
- Kessler, G., 'President Obama and the "red Line" on Syria's Chemical Weapons', *The Washington Post*, 6 Sep. 2013, <<http://www.washingtonpost.comblogs/fact-checker/wp/2013/09/06/president-obama-and-the-red-line-on-syrias-chemical-weapons/>>.
- Landau, E. B., 'In the zone? Chemical weapons and the Middle East', *Bulletin of the Atomic Scientists*, vol. 70, no. 3 (2014), pp. 4–6.
- Lesham, D., 'Syria's deadly secret', *Jerusalem Post*, 6 May 1997.
- Lynch, C., 'The World May Never Know if Syria Really Destroyed All Its Chemical Weapons', *Foreign Policy Magazine*, 31 Aug. 2016.
- MacFarquhar, N., 'U.N. to Investigate Chemical Weapons Accusations in Syria', *The New York Times*, 21 Mar. 2013.

- Makdisi, K. and Pison Hindawi, C., 'The Syrian Chemical Weapons Disarmament Process in Context: Narratives of Coercion, Consent, and Everything in between', *Third World Quarterly*, vol. 38, no. 8 (2017), pp. 1691–1709.
- Mauroni, A. J., *Eliminating Syria's Chemical Weapons*, Future Warfare Series report no. 58 (US Air Force Center for Unconventional Weapons Studies: Maxwell Air Force Base, Alabama).
- McCormack, T., 'Chemical Weapons and Other Atrocities: Contrasting Responses to the Syrian Crisis', *International Law Studies*, vol. 92 (2016), pp. 511–44.
- Meier, O. and Trapp, R., 'Russia's chemical terrorism proposal: Red herring or useful tool?', *Bulletin of the Atomic Scientists*, 7 June 2016.
- Meier, O., 'The danger of chemical weapons in Syria: unfinished disarmament and international control efforts', SWP Comments no. 23 (SWP: Berlin, Apr. 2016).
- Melhem, H., 'How Obama's Syrian Chemical Weapons Deal Fell Apart', *The Atlantic*, 10 April 2017.
- Nikitin, M. B. D., Kerr, P. K. and Feickert, A., *Syria's Chemical Weapons: Issues for Congress*, Congressional Research Service, no. 7-5700 (CRS: Washington, Sep. 2013).
- OPCW, 'Statement by the Director-General to the Executive Council at its thirty-second meeting', EC-M-32/DG.1, 27 Mar. 2013a.
- OPCW, 'Decision by the Executive Council of the Organisation for the Prohibition of Chemical Weapons on the destruction of Syrian Chemical Weapons', EC-M-33/DEC.1, 27 Sep. 2013b.
- OPCW, 'Joint national paper by the Russian Federation and the United States of America—Framework for elimination of Syrian chemical weapons', EC-M-33/NAT.1, 17 Sep. 2013c.
- OPCW, 'OPCW to review request from Syria', OPCW website, 13 Sep. 2013d.
- OPCW–UN Joint Investigative Mechanism in Syria, 'Fourth report of the Organization for the Prohibition of Chemical Weapons-United Nations Joint Investigative Mechanism', UN document S/2016/888, 21 Oct. 2016.
- OPCW–UN Joint Investigative Mechanism in Syria, 'Sixth report of the Organisation for the Prohibition of Chemical Weapons-United Nations Joint Investigative Mechanism', S/2017/552, 28 June 2017.
- OPCW, 'Report of the Scientific Advisory Board at its twenty-fifth session', SAB-25/1*, 31 Mar. 2017.
- Porter, G., 'Chemical attacks in Syria: how US intel went wrong', *Middle East Policy*, vol. 23, no. 3 (fall 2016), pp. 100–11.
- Rathore, S. A., *Is the Threat of ISIS Using CBRN Real?*, Counter Terrorist Trends and Analysis, no. 12 (RSIS: Singapore, Feb. 2016).
- Russian Federation, 'Comment by the Information and Press Department on the investigation launched by France into the alleged use of chemical weapons in Khan Shaykhun', 27 Apr. 2017, Press Release.

- Russian Federation, Ministry of Defence, 'Russian Defence Ministry comments on the report by the Human Rights Watch...', Press Release, 1 May 2017.
- Trapp, R., 'Building A WMD-Free Zone on Existing Treaties and Conventions Syrian CWC-Adherence and Reactions, Especially in Israel', presented at Side event to the 2017 Preparatory Committee of the Nuclear Non-Proliferation Treaty, organized by the Geneva Centre for Security Policy (GCSP) and Academic Peace Orchestra Middle East (APOME), Vienna, 8 May 2017.
- Trapp, R., 'Elimination of the Chemical Weapons Stockpile of Syria', *Journal of Conflict and Security Law*, vol. 19, no. 1 (2014), pp. 7–23.
- UK, 'Statement by H. E. Ambassador Sir Geoffrey Adams, Permanent Representative of the United Kingdom of Great Britain and Northern Ireland to the Organisation for the Prohibition of Chemical Weapons', 13 Apr. 2017, The Hague. Statement to the 54th EC session.
- UN General Assembly resolution A/RES/42/37C, 30 Nov. 1987.
- UN, 'Report of the United Nations Mission to Investigate Allegations of the Use of the Chemical Weapons in the Syrian Arab Republic on the Ghouta area of Damascus on 21 August 2013', A/67/997-S/2013/553, 16 Sep. 2013.
- UN, 'United Nations Mission to Investigate Allegations of the Use of Chemical Weapons in the Syrian Arab Republic, Final Report, Annex to A/68/663-S/2013/735, 13 Dec. 2013.
- UNSC Resolution 2235 (2015), S/RES/2235 (2015), 7 Aug. 2015.
- UNSC, 'Progress in the elimination of the Syrian chemical weapons programme', S/2016/928, 2 Nov. 2016.
- US Department of State, 'Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare (Geneva Protocol)', US Department of State website, accessed on 31 July 2017.
- USA, 'Statement by Ambassador Kenneth D. Ward, United States delegation to the Executive Council, Organization for the Prohibition of Chemical Weapons, the Fifty-Fourth meeting of the Executive Council EC-M-54, 13 Apr. 2017, The Hague.
- Velsko, S. P., Null Hypothesis Significance Testing for Trace Chemical Weapon Analyte Detection, report no. LLNL-TR-607577 (Lawrence Livermore National Laboratory: Livermore, Cal., 10 Dec. 2012).
- Walker, P. F., 'Syrian Chemical Weapons Destruction: taking stock and looking ahead', *Arms Control Today*, vol. 44, (2014).
- Zanders, J. P. and Trapp, R., 'Ridding Syria of Chemical Weapons: Next Steps', *Arms Control Today*, vol. 43, no. 9 (2013), pp. 8–14.
- Zanders, J. P., (2015a), 'Chlorine: A weapon of last resort for ISIL? (Part 2)', *The Trench*, 18 Feb 2015.
- Zanders, J. P., (2015b), 'Syria's CW disarmament: spill-over effects for Middle East?', *The Trench*, 13 Mar. 2015.

2. Developments in the area of conventional weapons

2.1. The international arms trade in the last decade and the influence of economic crises and emerging markets on defence budgets and arms sales

SIEMON WEZEMAN

In the past decade, the arms trade and military budgets have reached levels last seen in the 1980s—the final years of the cold war. On a more detailed, regional level, trends among exporters, and even more so importers and spenders, have changed since in the 1980s. Even in the decade 2007–2016, there have been some significant changes. Some of these changes may be temporary or cyclical, others more enduring.

This section examines recent developments in the arms trade and military spending, and explores: (a) how the arms trade and military spending have developed in the past decade at the global and regional levels; (b) the drivers of military spending and arms acquisitions and trade; and (c) issues of concern related to these patterns. The section starts with the issue of official transparency in arms transfers, to outline some of the problems with the data on the arms trade and military spending that affect analysis, and to show how this important aspect of accountability and confidence-building has developed in recent years.

The section is largely based on SIPRI's work on these topics. SIPRI's measurements of the volume of global transfers of major weapons and the analysis of the patterns and impact are generally considered to be authoritative and are widely used in the literature and policy circles.⁴⁷ The SIPRI arms transfers database remains the most consistent and comparable dataset on global arms transfers. Its advantages are transparency of sources (only open sources are used) and a consistent methodology (which makes the data comparable over time and between various actors). However, other datasets and evaluations, such as those published by the US Congressional Research Service (CRS) and the US Department of State, official financial data from most of the larger arms exporting states, and evaluations by the Jane's Information Group and various others are also used. Similarly, the SIPRI data and analyses of military expenditure are also transparent and consistent, highly respected and widely used.⁴⁸ However, other datasets and analysis (mainly WMEAT and Jane's) have also been used here. These other datasets and analyses on the arms trade and military expenditure generally support the data and analysis outlined in SIPRI's publications.

⁴⁷ SIPRI Arms Transfers Database.

⁴⁸ SIPRI Military Expenditure Database.

Transparency in the arms trade and military spending

Transfers of major weapons are to a great extent transparent using official or other public sources—very few major weapon transfers are not known about at the time of transfer. These sources are used to construct SIPRI's overview of global arms transfers and often form the basis of assessments by various national intelligence agencies. The public sources include official reports by most of the larger exporting states—detailed annual overviews of exports have since the 1990s become almost the norm among Western exporters but remain much less common from other exporters.⁴⁹ The Internet has provided unprecedented opportunities to collect data from a wide variety of official and other sources. Major weapons also form the main element of official information provided by UN member states to the UN Register of Conventional Arms (UNROCA), and since 2016 under the Arms Trade Treaty (ATT) that provides annual reports from its members in a similar format to the UNROCA. However, the number of UN member states providing annual data to the UNROCA has dramatically declined in recent years. The UNROCA's reduced reporting is in stark contrast to the explicit support most UN member states have given the UNROCA over the years in various General Assembly resolutions and other statements. This was an important aspect of the reviews of the UNROCA in 2013 and 2016, but neither was able to find a clear reason for the lack of reporting or a solution to the problem. The lack of reporting is also in contrast to the apparent ability or willingness to report similar data to the ATT (see table 2.1.1). However, even there almost a quarter of the states parties have not reported for 2015—more than eight months after the deadline of 31 May 2016—despite the fact that reporting is obligatory under the ATT.

Transfers of small arms and light weapons (SALW) are less transparent (SAS 2016). SALW are included in the UNROCA reporting and to some extent as a category in the UN Comtrade data on exports and imports. However, reporting is less comprehensive and, since military and civilian weapons are lumped together, less easy to divide between military and civilian uses. Data from other sources is also less comprehensive and consistent than for the larger weapons. Statistics on the small arms trade, such as those compiled by the Small Arms Survey, are thus less reliable and comprehensive than those for major weapons.

Data on arms transfers comes in various forms. One common form is information on the type and number of weapons transferred, contracted for or licensed for potential export. Other overviews of arms transfers are based on official data on the financial value of equipment exported or licensed for potential export on various national or multilateral export control lists. The European Union (EU) provides a consolidated annual overview of exports of equipment on its common military list, compiled from information provided by member states. Generally, EU member states provide the financial value of actual exports but several EU member states report only the value of licences,

⁴⁹ SIPRI collects all such official reports in a database on national arms export reports; see <<https://www.sipri.org/databases/national-reports>>.

which may not lead to actual exports or for which exports are spread over multiple years. Two US government-linked entities—the CRS and the Department of State—provide overviews of global arms transfers using data from public sources and data provided by US Government agencies. These are non-transparent in their methodology and the data from both sometimes differs substantially. This, despite the substantial amount of reporting on the arms trade, the data from the various sources is not always consistent, comparable or reliable. This is true even for the official reporting using multilaterally agreed definitions (e.g. UNROCA, the ATT and the EU).

Table 2.1.1. Reports submitted to the United Nations Register of Conventional Arms and under the Arms Trade Treaty by region, 2011–15

Years refer to the year covered by the report, not the year of its submission. Figures in brackets in the leftmost column are the total UN members or ATT parties per region. Other figures in brackets are the percentages per region of UN members or ATT parties that have reported. Data as of mid March 2017.

	2011	2012	2013	2014	2015
<i>UNROCA</i>					
Africa (54)	2 (3.7%)	3 (5.6%)	1 (1.9%)	0 (0%)	1 (1.9%)
Americas (35)	7 (20%)	11 (31%)	9 (26%)	8 (23%)	8 (23%)
Asia (28)	10 (36%)	12 (43%)	5 (18%)	7 (25%)	5 (14%)
Europe (47)	37 (79%)	43 (91%)	39 (83%)	36 (77%)	27 (57%)
Middle East (15)	1 (6.7%)	1 (6.7%)	3 (20%)	0 (0%)	0 (0%)
Oceania (14)	2 (14%)	2 (14%)	1 (7.1%)	1 (7.1%)	3 (21%)
Total (193)	59 (31%)	72 (37%)	58 (30%)	52 (27%)	44 (23%)
<i>ATT</i>					
Africa (7)	..	..	..	..	3 (43%)
Americas (16)	..	..	..	..	8 (50%)
Asia (1)	..	..	..	..	1 (100%)
Europe (34)	..	..	..	..	32 (94%)
Middle East (0)	..	..	..	..	..
Oceania (3)	..	..	..	..	3 (100%)
Total (61)	..	..	..	..	47 (77%)

.. = not available or not applicable.

Sources: The UNROCA database, <<http://www.un-register.org/>>; and ATT Secretariat, <<http://thearmstradetreaty.org/index.php/en/2017-01-18-12-27-42/reports>>. Data for 2015 was provided by the UN Office for Disarmament Affairs (UNODA).

Like arms transfers, official data on military spending is not always consistent, comparable or reliable. Most countries provide overviews of or statements on their national budgets, often with specific budget lines for ‘defence’ or ‘security’. However, countries often have their own definition of military spending—they may for example exclude pensions for retired military personnel or funding for paramilitary forces, or they may include non-military spending in defence budgets. There are also many countries that put, sometimes very significant, spending for military purpose under budget lines other than ‘defence’ or ‘security’, or have funds for military use outside the official budget. Countries may also stop, restart or change reporting, leading to

gaps or inconsistencies in the time series. Lastly, even where countries seemingly do report military spending according to a specific definition, such data may be incorrect. All this means that raw reported data from official national sources are not comparable. Even within NATO, which has its own common definition of military spending, not all countries report using that definition. In addition, the number of countries reporting military spending annually to the UN (UN Report on Military Expenditures) has significantly decreased in a similar pattern as for the UNROCA—only 25 per cent of the UN member states reported for 2016, against over 40 per cent 15 years ago (SIPRI Yearbook 2017).⁵⁰

The continuing issues with transparency outlined above are obstacles not only to analyses of the arms trade and military spending, but also to accountability for government decisions on arms exports, arms imports, military spending and defence policies. In addition, they undermine confidence building in regions with tensions or conflicts. Especially worrying in this respect is the strong decline in reporting to the UNROCA and the UN military expenditure mechanism, both of which were designed to enhance confidence among states.

Global trends in the arms trade and military spending

Global arms transfers increased between 2000 and 2012, and then levelled out in the period 2013–16 at levels comparable to those of the final years of the cold war (SIPRI ATDB). Global military spending followed a similar trend (SIPRI Milex; see table 2.1.2).

⁵⁰ See UN Office for Disarmament Affairs, <<https://www.un.org/disarmament/convarms/milex/>>.

Table 2.1.2. Military expenditure by region, 2007–16

Figures for 2007–16 are in US\$ b. at constant (2015) prices and exchange rates. Figures may not add up to stated totals because of the conventions of rounding.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
World total	1 476	1 561	1 666	1 695	1 699	1 695	1 672	1 664	1 682	1 688
Geographical regions										
Africa	26.5	31.0	32.0	(33.6)	(36.9)	(37.2)	40.5	42.1	(39.7)	(39.2)
North Africa	7.6	9.1	(10.1)	(11.0)	(13.8)	14.9	17.0	18.1	(18.4)	(18.7)
Sub-Saharan Africa	18.9	22.0	21.9	(22.6)	(23.0)	(22.3)	(23.6)	(24.0)	21.2	20.5
Americas	715	768	822	842	832	797	743	699	678	683
Central America and the Caribbean	5.7	5.9	6.5	7.0	7.2	7.9	8.4	9.1	9.5	8.6
North America	653	702	757	776	767	724	666	626	611	622
South America	55.5	60.6	58.7	59.0	57.5	65.5	68.8	63.8	56.7	52.5
Asia and Oceania	279	296	335	343	357	372	392	414	436	456
Central and South Asia	48.4	52.9	60.7	61.6	62.8	63.2	63.7	67.1	68.9	73.3
East Asia	181	193	220	227	239	253	269	286	302	315
Oceania	20.9	21.5	23.2	23.4	23.0	22.3	22.1	23.9	26.1	26.6
South East Asia	28.5	29.4	30.7	31.1	32.1	33.2	36.5	36.3	39.8	41.9
Europe	324	332	338	331	325	326	320	322	333	342
Central Europe	20.6	19.6	19.0	18.3	17.9	17.6	17.4	18.4	20.9	21.5
Eastern Europe	43.5	47.6	48.8	49.5	53.5	61.5	64.4	69.2	74.6	77.2
Western Europe	259	265	270	263	253	247	238	235	237	243
Middle East	132	133	139	145	149	162	176	187	..	..
<i>Share (%) of GDP</i>										
Africa	1.8	1.9	2.0	1.8	1.8	1.9	2.0	2.2	2.0	2.0
Americas	1.3	1.4	1.6	1.5	1.4	1.5	1.5	1.5	1.4	1.3

Asia and Oceania	1.8	1.7	1.9	1.7	1.7	1.7	1.8	1.8	1.9	1.8
Europe	1.8	1.8	1.7	1.6	1.5	1.5	1.5	1.5	1.6	1.6
Middle East	4.4	4.0	4.8	4.5	4.6	5.0	5.1	5.1	6.1	6.0
<i>World military spending per capita (current US\$)</i>										
	232	221	227	236	245	246	243	241	229	227
<i>World military burden (i.e. world military spending as a % of world GDP, both measured in current US\$)</i>										
	2.7	2.4	2.6	2.5	2.4	2.4	2.3	2.1	2.3	2.2

() = total based on country data accounting for less than 90% of the regional total; . . = estimate not provided due to unusually high levels of uncertainty and missing data; GDP = gross domestic product.

Notes: The totals for the world, regions and income groups are estimates, based on data from the SIPRI Military Expenditure Database. When military expenditure data for a country is missing for a few years, estimates are made, most often on the assumption that the rate of change in that country's military expenditure is the same as that for the region to which it belongs. More detailed information on sources and methods can be found at <<https://www.sipri.org/databases/milex/sources-and-methods>>. When no estimates can be made, countries are excluded from the totals. The countries excluded from all totals here are Cuba, Eritrea, North Korea, Somalia, Syria, Turkmenistan and Uzbekistan. Totals for regions and income groups cover the same groups of countries for all years. The coverage of the geographical regions and subregions is based on the grouping of countries in the SIPRI Military Expenditure Database. Income groups are based on the World Bank World Development Indicators, January 2017 with a gross national income per capita in 2015 of \$1025 or less for low-income countries; \$1026–\$4035 for lower-middle-income countries; \$4036–\$12 475 for upper-middle-income countries; and more than \$12 476 for high-income countries.

Sources: SIPRI Military Expenditure Database; International Monetary Fund (IMF), *World Economic Outlook Subdued Demand: Symptoms and Remedies* (IMF: Washington, DC, Oct. 2016); IMF, *International Financial Statistics* (IMF: Washington, DC, Sep. 2016); and United Nations Department of Economic and Social Affairs, Population Division, 'World population prospects, Population indicators', July 2016.

World military expenditure is estimated to have been US\$ 1686 billion (in current US\$) in 2016. World military expenditure rose by 14 per cent in real terms in the 10-year period 2007–16.⁵¹ Total global military spending has remained stable since 2010, following several consecutive years of increases. This stability can be divided into two phases. The initial phase (2010–13) was shaped by the effects of the austerity measures implemented in most developed countries and the withdrawal of US troops from Iraq and Afghanistan, which counteracted increases in the rest of the world. This was followed by a second phase, linked to a fall in oil and other commodity prices (2014–16), which reduced military spending in much of the developing world outside Asia, but was offset by rising spending in Western Europe (since 2014), the USA (since 2015) and Asia. Although they measure them in different ways, other analyses have identified similar trends for the arms trade and military spending (US Department of State 2016; Theohary 2016).

While military spending in absolute terms increased in the past decade, the global military burden, the share of world military expenditure as a share of gross domestic product (GDP), declined from 2.7 per cent in 2007 to 2.2 per cent in 2016 since global GDP rose much faster.

Between 2007 and 2016, the largest increases in military expenditure at the subregional level were in North Africa (145 per cent), Eastern Europe (78 per cent), East Asia (74 per cent) and Central and South Asia (51 per cent) (see table 2.1.3). The growth in North Africa was mainly spurred by Algeria's high level of oil revenue and regional power ambitions. The increase in Eastern Europe was mainly due to Russia's increases and the corresponding increased threat perceptions and the responses of its neighbours.

By contrast, military spending fell in Western Europe (–6.2 per cent), South America (–5.5 per cent) and North America (–4.8 per cent) between 2007 and 2016. The decrease in Western Europe was due to reductions on military spending in all countries except Finland, France, Germany and Switzerland. The fall in North America was mainly the result of cuts to the US military budget post-2010, largely due to reduced operations in Iraq and Afghanistan. South America's drop in spending was due to the region's increasingly benign security environment on the one hand and economic problems on the other.

However, in 2016 the trend of earlier years showed signs of reversing in some regions. Spending in Asia continued to grow, and spending increased in the Americas and Europe but fell in Africa and the Middle East.⁵² The growth in spending in the Americas was largely driven by a 1.7 per cent rise in military expenditure by the USA—the first increase in US spending since 2010. The growth in military expenditure in both Western and Central Europe was mainly related to perceived threats from Russia, concern over terrorism

⁵¹ Figures for increases or decreases in military spending are expressed in constant (2015) US dollars, often described as changes in 'real terms' or adjusted for inflation. All actual spending figures are quoted in 'nominal' figures, which are not adjusted for inflation.

⁵² Overall regional spending in the Middle East can only be estimated due to missing data from several key countries such as the UAE. However, of those countries that did provide data, there were substantial decreases in military expenditure.

and the fight against the Islamic State (IS) group in Iraq and Syria. In Eastern Europe, the growth was largely driven by Russia's one-off payment in 2016 of debts accrued to arms producers. However, in other European countries—NATO and non-NATO—the trend for declines in military spending was halted or reversed. Economic recovery in Europe helped with decision making. The continuing rise in spending in Asia was largely the result of significant increases in military expenditure in China and India. In East Asia, the rise was principally the result of China's economic growth facilitating its military modernization and regional power aspirations. The increase in Central and South Asia can be attributed to India's many large ongoing and planned procurement programmes, aimed at making it a major military power. Strong threat perceptions and increased tensions played an important role as drivers of increased spending throughout Asia.

Table 2.1.3. Key military expenditure statistics by region, 2016

Region/ subregion	Military expenditure, 2016 (US\$ b.)	Change (%) ^a		Major changes, 2015 (%) ^b			
		2015–16	2007–16	Increases		Decreases	
World	1 686	0.4	14				
<i>Africa</i> ^c	(37.9)	-1.3	48	Botswana	40	South Sudan	-54
North Africa	(18.7)	1.5	145	Mali	18	Cote d'Ivoire	-27
Sub-Saharan Africa ^c	(19.2)	-3.6	8.5	Chad	18	Ghana	-23
				Senegal	17	Zambia	-22
<i>Americas</i> ^d	693	0.8	-4.4	Trinidad and Tobago	14	Venezuela	-56
Central America and Caribbean ^d	7.8	-9.1	50	Argentina	12	Peru	-20
North America	626	1.7	-4.8	Colombia	8.8	Ecuador	-13
South America	58.8	-7.5	-5.5	Honduras	7.7	Mexico	-11
<i>Asia and Oceania</i> ^e	450	4.6	64	Philippines	20	Kazakhstan	-26
Central and South Asia ^f	73.3	6.4	51	Viet Nam	9.7	Kyrgyzstan	-7.9
East Asia ^g	308	4.3	74	India	8.5	Afghanistan	-6.2
Oceania	26.6	1.7	27	Mongolia	7.1	Cambodia	-5.2
South East Asia	41.9	5.1	47				
<i>Europe</i>	334	2.8	5.7	Latvia	44	Azerbaijan	-36
Central Europe	21.0	2.4	4.2	Lithuania	35	Croatia	-8.9
Eastern Europe	75.4	3.5	78	Bulgaria	14	Belarus	-8.3
Western Europe	237	2.6	-6.2	Hungary	11	Georgia	-5.5
<i>Middle East</i> ^h	..	..	..	Iran	17	Iraq	-36
				Kuwait	16	Saudi Arabia	-30
				Jordan	9.3	Oman	-9.6

() = uncertain estimate.

^a Changes are in real terms.

^b The list shows the countries with the largest increases or decreases for each region as a whole, rather than by subregion. Countries with a military expenditure in 2016 of less than \$100 m., or \$50 m. in Africa, are excluded.

^c Figures exclude Eritrea and Somalia.

^d Figures exclude Cuba.

^e Figures exclude North Korea, Turkmenistan and Uzbekistan.

^f Figures exclude Turkmenistan and Uzbekistan.

^g Figures exclude North Korea.

^h No SIPRI estimate for the Middle East is available for 2015 and 2016. A rough estimate for the Middle East (excluding Syria) is included in the world total.

Note: Because of countries for which a military expenditure figure is missing, the regional and subregional totals presented in table 2.1.3 in current USD are different than the ones that can be calculated by adding figures for a region/subregion. SIPRI uses a specific estimation method to address these missing figures in order to provide a region/subregional estimate.

Source: SIPRI Military Expenditure Database, <<https://www.sipri.org/databases/milex>>.

The decline in military expenditure in Africa and the Middle East in 2016 was largely a result of the sharp fall in the price of oil in late 2014, which put significant pressure on military spending in many oil export-dependent states in those regions. Africa experienced its second successive year of falling military expenditure, mostly due to economic problems in oil export-dependent countries such as Angola and South Sudan, which led to cuts in government spending. The fall in military expenditure in the Middle East in 2016 came despite the fact that all the countries in the region—except Oman—were militarily involved in at least one armed conflict. Reductions in military spending caused by low oil prices were also visible in countries in other regions. Military spending in South America, for example, decreased by 7.5 per cent in 2016, largely because of the 56 per cent fall in spending by oil-export dependent Venezuela. However, economic problems in Brazil, the largest South American spender, also affected its military budget.

Exporters

Since 2009, and even for many years before 2009, the group of major exporters has been fairly stable. The list of the top-five exporters in any of the years 2007–16 was made up from only nine states: the USA, Russia, China, Germany, France, the UK, Ukraine, the Netherlands and Spain. Of these, the Netherlands, Spain and Ukraine only appear in the list in one of the 10 years—all in a year of deliveries of large warships which temporarily spike their exports. The other six states all appeared more regularly in the top-5 exporter list. The USA has been the top exporter in all but one of the 10 years, followed by Russia. Only in 2013 were Russia's exports marginally higher. In the period 2007–16 the USA accounted for 31.5 per cent of the global volume of exports of major weapons, and Russia for 23.7 per cent. The other four major exporters follow at a considerable distance, with between 7.4 and 4.3 per cent, and moving up or down the rankings from third to sixth. The most significant development in recent years has been the growth in China's exports of major weapons. In 2007 China was only the 11th largest exporter but by 2010 it had entered the top five.

Slightly over one-third of all states (74 of almost 200) have exported major weapons at some point since 2007, but most did so in small volumes and some

only exported, often second-hand equipment, in one or a few years. Arms production and exports have for centuries been concentrated in the Euro-Atlantic area and remained so in the past decade. Of the top 25 arms exporting countries in the five years 2012–16, seven were outside of Europe or North America: China, Israel, South Korea, Turkey, South Africa, Australia and Brazil (in order of export volume). Of those seven, only China and Israel were ranked in the top 10.

Five West European states—France, Germany, the United Kingdom, Spain and Italy (in rank order)—were among the top 10 suppliers of major weapons in 2012–16. Together they accounted for 21.7 per cent of the volume of global arms transfers in that period. In addition to those five states, the top 25 arms exporters in 2012–16 included eight other West and Central European states. Of those 13 states, 11 are EU member states. The 28 EU member states accounted for 26 per cent of the global total in 2012–16, a 9.8 per cent decrease compared with 2007–11.⁵³ Of these exports by EU member states, only 16 per cent went to other EU member states and 84 per cent to non-EU member states (see table 2.1.4).

Table 2.1.4. The 50 largest suppliers of major weapons, 2012–16

The table includes all countries and non-state actors that exported major weapons in the 5-year period 2012–16. Ranking is according to 2012–16 total exports. Figures are SIPRI trend-indicator values (TIVs). Percentages above 10 per cent have been rounded to the nearest whole number, those below 10 per cent to one decimal. Figures and percentages may not add up to displayed totals because of the conventions of rounding.

Rank			Volume of exports		Share (%)	Change (%)
	2012–16	2007–11	(TIV, millions)			
		Supplier	2016	2012–16	2012–16	with 2007–11
1	1	United States	9 89	47 169	33	21
2	2	Russia	6 43	33 185	23	4.7
3	6	China	2 12	8 767	6.2	74
4	4	France	2 22	8 561	6.0	–5.0
5	3	Germany	2 81	7 914	5.6	–36
6	5	United Kingdom	1 39	6 586	4.6	27
7	7	Spain	483	3 958	2.8	2.9
8	8	Italy	802	3 824	2.7	22
9	12	Ukraine	528	3 678	2.6	49
10	10	Israel	1 26	3 234	2.3	13
11	9	Netherlands	466	2 747	1.9	–11
12	11	Sweden	249	1 651	1.2	–35
13	15	South Korea	534	1 427	1.0	25
14	13	Switzerland	186	1 380	1.0	–10
15	14	Canada	127	1 332	0.9	0.8
16	21	Turkey	277	1 054	0.7	180
17	17	Norway	150	901	0.6	39
18	20	Belarus	81	624	0.4	18
19	16	South Africa	59	462	0.3	–31
20	22	Australia	127	400	0.3	7.2

⁵³ Since year-on-year deliveries can fluctuate significantly, comparing multi-year periods provides a more stable measure of trends. SIPRI normally uses the five-year periods presented in this section.

Rank		Volume of exports (TIV, millions)		Share (%)	Change (%)	
2012–16	2007–11	Supplier	2016	2012–16	2012–16 with 2007–11	
21	25	Finland	66	357	0.3	16
22	32	Czech Republic	129	343	0.2	233
23	23	Brazil	109	261	0.2	-29
24	47	Romania	–	216	0.2	517
25	24	Poland	3	204	0.1	-41
26	28	Jordan	20	197	0.1	19
27	29	Portugal	169	194	0.1	34
28	39	Singapore	46	173	0.1	154
29	38	India	42	134	0.1	84
30	37	United Arab Emirates	12	113	0.1	41
31	19	Belgium	13	111	0.1	-81
32	40	Denmark	25	109	0.1	65
33	46	Bulgaria	4	106	0.1	203
34	18	Uzbekistan	68	102	0.1	-84
35	54	Indonesia	94	94	0.1	944
36	26	Austria	14	91	0.1	-64
37	27	Iran	–	85	0.1	-61
38	..	New Zealand	6	82	0.1	..
39	31	Ireland	–	64	0	-40
40	35	Serbia	–	61	0	-29
41	53	Hungary	–	41	0	356
42	..	Egypt	–	29	0	..
43	33	Chile	–	20	0	-80
44	49	Slovakia	–	19	0	-37
45	50	Brunei Darussalam	12	12	0	-50
46	..	Sudan	–	11	0	..
47	..	Botswana	–	8	0	..
48	..	Georgia	7	7	0	..
49	51	Taiwan	–	6	0	-63
50	..	Ecuador	–	6	0	..
..	..	7 others	3	12	0	..

.. = not available or not applicable; – = no deliveries.

Note: SIPRI data on arms transfers relates to actual deliveries of major weapons. To enable comparison of the data on deliveries of different weapons and to identify general trends, SIPRI uses a trend-indicator value (TIV). This value is only an indicator of the volume of arms transfers and not of the financial values of such transfers. Thus, it is not comparable to economic statistics.

Source: SIPRI Arms Transfers Database, <<http://www.sipri.org/databases/armstransfers/>>.

Exports of a significant part of the total arms production of most states underpin a viable defence-industrial base, which most producers regard as of political-strategic importance. Arms export promotion by governments has therefore long been a feature of foreign and defence policy. The increasing development costs of major weapons, and reduced national budgets in Europe, mean that the pressure to export and efforts to gain export orders have increased in the past decade. Even for the USA exports have become more important to sustain its defence-industrial base. Such efforts include government credits at low interest rates, unconditional transfers of military technology and other offers to help importers establish their own arms industry, faster and simpler export decision making, and supply of the latest

technology (SIPRI Yearbook 2014). For example, conditions for the sale of Rafale combat aircraft in 2015 to Egypt and Qatar—the first export of the Rafale after years of failures—show the emphasis placed on exports by France. Egypt received its first aircraft from production ordered for the French air force and aircraft for both Egypt and Qatar will have advanced radar before such radar ordered for France's own Rafales have all been fitted.

USA. The USA was the largest exporter of major weapons in 2012–16, accounting for 33 per cent of the global volume of deliveries. US arms exports increased by 21 per cent between 2007–11 and 2012–16. At the regional level, the Middle East was the main recipient of US weapons, accounting for 47 per cent of US arms exports (see table 2.1.5). Asia and Oceania received 35 per cent and Europe 10 per cent.

The USA delivered major weapons to at least 100 states in 2012–16, a significantly higher number of export destinations than any other supplier. The main recipient was Saudi Arabia, accounting for 13 per cent of US arms exports. The flow of weapons to Saudi Arabia is likely to remain at a high level due to large outstanding orders, such as for 154 F-15SA combat aircraft, deliveries of which began in 2016, and large planned Saudi orders (see below). This is despite some opposition in the US Congress during 2016 to arms supplies to Saudi Arabia in response to the indiscriminate nature of Saudi military operations in Yemen. The second and third largest recipients of US major weapons, the United Arab Emirates (UAE) (8.7 per cent) and Turkey (6.3 per cent) respectively, were also in the Middle East.

The USA also increased its exports of missile defence systems in 2012–16. Japan, Kuwait, Poland, Qatar, Saudi Arabia, South Korea, Taiwan and the UAE received, ordered or selected the Patriot PAC-3 system. The more advanced and longer-range THAAD system was delivered to the UAE—the first export of this system.

Russia. The volume of Russia's exports of major weapons grew by 4.7 per cent between 2007–11 and 2012–16, while its share of total global exports decreased from 24 to 23 per cent. Although deliveries in 2016 were higher than in 2014 and 2015, the volume remained substantially below the peak years of 2011–13 and were more in line with the levels seen in 2007–10. At the regional level, Asia and Oceania accounted for 68 per cent of Russian arms exports in 2012–16, Africa for 12 per cent, the Middle East for 8.1 per cent and Europe for 5.9 per cent. Russia delivered weapons to 50 states in 2012–16. The bulk of Russian arms exports went to a comparatively small group of states: India accounted for 38 per cent, Viet Nam and China each for 11 per cent and Algeria for 10 per cent. Azerbaijan and Venezuela were also important recipients accounting for 4 and 4.9 per cent of Russian exports respectively; however, no Russian arms deliveries have been identified to either in 2016. In 2014 Russia also delivered major weapons to rebel forces in eastern Ukraine.

Table 2.1.5. The 10 largest suppliers of major weapons and their destinations, by region, 2012–16

Figures are the percentage shares of the supplier's total volume of exports delivered to each recipient region. Figures may not add up because of the conventions of rounding.

Recipient region	Supplier									
	USA	Russia	China	France	Germany	UK	Spain	Italy	Ukraine	Israel
<i>Africa</i>	2.3	12	22	9.2	8.9	1.4	2.6	10	20	1.7
North Africa	1.9	9.8	9.7	7.4	8.4	1.2	–	8.9	0.3	–
Sub-Saharan	0.4	2.4	12	1.8	0.5	0.3	2.6	1.6	20	1.7
<i>Americas</i>	5.5	6.1	5.1	11	16	8.9	11	11	1.7	12
South America	1.9	5.7	4.9	5.3	5.5	2.1	4.2	4.7	1.7	5.3
<i>Asia and Oceania</i>	35	68	71	29	24	28	41	21	54	55
Central Asia	0.1	2.8	2.7	1.1	0.6	–	3.0	1.1	2.6	0.0
East Asia	13	11	–	11	14	5.7	–	0.1	28	5.7
Oceania	6.2	–	–	5.0	0.8	1.0	27	4.5	–	0.4
South Asia	8.9	40	53	5.7	1.6	11	0.3	8.0	9.7	41
South East Asia	6.1	13	16	5.8	6.7	10	11	7.1	13	8.1
<i>Europe</i>	10	5.9	0.0	13	28	6.0	3.0	20	20	27
European Union	9.7	0.0	–	12	28	5.3	3.0	17	1.4	13
<i>Middle East</i>	47	8.1	1.7	38	23	56	43	38	4.4	2.8
<i>Other</i>	<0.05	–	–	–	<0.05	–	–	0.2	0.2	1.5

– = nil; <0.05 = between 0 and 0.05.

Source: SIPRI Arms Transfers Database, <<http://www.sipri.org/databases/armstransfers/>>.

China. Chinese exports of major arms increased by 74 per cent between 2007–11 and 2012–16, and China's share of global arms exports rose from 3.8 to 6.2 per cent. At the regional level, the majority of Chinese exports went to Asia and Oceania (71 per cent), followed by Africa (22 per cent) and the Americas (5.1 per cent). China made only very limited exports to Europe, where it has little chance of penetrating the largest markets, and the Middle East, despite strong marketing efforts. However, overall, the geographic spread and number of its recipients increased from 38 countries in 2007–11 to 44 in 2012–16, including 20 in Africa. Pakistan, a long-time and probably the closest ally of China, remained by far the largest recipient of Chinese arms exports, accounting for 45 per cent of the volume of all Chinese exports of major weapons in 2012–16. China also penetrated the former-Soviet Central Asian states (Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan). While these deliveries only accounted for 2.7 per cent of all Chinese exports of major weapons in 2012–16, they were the first significant deliveries of major arms from China to former-Soviet states and correlate with growing Chinese political and economic interest and influence in Central Asia.

France. France was the fourth largest supplier of major weapons in 2012–16, accounting for 6 per cent of the total volume. It delivered arms to 81 countries in 2012–16. At the regional level, 38 per cent of its exports went to the Middle East, 29 per cent to Asia and Oceania, 13 per cent to Europe, 11 per cent to the Americas and 9.2 per cent to Africa. French exports decreased by 5 per cent between 2007–11 and 2012–16. However, several large arms export contracts were agreed in 2012–16. These orders, together

with deliveries of other larger orders signed before 2012, will keep France among the top five suppliers in the coming years and are likely to increase its share of the global total.

Germany. Germany was the fifth largest supplier of major weapons in 2012–16, even though its exports decreased by 36 per cent compared with 2007–11. Its share of the global total fell from 9.4 per cent in 2007–11 to 5.6 per cent in 2012–16. However, total exports in 2016 reached a level similar to the annual average for 2007–11, when Germany was the third largest supplier. Germany supplied major arms to 60 states in 2012–16. A total of 28 per cent of German arms exports went to other states in Europe, 24 per cent to states in Asia and Oceania, 23 per cent to states in the Middle East, 16 per cent to states in the Americas and 8.9 per cent to states in Africa.

The United Kingdom. The UK was the sixth largest supplier of major arms in 2012–16, accounting for 4.6 per cent of the global total. Its arms exports increased by 27 per cent between 2007–11 and 2012–16. However, it has fallen outside the top five suppliers. The Middle East accounted for 56 per cent of British exports in 2012–16, with the majority of those deliveries going to Saudi Arabia. Based on its outstanding orders at the end of 2016, it seems likely that the UK will remain outside the top five for the foreseeable future.

Spain. Spain was the seventh largest supplier in 2012–16, accounting for 2.8 per cent of the global total. Spain's arms exports grew by 2.9 per cent between 2007–11 and 2012–16. Exports of tanker aircraft and large transport aircraft were the main drivers of the increase. These aircraft are produced by Airbus, a European conglomerate based mainly in France and Germany, where most of its production is carried out. However, its military products are assembled in and exported from Spain.

Italy. Italy was the eighth largest supplier in 2012–16. It accounted for 2.7 per cent of global deliveries in that period. Italy's arms exports rose by 22 per cent between 2007–11 and 2012–16. Italy exported to at least 59 states in 2012–16, the fourth highest number of recipients behind the USA, France and Germany.

Ukraine. Ukraine was the ninth largest supplier in 2012–16. Its arms exports rose by 49 per cent between 2007–11 and 2012–16. China received the highest percentage (28 per cent) of Ukraine's major arms exports in 2012–16. Deliveries in 2012–16 were pushed up by the one-off delivery of an aircraft carrier to China. This was delivered unfinished but was subsequently completed to a slightly modified design in China. It entered into service in 2012 as the first Chinese aircraft carrier. Russia received the second highest percentage (17 per cent) of Ukraine's arms exports in 2012–16. Deliveries continued even after Ukraine banned the export of military equipment to Russia in 2014. These included transport aircraft produced under licence in Russia and the acceptance by Russia of domestically produced aircraft and

ships with Ukrainian-produced engines.⁵⁴ However, these types of deliveries are coming to an end.

Israel was the 10th largest supplier of major arms in 2012–16, accounting for 2.3 per cent of global arms exports. Its exports increased by 13 per cent between 2007–11 and 2012–16. Israel has developed strong and close ties with India over the past decade and India accounted for 41 per cent of Israel's exports in 2012–16.

Importers

In all the years 2007–2016 Asia was the main recipient region of major weapons, accounting annually for 36–48 per cent of global imports and for 43 per cent over the whole period. Imports by states in Asia rose by 7.7 per cent between 2007–11 and 2012–16. The Middle East received 23 per cent of global imports in that period. Imports by states in the Middle East rose by 86 per cent between 2007–11 and 2012–16. Europe was the third largest recipient region with 14.5 per cent but its share fell significantly from 27 per cent in 2007 to 11.5 per cent in 2016, or from 18 per cent in 2007–11 to 11 per cent in 2012–16—the latter is a 36 per cent drop between the two periods. The share for the Americas also fell: from 11 per cent in 2007–11 to 8.6 per cent in 2012–16, an 18 per cent drop. Africa accounted for 8.1 per cent of imports of major weapons in 2012–16, a 6.6 per cent drop compared to 2007–2011.

Africa

Imports by states in Africa decreased by 6.6 per cent between 2007–11 and 2012–16. The three largest importers in Africa in 2012–16 were Algeria (46 per cent of regional imports), Morocco (15 per cent) and Nigeria (4.6 per cent). Russia was the largest supplier of major weapons to Africa, accounting for 35 per cent of exports to the region in 2012–16, followed by China (17 per cent), the USA (9.6 per cent) and France (6.9 per cent).

Algeria. Arms imports by Algeria increased by 4.7 per cent in 2012–16 compared with 2007–11. Russia accounted for 60 per cent of Algerian arms imports, China for 15 per cent and Germany for 12 per cent. Algerian arms imports rose steeply in 2016 when deliveries under some large contracts began. Considering the drop in oil prices since 2014, which put pressure on the Algerian budget, and the fact that Algeria faces no serious major military threat, it is likely that spending and arms acquisitions have reached their upper limit.

Sub-Saharan Africa. States in sub-Saharan Africa received 35 per cent of total African imports. Nigeria, Sudan and Ethiopia were the largest importers in the subregion, accounting for 13, 12 and 9.8 per cent of the subregional total respectively. China was the largest supplier to the subregion, accounting

⁵⁴ SIPRI normally counts as the year of delivery the year when the weapon enters service with the military forces. Delivery of components such as engines for such weapons is counted when the platform is delivered.

for 27 per cent of the total, followed by Russia with 19 per cent and Ukraine with 18 per cent.

Most sub-Saharan African states have limited budgets and import only small volumes of major weapons, despite the fact that many of them are involved in or located close to major armed conflicts that could well spill over. In 2012–16 the top five arms importers in sub-Saharan Africa, Nigeria, Cameroon, Sudan, Ethiopia and Tanzania, together accounted for 48 per cent of arms imports in the subregion. With the exception of Tanzania, all of these states are involved in armed conflicts. Fighting with Boko Haram is directly related to arms imports in Nigeria and Cameroon. The fighting in Darfur and Sudan's involvement in the civil war in South Sudan have coincided with sustained levels of arms imports by Sudan, mainly from Russia, China and Belarus. Ethiopia has ongoing tensions with Eritrea and the two are occasionally involved in border skirmishes. Ethiopia is also supporting the Somali Government in its fight against al-Shabab rebels. Internal tensions in many African states often lead to arms acquisitions for internal security and the, sometimes heavy-handed, use of larger weapons against various non-violent internal protest and opposition groups. Ethiopia for example used light armoured vehicles against anti-government protests in the Oromia region in 2016.

The Americas

Imports of major weapons by states in the Americas decreased by 18 per cent between 2007–11 and 2012–16. The USA remained the largest importer of major weapons in the Americas, despite a fall in imports of 26 per cent between those two periods. Arms imports by South American states accounted for 46 per cent of the total for the Americas. They fell by 30 per cent between 2007–11 and 2012–16. Venezuela, Mexico and Brazil were the largest importers in South America in 2012–16. Russia accounted for 34 per cent of deliveries to South America, followed by the USA and France with 16 and 8.1 per cent respectively.

Venezuela. Venezuela was the largest importer in South America and the second largest in the Americas in 2012–16, and 70 per cent of its imports supplied by Russia. However, Venezuela has been hit hard by falling oil prices and a failing economy since 2014. Its arms imports in 2016 alone, for example, were only 1.7 per cent of the total for 2012–16 and it has not placed many major orders in the past five years.

Mexico. Mexico was the only significant recipient of major arms in Central America in 2012–16. Its imports rose by 184 per cent compared with 2007–11, making it the fourth largest importer in the Americas. This increase was largely a result of the growing role taken by the armed forces in the campaign against drug cartels, which began in 2006. The USA accounted for 56 per cent of deliveries to Mexico in 2012–16, followed by Spain and France with 11 per cent each.

Colombia. Arms imports by Colombia decreased by 19 per cent between 2007–11 and 2012–16. The USA was the main supplier of major weapons to Colombia, accounting for 39 per cent of total deliveries in 2012–16. For decades Colombia's arms acquisitions, including major weapons, were largely linked to its internal conflict with several rebel forces and drug cartels. The recent decline in arms imports coincides with the growing momentum of the peace process with the largest rebel force—the Revolutionary Armed Forces of Colombia (Fuerzas Armadas Revolucionarias de Colombia, FARC).

Asia

Of the 10 largest recipients of major weapons, five were in Asia and Oceania—India, China, Australia, Pakistan and Viet Nam. Arms imports by states in the region increased by 7.7 per cent between 2007–11 and 2012–16. States in the region received 43 per cent of global imports in 2012–16, the same total as for 2007–11. South Asia accounted for 43 per cent of the total for Asia and Oceania, East Asia for 24 per cent, South East Asia for 22 per cent, Oceania for 7.9 per cent and Central Asia for 3.3 per cent. Russia accounted for 37 per cent of deliveries to Asia and Oceania, followed by the USA with 27 per cent and China with 10 per cent.

Arms acquisitions by Asian states are largely the result of continuing and increasing tensions between states in the region. Various observers, including in 2011 the then President of the European Council, Herman van Rompuy, have warned that the situation in Asia, and in particular East and South East Asia, is an arms race with the potential to cause economic and political instability. However, while the region does have several areas of increasing political tension, until now arms acquisitions have tracked the economy—when the economy grows, military budgets and arms acquisitions increase, often at a similar rate, while economic downturns translate into reduced budgets and acquisitions. States in underdog positions have sought military capabilities that in recent years have often been called 'asymmetric' or Anti Access/Area Denial (A2/AD) (Grimmett 2010). This is for example evident in Asia, where states faced with a perceived threat from the regional superpower, China, have shown an increased interest in submarines and long-range anti-ship missiles to balance China's growing military capabilities in the disputed maritime domain (SIPRI Yearbook Arms Transfers 2016).

Table 2.1.6. The 50 largest recipients of major weapons, 2012–16

The table includes all countries and non-state actors that imported major weapons in the five-year period 2012–16. Ranking is according to 2012–16 total imports. Figures are SIPRI trend-indicator values (TIVs). Percentages above 10 per cent have been rounded to the nearest whole number, those below 10 per cent to one decimal. Figures and percentages may not add up to displayed totals because of the conventions of rounding.

Rank		Recipient	Volume of imports (TIV, millions)		Share (%)	Change (%)
2012–16	2007–11		2016	2012–16	2012–16	with 2007–11
1	1	India	2 547	18 239	13	43
2	11	Saudi Arabia	2 979	11 689	8.2	212
3	10	United Arab Emirates	1 278	6 593	4.6	63
4	2	China	993	6 380	4.5	-11
5	5	Algeria	2 882	5 312	3.7	4.7
6	12	Turkey	437	4 721	3.3	42
7	6	Australia	1 060	4 636	3.3	-6.8
8	20	Iraq	1 734	4 598	3.2	123
9	4	Pakistan	759	4 493	3.2	-28
10	29	Viet Nam	1 196	4 272	3.0	202
11	18	Egypt	1 483	4 203	3.0	69
12	8	United States	512	3 589	2.5	-26
13	3	South Korea	1 333	3 586	2.5	-49
14	25	Indonesia	382	2 967	2.1	70
15	56	Taiwan	120	2 824	2.0	647
16	7	Singapore	173	2 616	1.8	-47
17	14	Venezuela	37	2 215	1.6	-17
18	64	Bangladesh	438	2 132	1.5	681
19	23	Israel	607	2 062	1.4	12
20	17	United Kingdom	260	1 940	1.4	-22
21	34	Azerbaijan	257	1 933	1.4	75
22	43	Qatar	901	1 866	1.3	245
23	67	Oman	393	1 862	1.3	692
24	24	Morocco	254	1 772	1.2	-2.7
25	31	Italy	868	1 617	1.1	27
26	16	Japan	330	1 536	1.1	-39
27	28	Canada	258	1 386	1.0	-9.7
28	9	Greece	318	1 369	1.0	-67
29	46	Kuwait	194	1 349	0.9	175
30	27	Afghanistan	176	1 336	0.9	-15
31	37	Myanmar	261	1 256	0.9	23
32	51	Thailand	318	1 252	0.9	212
33	47	Mexico	388	1 200	0.8	184
34	33	Brazil	125	1 117	0.8	-3.1
35	54	Finland	202	1 082	0.8	175
36	65	Kazakhstan	225	981	0.7	269
37	21	Poland	170	969	0.7	-52
38	36	Netherlands	117	900	0.6	-13
39	39	Jordan	196	879	0.6	0.7
40	60	Turkmenistan	392	850	0.6	177
41	30	Spain	97	802	0.6	-42
42	38	Colombia	29	797	0.6	-19
43	32	Syria	-	747	0.5	-35
44	79	Russia	169	733	0.5	420
45	58	Peru	136	596	0.4	84
46	13	Malaysia	273	581	0.4	-80
47	35	Germany	38	523	0.4	-52
48	53	Nigeria	74	524	0.4	34

Rank		Recipient	Volume of imports (TIV, millions)		Share (%) 2012–16	Change (%) with 2007–11
2012–16	2007–11		2016	2012–16		
49	15	Norway	140	515	0.4	-80
50	95	Belarus	190	496	0.3	536
..	..	105 others	2 380	10 337	7.3	..

.. = not available or not applicable; – = no deliveries.

Note: SIPRI data on arms transfers relates to actual deliveries of major weapons. To permit comparison between the data on deliveries of different weapons and to identify general trends, SIPRI uses a trend-indicator value. This value is only an indicator of the volume of arms transfers and not the financial values of such transfers. Thus, it is not comparable to economic statistics.

Source: SIPRI Arms Transfers Database, <<http://www.sipri.org/databases/armstransfers/>>.

Most states in Asia, even the larger ones, remain at least partially dependent on imports to fulfil their requirements for major weapons or other military technology. However, many Asian states have policies to develop their local arms production and development capabilities with the aim of substituting imports for economic and/or strategic reasons. These policies have not always been successful. India is still nearly fully dependent on imported weapons and technology, despite consistent and relatively well-funded indigenization efforts since the 1950s. Most successful at indigenization have been China, which is now close to independence in arms development and production, Japan and South Korea.

India. India was the world's largest importer of major arms in 2012–16, accounting for 13 per cent of the global total. Imports rose by 43 per cent between 2007–11 and 2012–16 (see table 2.1.6). India's imports in the most recent period were far greater than those of its regional rivals, China and Pakistan, with which it has tense relations. A key reason for the high level of imports is the continued failure of India's state-owned arms development organization and arms industry to design and produce weapons that are capable of competing with their foreign equivalents.

Russia supplied 68 per cent of India's imports of major arms in 2012–16, the USA 14 per cent and Israel 7.2 per cent (see table 2.1.7). A large part of the total volume of Russian imports is in the form of assembly or licensed production of major weapons by India's state-owned arms industry. Based on planned and existing orders, Russia will remain by far the main supplier of major arms to India for the foreseeable future. However, India is also expected to receive several major deliveries in the next few years from France (another traditional supplier), the USA, South Korea and Spain—all of which only recently became suppliers of major weapons to India. In addition, the Indian Government has launched a number of initiatives to spur private industry involvement in large-scale arms acquisition programmes with the aim of increasing indigenous production. This is likely to lead to a reduction in Russia's overall share as many of the private sector Indian companies seeking

to be part of the bidding process are partnering with European, US, South Korean, Israeli and Japanese companies.

China. China is increasingly capable of producing its own advanced weapons and has become less dependent on arms imports, which decreased by 11 per cent between 2007–11 and 2012–16. Russia was the largest supplier of major arms to China in 2012–16, accounting for 57 per cent of China's imports. China is also scheduled to receive several large deliveries from Russia in 2017–19. Ukraine accounted for 16 per cent of Chinese imports in 2012–16 and France for 15 per cent. The EU embargo on arms trade with China, in force since 1989, is weak and unclear, allowing deliveries of some complete systems and many components that are covered by export controls but not often considered 'arms' (e.g. engines). However, most of the deliveries from France, and several other European states, are produced under licence in China, often under contracts signed decades ago, with limited or no components still imported (Bräuner et al. 2015).

Table 2.1.7. The 10 largest recipients of major conventional weapons and their suppliers, 2012–16

Figures are the percentage shares of the recipient's total volume of imports received from each supplier. Only suppliers with a share of 1 per cent or more of total imports of any of the 10 largest recipients are included in the table. Smaller suppliers are grouped together under 'Others'. Figures may not add up to 100 because of the conventions of rounding.

Supplier	Recipient									
	India	Saudi Arabia	UAE	China	Algeria	Turkey	Australia	Iraq	Pakistan	Viet Nam
Belarus				2.7				0.3		3.5
Bulgaria	–	<0.05	–	–	–	–	–	1.2	–	–
Canada	0.7	2.0	0.7	–	–	0.3	–	–	–	0.6
China	–	0.1	0.1	–	15	0.7	–	0.4	68	–
Czech	–	–	–	–	–	–	–	3.6	–	1.1
France	2.4	4.1	12	15	0.5	0.5	8.2	–	0.4	–
Germany	0.6	1.9	2.0	0.6	12	2.2	1.3	0.8	0.1	–
Ireland	–	–	–	–	–	–	1.4	–	–	–
Israel	7.2	–	–	–	–	0.9	–	–	–	2.7
Italy	0.2	1.3	6.5	–	5.8	12	–	–	3.8	–
Jordan	–	–	–	–	–	–	–	–	3.1	–
Netherlands	0.2	0.9	–	–	0.7	3.0	–	–	–	–
Russia	68	–	2.7	57	60	–	–	23	3.3	88
South Korea	–	–	–	–	–	8.0	–	–	–	–
Spain	–	4.2	4.5	–	–	9.3	28	0.7	–	0.8
Sweden	–	1.4	3.2	–	1.9	–	0.8	–	0.6	–
Switzerland	0.4	2.3	0.7	4.1	–	–	–	–	0.4	–
Turkey	–	1.8	3.2	–	–	–	–	–	–	–
Ukraine	1.5	–	–	16	0.2	–	–	3.5	–	2.8
United	4.0	27	1.0	2.8	1.4	–	1.5	–	–	–
United States	14	52	62	–	0.5	63	60	56	–	–
Uzbekistan	–	–	–	1.6	–	–	–	–	–	–
Others	0.4	1.8	1.3	–	0.9	0.2	0.6	1.1	0.4	0.1

– = nil; <0.05 = between 0 and 0.05; UAE = United Arab Emirates.

Source: SIPRI Arms Transfers Database, <<http://www.sipri.org/databases/armstransfers/>>.

While China was the largest importer globally by a wide margin in the early 2000s, it dropped to fourth place in 2012–16. China remains partly dependent on imports for some key weapons and components, such as large transport aircraft and helicopters, and engines for aircraft, armoured vehicles and ships. Engines accounted for 30 per cent of China's imports in 2012–16. In 2016 China received the first 4 of 24 Su-35 combat aircraft ordered from Russia in 2015 in a deal seen by some as evidence of closer China-Russia political relations. However, China probably ordered these aircraft for the same practical reasons that led to the large imports from Russia in the 1990s and early 2000s: it has not yet managed to produce weapons with the capabilities it requires. China is making strong efforts to develop indigenous capabilities in all relevant fields, meaning that its imports and dependence on Russia are almost certain to decrease further.

South East Asia. Tensions between China and several countries over maritime claims in the South China Sea have directly or indirectly driven up demand for major weapons in South East Asia. Imports by states in the subregion increased by 6.2 per cent between 2007–11 and 2012–16. Most of the major weapons acquired in this subregion have a maritime role. They include frigates, submarines, minor warships, support ships, combat aircraft and anti-ship missiles. Viet Nam was the largest importer in the subregion. It jumped from being the 29th largest importer globally in 2007–11 to the 10th largest in 2012–16, and its arms imports increased by 202 per cent. This was the highest growth rate among the top 10 importers in 2012–16. The Philippines has started a military expansion programme and increased its arms imports by more than 400 per cent between 2006–11 and 2012–16. Substantial orders have been placed for delivery in the next few years. The increase is largely due to the delivery of ships and aircraft that will be useful in the disputed maritime areas. Indonesia is also modernizing and expanding its armed forces, with an emphasis on maritime forces. Its imports increased by 70 per cent in 2012–16 compared with 2007–11. Singapore is not involved in the disputes over maritime claims but is indirectly affected. Its imports decreased by 47 per cent between 2007–11 and 2012–16, making it the 16th largest arms importer globally. However, Singapore is still absorbing the major arms acquisitions that took place in 2007–11 when it was the seventh largest importer for that period.

Australia. Imports of major weapons by Australia accounted for 3.3 per cent of the global total for 2012–16. Australia's arms imports decreased marginally between 2007–11 and 2012–16 (–6.8 per cent). Its imports in 2012–16, new orders and planned acquisitions are largely systems aimed at providing Australia with capabilities to operate further from its shores than before and are partly to counter a perceived growing threat from China.

Europe

Imports by states in Europe decreased by 36 per cent between 2007–11 and 2012–16, and the region accounted for 11 per cent of total global imports in 2007–11. Economic pressures forced states such as Greece and Spain to greatly reduce arms procurement and arms imports in 2012–16. Although imports by the UK also decreased (–22 per cent), it remained the largest importer of major weapons in Europe. The USA accounted for 32 per cent of deliveries to Europe in 2012–16, followed by Germany (14 per cent) and Russia (13 per cent). Acquisitions of new combat aircraft will dominate the arms imports of many West and Central European countries in the coming years. In particular, the introduction of the fifth generation, US-supplied F-35s will drive up arms import volumes over the next five years. Denmark, Italy, the Netherlands, Norway and the UK have already ordered 344, while other countries such as Belgium, Finland, Germany, Poland, Spain and Switzerland, have stated requirements for new combat aircraft in the near future; most, if not all, of these aircraft will be imported.

Countries bordering Russia. Largely based on what they perceive as a growing threat from Russia, several countries bordering Russia have embarked on new arms import programmes. However, the volumes of arms imports by Estonia, Latvia and Lithuania in 2012–16 were still below the levels of 2007–11. Poland has announced new arms procurement programmes and has placed several large orders for major weapons, such as air-defence and ballistic missile defence systems and artillery. This has not yet resulted in substantial deliveries but will do so in the coming years. In 2016 Poland took delivery from the USA of the first batch of 68 AGM-158A air-launched missiles with a 370-kilometre range. Finland also received the first batch of 70 such missiles in 2016. In addition, in 2016 Poland ordered 70 AGM-158B missiles with a range of 925 km. Both Finland and Poland now have the capability to strike targets much further inside Russia and with greater precision than before.

Azerbaijan and Armenia. Imports by Azerbaijan and Armenia—whose conflict over Nagorno-Karabakh flared up again in 2016—remained asymmetric. In 2012–16 Azerbaijan's imports were 75 per cent higher than in 2007–11, and 20 times higher than those of Armenia. Armenia's most notable arms import consisted of a small number of Iskander surface-to-surface missiles from Russia, which with their 280-km range can reach nearly all of Azerbaijan. Azerbaijan imported a much wider variety of weapons, such as tanks and other armoured vehicles, anti-ballistic missile systems and combat aircraft. While Russia is an ally of Armenia, it was an important supplier to both countries.

The Middle East

Arms imports by states in the Middle East increased by 86 per cent between 2007–11 and 2012–16. In 2012–16, 28 per cent of arms transfers to the region

went to Saudi Arabia, 16 per cent to the UAE and 11 per cent to Turkey. The USA accounted for 53 per cent of total arms supplies to the region, the UK for 8.9 per cent and France for 8 per cent. The region's main arms importers often invested in advanced combat support systems ('force multipliers') that can significantly increase the combat potential of their armed forces, such as airborne and space-based long-range sensors.

Deliveries on existing contracts will keep arms imports by Middle East states at a high level in the coming years. However, the burden of military spending by many countries in the region is already the highest in the world—in 2016 on average 6 per cent of GDP against a global average of 2.2 per cent—and the significant drop in the oil price since 2014 is putting increasing pressure on military budgets in the region. This is likely to have an impact on future orders. However, the deteriorating security situation in the region in recent years may balance the budget pressures in some Middle Eastern states. In 2017, the USA and Saudi Arabia agreed in principle on new US sales that will be the largest ever by Saudi Arabia, while Qatar is also close to placing its largest ever orders.⁵⁵

Conclusions

Global military spending and the global arms trade (in constant values) have in the past decade returned to the high levels of the final years of the cold war. Some of these changes may be temporary or cyclical, others more enduring. However, in general they indicate clearly that current perceptions of threat remain high and have grown in the past decade. On a more detailed level, some aspects of spending and arms trade have seen little change since the cold war: the USA has been by far the largest spender and the same dozen countries dominate the list of exporters of major weapons. However, the geographical focus of both spending and arms imports has changed. Asia has become more important as spender and importer, driven by continued, and in some cases increasing, high levels of tension and enabled by economic growth. Europe has seen a 'peace dividend' after the cold war, even if also there the trend seems to be upwards again. While a region with high tensions and active conflict, trends for the Middle East are less clear: spending and arms imports remain at a high level but the price of oil impacts heavily on both. Africa remains too poor to influence the global trends and the many conflicts there are fought with limited budgets and small numbers of major weapons, which however does not mean limited casualties and damage. One aspect of both military spending and arms trade, transparency or official public information on budgets, arms exports, arms imports or the defence and other policies behind them, has seen a negative development in recent years. Less countries supply such information to the voluntary UN reporting mechanisms or publish them in any other format than five to ten years ago. Especially in regions with high tensions, Africa, Asia and the Middle East,

⁵⁵ For an overview over the arms trade to the Middle East, see Section 4 in this study.

transparency has decreased. Since such transparency is widely accepted to stimulate confidence between states and thus reduce the threat perceptions that drive the current increasing military spending and arms trade, the decrease is worrisome.

References

- Bräuner, O., Bromley, M. and Duchâtel, M., *Western Arms Exports to China*, SIPRI Policy Paper no. 43 (SIPRI: Stockholm, Jan. 2015).
- Grimmett, R. F., *Conventional Arms Transfers to Developing Nations, 2002–2009*, Congressional Research Service (CRS) Report to Congress R41403 (CRS: Washington, DC, 2010).
- SIPRI, Arms Transfers Database (ATDB), updated Mar. 2017.
- SIPRI, Military Expenditure (Milex) Database, updated Apr. 2017.
- ‘International arms transfers’, SIPRI Yearbooks 2009–17.
- ‘Military expenditure’, SIPRI Yearbooks 2009–17.
- Small Arms Survey (SAS), *Trade update 2016: Transfers and transparency* (SAS: Geneva, 2016).
- Theohary, C. A., *Conventional Arms Transfers to Developing Nations, 2008–2015* (CRS: Washington, DC, 2016).
- US Department of State, *World Military Expenditure and Arms Transfers, 2016*, 34th edn (US Department of State: Washington, DC, Dec. 2016).

2.2. The availability and military use of guided missiles

SIEMON WEZEMAN

Missiles and their proliferation have been an issue on the arms control agenda for many decades. Originally, the focus was largely on the proliferation of missiles capable of carrying weapons of mass destruction (WMD) over a longer range, or ballistic and cruise missile. Since the 1990s, an additional concern has been the proliferation of missiles at the other end of the spectrum: portable anti-aircraft missiles (MANPADS), and to a limited extent portable anti-tank missiles (Small Arms Survey 2013). With portable missiles, the official concern is mainly that they could end up in the hands of non-state actors and be used for terrorist attacks on civilian targets. Finally, in recent years, the rapid spread and use of conventional precision-guided land-attack missiles has also become a matter of concern, particularly when linked to autonomous targeting.

This section examines recent developments in the field of long-range, ballistic and guided missiles, MANPADS and precision-guided weapons. It explores: (a) how they have developed and proliferated since 2009; (b) the concerns this has raised with various actors; and (c) the responses to such concerns (long-range ballistic and guided missiles are discussed in section 1.5).

Long-range ballistic and guided missiles

Proliferation of long-range ballistic and guided missiles

Since 2009, the nuclear weapon states under the NPT (the United States, Russia, the United Kingdom, France and China) and Israel have generally kept the size of their arsenals of nuclear-tipped ballistic and cruise missiles static, but all are modernizing their arsenals or have announced plans to do so. Only in the case of China does the modernization include a limited growth in their small arsenal, as several (reportedly up to eight) submarines with ballistic missiles are put in service (SIPRI 2017; Saunders 2015). However, the development, introduction and use of new missiles with ranges over 300 km armed with conventional warheads (and potentially tactical nuclear warheads) have been more dynamic. Russia has introduced new ballistic and cruise missiles (Iskander and Kalibr), the USA has introduced the AGM-158 and supplied it to Poland and others, and South Korea and several other non-nuclear states have acquired long-range missiles from foreign suppliers (SIPRI ATDB 2017). The indigenous development of long-range missiles in ‘newcomer’ states (India, Pakistan, North Korea, Turkey and South Korea) has been faster still, providing them with missiles with greater ranges, carrying capabilities and reliability. There is substantial concern worldwide that missile programmes in several such countries are linked to suspected nuclear weapon programmes. Missile development in North Korea and Iran in particular, has been the focus of concern and efforts to limit their development capabilities (SIPRI Nuclear Forces 2017; SIPRI Nuclear forces 2016). However, North Korea has managed to develop and test ballistic missiles with ranges of 10000 km or more and Iran with ranges of 3500–4000km (NTI 2017; CSIS 2017). India and Pakistan have also continued the development of ballistic missiles and more recently cruise missiles with nuclear or conventional warheads (NTI 2017; SIPRI nuclear forces 2017). China has been accused of supplying missile technology to Iran, North Korea, Pakistan, Saudi Arabia and Syria, despite its stated commitment to the MTCR (Grimmett 2010; NTI 2017; Davenport 2016).

Man-Portable Air Defence Systems

MANPADS are surface-to-air missile systems that can be carried and fired by one person or a small number of people. They are relatively simple and cheap counters to low-flying (below 5000 metres) aircraft. Since their introduction by the USA and the Soviet Union in the 1960s, the number of countries producing them has increased to over 30, including those that produce under licence or produce unlicensed copies, and MANPADS have been widely exported. Among the producers, some have shown little interest in stricter controls on exports (e.g. North Korea and Iran). As of 2017, over 100 states either have or have had MANPADS, as do a substantial number of non-state armed groups (BICC 2013; SIPRI ATDB 2017). Several hundred thousand

probably remain in service or in stockpiles with states, and a much smaller number with non-state armed groups (SIPRI ATDB 2017; Small Arms Survey 2013). MANPADS technology has developed to increase their range and, more importantly, improve guidance, making the latest models effective even against some countermeasures (Small Arms Survey 2014).

The issue of MANPADS falling into the hands of non-state actors that could use them for terrorist attacks on civilian aircraft has been a concern since the 1970s. However, it became a major issue in various international forums in 2003 after a failed attack on an Israeli airliner in Kenya in 2002 and the looting of Iraq's huge arsenals, which contained thousands of MANPADS, after the fall of Saddam Hussein. The Wassenaar Arrangement, the G8, the Organization for Security and Co-operation in Europe and the Asia-Pacific Economic Cooperation all launched initiatives to deal with MANPADS proliferation through more restrictive export rules and technical solutions to prevent their use by unauthorized users (Small Arms Survey 2015). Since 2003 MANPADS have also been included on the UN Register of Conventional Arms as a distinct sub-category, and they are included in the ATT reporting. However, the global trade in MANPADS does not seem to have been much affected by these concerns about proliferation and stricter national or multilateral export rules or guidelines. Substantial numbers have been exported in the past decade, including to potentially unstable regimes and non-state actors. At the same time, several more states have started to produce MANPADS on their own, and some (such as Iran and North Korea) have exported them (SIPRI ATDB; SAS 2014). Despite the commitments made since 2003 to reduce the risk of proliferation to non-state armed groups, MANPADS have even been supplied by states to such groups (SIPRI ATDB; Small Arms Survey 2013).

It is the USA that has shown the most concern over MANPADS proliferation, especially in view of the potential proliferation from the large Iraqi (in 2003) and Libyan (in 2011–12) stocks when those countries imploded, and more recently about the similarly large stocks held by Venezuela as that country becomes increasingly unstable. The USA has led efforts to remove MANPADS from the inventories of various states and non-state groups through buy-back schemes or by supporting the destruction of surplus stocks. Over 30 000 MANPADS have been removed from circulation since 2003 (US State Department 2011).

Despite concerns about terrorist attacks, the many reported opportunities for proliferation from the stocks of failed states, and the increasing activities of armed non-state actors and their use of terrorist tactics, the number of MANPADS or other guided weapons used against civilian targets has been small and has not increased in the past decade. The last recorded such attack was in 2007 (US State Department 2011). While official concern is almost exclusively focused on terrorist use, concerns about MANPADS proliferation may also be linked to the effect that they can have on military interventions

by, for example, the USA, which relies strongly on air power (Matsumura 2017).

Precision-guided weapons

Precision guidance is the field that has seen the most important breakthroughs in missile technology in recent years. The most significant developments in airpower in recent decades have been the introduction of satellite navigation (GPS) and inexpensive, high-quality electro-optical systems (IISS 2017).

During the 1990–91 Gulf War, 6 per cent of all air-dropped weapons used by Western states and their allies were guided. This had increased to 26 per cent by the 2003 invasion of Iraq and to 100 per cent during the 2011 operation in Libya (IISS 2017). Most of the missiles and bombs being used by Western states and their Middle Eastern allies in Syria and Iraq are guided weapons. Other states, such as China and Russia, are still lagging behind in the development and use of such weapons. Russia's intervention in Syria, for example, has seen the still widespread use of 'dumb' weapons (IISS 2017). The numbers of producers, exporters and buyers of precision-guided weapons has also dramatically increased in the past decade (SIPRI ATDB 2017).

On the one hand, guided weapons provide increased opportunities to use weapons effectively against small targets without serious risk to the attacker or of collateral damage ('surgical strike'). However, they may also reduce the threshold for using military force, in the belief that wars can be 'humanely fought', or lead to an over-strong faith in airpower as an instrument for winning wars or ending a conflict (Gilmore 2015). The proliferation of guided weapons might therefore be beneficial but could also lead to an increased risk of the use of military force. Progress with autonomous decision-making on targeting has become a major debate in political circles and the literature in recent years (see section 2.3). The recent use of precision-guided weapons, generally from UAVs, by the USA as well as several other states for the 'targeted killing' of specific individuals considered 'terrorists' or otherwise a threat to national security, has become a separate debate at the national and international levels. Some of this debate is focused on UAVs and precision-guided weapons, and includes options for stricter export and use controls. However, the debate is focused more on the legitimacy of such operations, be it with precision-guided weapons or other means, under national and international law (Singer 2009; Alston 2010; Knuckey 2014).

Conclusions

Missiles of all types have been an integral part of the inventories, doctrines, tactics and strategies of the armed forces of (almost) all countries for decades. Technological developments since the 1980s, mainly those resulting in increased accuracy, have made missiles dramatically more effective. At the same time, such technology has become much cheaper. Today, missiles are seen widely as a very cost-effective weapon, including for the long-range

conventional attack role, while the more countries are have become capable of producing various missiles independently. This proliferation of missiles seems unstoppable, even if some aspects of it can be seen as potentially destabilizing.

References

- Alston, P., Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions, UN General Assembly, A/HRC/14/24/add.6, 2010.
- Bonn International Center for Conversion (BICC), *MANPADS: A Terrorist Threat to Aviation?* BICC Brief no. 47 (BICC: Bonn, 2012).
- CSIS Missile Defense Project, <<https://missilethreat.csis.org/>>.
- Davenport, K., 'The Missile Technology Control Regime at a glance', Arms Control Association, <<https://www.armscontrol.org/factsheets/mtrc>>, updated Aug. 2016.
- Gilmore, J., *The Cosmopolitan Military* (Palgrave Macmillan: London, 2015).
- Grimmett, R. F., *Conventional Arms Transfers to Developing Nations, 2002–2009* (Congressional Research Service: Washington, DC, Sep. 2010).
- IISS, *The Military Balance, 2017* (IISS: London, 2017).
- Knuckey, S. (ed.), *Drones and Targeted Killings* (IDEA Publications, 2014).
- Nuclear Threat Initiative, <http://www.nti.org>.
- Matsumura, J. et al., *Defining an Approach for Future Close Air Support* (RAND, 2017).
- Saunders, S. (ed.), *Jane's Fighting Ships, 2016–17* (Jane's Information Group: London, 2015).
- Singer, P. W., *Wired for War* (Penguin Books: London, 2009).
- 'Dual use and arms trade control', SIPRI Yearbooks 2015–2017.
- 'Nuclear forces', SIPRI Yearbooks 2016-2017.
- SIPRI Arms Transfers Database (ATDB), updated Mar. 2017.
- Small Arms Survey, *MANPADS proliferation reduction by design* (Issue Brief 11, SAS, Feb. 2015), <<http://www.smallarmssurvey.org/fileadmin/docs/G-Issue-briefs/SAS-IB11-MANPADS-use-control.pdf>>.
- Small Arms Survey, *Fire and Forget*, Issue Brief no. 9 (Aug. 2014) <http://www.smallarmssurvey.org/fileadmin/docs/H-Research_Notes/SAS-Research-Note-31.pdf>.
- Small Arms Survey, 'Armed groups' holdings of guided light weapons', Research notes, 30 June 2013, <http://www.smallarmssurvey.org/fileadmin/docs/H-Research_Notes/SAS-Research-Note-31.pdf>.
- US State Department, 'MANPADS: Combatting the threat to global aviation from Man-Portable Air Defense Systems', 27 July 2011.

2.3. The availability and military use of UAVs

VINCENT BOULANIN AND MAAIKE VERBRUGGEN

Unmanned Aerial Vehicles (UAVs), Remotely Piloted Aircraft (RPA), or drones, are aircraft without an onboard pilot that are remotely controlled by a ground-based operator. This technology has existed for decades, but has attracted growing attention in the past 15 years due to its increased use in armed conflicts by a growing number of states. Furthermore, the technology has developed rapidly over the past 15 years, enabling new uses and presenting new challenges for regulation. This section discusses the state of the technology, maps out the key concerns related to its proliferation and use, and takes stock of the debate on the need for international regulation of armed UAVs.

Development and proliferation of UAVs

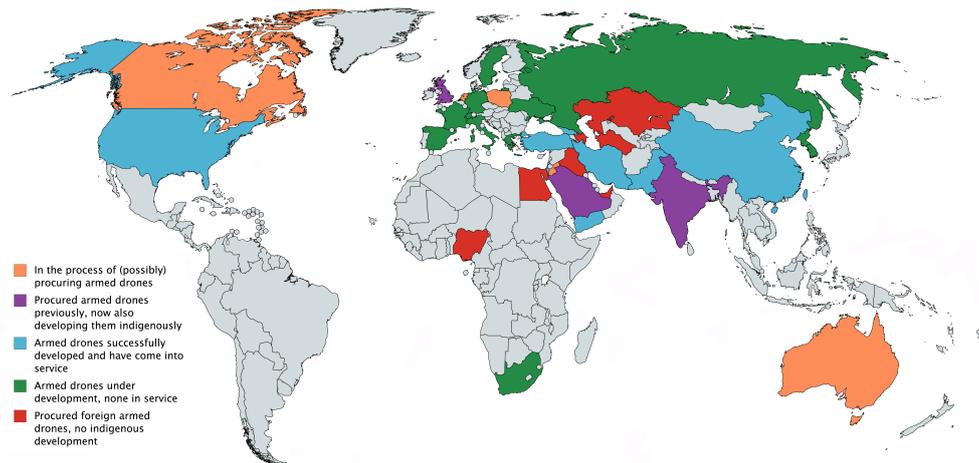
The history of UAVs goes back many decades, but they have only been armed for the past 16 years. UAVs were originally developed as test dummies for aircraft at the start of the 20th century, and saw incidental use in target training and as decoys. Usage intensified in the Viet Nam War and the 1982 Lebanon War with Israel, where the USA and Israel revolutionized UAVs and employed them for Intelligence, Surveillance and Reconnaissance (ISR). They have only carried weapon payloads since the start of the 21st century, when Predator UAVs were armed at the demand of US commanders who wanted to have the possibility of striking high-value targets. The first drone strike took place in Afghanistan in October 2001. Israel employed them in its conflict with Palestine in 2002 and the USA decided to use armed drones for strikes outside recognized combat zones in November 2002 (Keane and Carr 2013; Freedman 2016; Sanders 2002; Shaw 2016)

Deployed UAVs have only limited survivability in contested airspace. They are slower than most manned fighter aircraft and can thus easily be detected and defeated by air defence systems. UAVs are therefore almost exclusively used in asymmetric warfare between parties with greatly differing military power, such as states versus non-state actors, and primarily for targeted strikes (Kreps, Horowitz and Fuhrmann 2016). There are a number of armed UAVs under development that are reported to feature capabilities for advanced combat operations, such as fighting air battles (they are currently exclusively used for air-to-ground strikes) and conducting airstrikes in theatres of operation where operating manned aircraft is normally dangerous or impossible to due to the enemy's use Anti-Access/Area Denial technologies (A2/AD), such as automatic air defence systems and precision guided anti-aircraft munitions (Sayler 2015).

The proliferation of armed UAVs in recent years has been remarkable, both horizontally (the variety of systems has increased in terms of capability, size

and application) and vertically (a growing number of countries own and use them) (see figure 2.3.1). As of February 2017, 21 countries had operational armed drones in their arsenals, 26 countries are reported to be developing armed drones indigenously,⁵⁶ and 10 countries are known to have conducted drone strikes in military operations (Bergen et al. 2016).⁵⁷

Figure 2.3.1. Armed drones proliferation as of May 2017



Source: Adapted from Bergen et al. (2016).

The global market for armed UAVs is dominated by Israel and China. The USA is also a key exporter but it places restrictions to limit the export of armed UAVs to all but its closest allies (Stohl 2015). The USA also provides training for use of armed UAVs (Sixta Rinehart 2017). The Netherlands is currently planning to purchase Reaper UAVs from the USA. These vehicles can be armed, which is the preference of the Dutch Armed Forces, but for now the government has decided to purchase the unarmed variant. In 2016 it was reported that Dutch pilots are scheduled to receive US training on how to use Reapers, including on how to conduct strikes, which is a standard part of the training repertoire (Modderkolk 2016).

Unarmed military UAVs have also proliferated extensively. In 2016, 90 states were reported to have operational unarmed military UAVs in their arsenal (Kreps, Horowitz and Fuhrmann 2016). The market for civilian drones has also developed substantially, opening for the possibility for non-state actors (from criminal gangs to activists, and from terrorists to drug lords) to access UAV technology and use it for various purposes, such as smuggling, intelligence and conducting military strikes. In the conflicts in Syria, Iraq and Ukraine, modified civilian UAVs have been used to deliver explosives,

⁵⁶ In many cases, indigenous development is probably limited to funding development elsewhere, copying foreign technology or producing foreign UAVs domestically.

⁵⁷ Countries that have used armed drones are Azerbaijan, Iran, Iraq, Israel, Nigeria, Pakistan, Turkey, United Kingdom, United States and Yemen (Bergen et al. 2016).

thereby functioning as flying IEDs (Friese, Jensen-Jones and Smallwood 2016; Abbott et al. 2016).

The debate surrounding proliferation and use

Two issues dominate the literature on armed UAVs: the legal and military implications of using UAVs for targeted strikes, and targeted killing in particular; and the impact of the proliferation of UAVs on international security.

Specificity of drone strikes

A central issue is whether the use of UAVs raises fundamentally different legal issues than the traditional tools of air power—such as cruise missiles and fighter aircraft (Lewis and Vavrichek 2016). Some critics feel that the specific characteristics of UAVs, such as their low cost, small size and the minimal risk to operators, make them particularly susceptible to misuse in comparison to other technologies (Kelton and Law 2015). On the other hand, some have argued that because UAVs can loiter for an extended period over their target before attack their use actually enhances the ability of military command to respect the fundamental principles of International Humanitarian Law (IHL) with regard to the conduct of hostilities, that is the obligation to respect the rule of distinction, proportionality and precaution in attack. In this view, UAVs are less likely to lead to violations of IHL (Lewis 2013). The question of whether conventional air strikes create more civilian casualties than drone strikes remains unresolved (Barela and Plaw 2016; Zenko and Wolf 2016)

Status of targeted killing under international law

Targeted killings have been defined as the ‘planned direct killing of an individual because of their perceived membership (and often perceived leadership) of a terrorist movement’ (Carvin 2012). Only the USA, the UK and Israel are known to engage in these types of strikes. Such strikes have triggered an intense debate among scholars and practitioners, notably on two correlated issues.

First, there is the extensive debate about on what legal grounds targeted killings may be deemed lawful (Pejic 2015; Brunstetter and Jimenez-Bacardi 2015). This debate is intrinsically related to the contentious question of when and how human rights law applies in armed conflicts, and by extension if combatants are protected by the principle of the ‘right to life’. Under human rights law, the taking of life is only lawful if strictly necessary to protect against an imminent threat to life. One view is that some of the strikes that the US Central Intelligence Agency (CIA) has conducted against specific individuals essentially amount to extrajudicial executions and violations of the victims’ right to life and right to due process. Proponents of this view stress that they took place outside established armed conflicts, a context in which

International Human Rights Law (IHRL) applies (House 2012; Aslam 2011; Brunstetter and Jimenez-Bacardi 2015). An alternative view is that these attacks were acts of pre-emptive self-defence, and that, because they concerned hostile non-state armed groups, IHRL did not apply even though no war had been formally declared (Anderson 2009; Kretzmer 2005)

A correlated legal issue is whether the targeted killing operations that the USA conducted, most notably in Yemen and Pakistan, constitute a violation of the national sovereignty of the countries in which they took place. This is a legal concern that is particularly important to Russia and China (Ray et al. 2016; Kania 2017; Chase et al. 2015; Facon 2016). This debate on the legality of targeting killings is particularly vivid in the Netherlands as it has been established that the Netherlands has supplied intelligence to the USA that was subsequently used in US targeted strikes (Manjikian 2015; CTIVD 2016; Postma and Zwijnenburg 2017; Ducheine and Osinga 2014).

Transparency on reported use

Transparency in the use of UAVs is also a sensitive issue. A number of scholars, NGO representatives and investigative journalists have criticized the high level of secrecy surrounding the use of armed drones for targeted killings. A number of scholars, NGO representatives and investigative journalists have criticized the high level of secrecy surrounding the use of armed drones for targeted killings, most notably by the CIA (Holewinski et al. 2012; McNeal 2014). Many experts have sought to draw attention to the targeting process that the USA uses to identify targets and authorize strikes. Of particular concern are the ‘signature strikes’, which the USA undertook until 2011. In signature strikes, targets are picked based on their patterns of behaviour—especially typical Islamic rituals such as praying and washing, which are usually carried out before a terrorist attack (Moorehead, Hussein and Alhariri 2017). This practice was heavily criticized due to its alleged racial biases and the high risk of civilian casualties (Holmqvist 2013; Wall and Monahan 2011; Benjamin 2013; Cockburn 2015). The issue of transparency is also salient in Israel. It is widely accepted by academics, governments and militaries worldwide that Israel has been conducting drone strikes since 2002. However, Israel does not admit this publicly, let alone provide any detail about civilian casualties or targeting procedures (Haaretz Editorial Board 2016; Schweiger 2014).

Blowback

A related discussion point is the question of the military effectiveness of targeted killings in counterterrorism operations. Some civil society representatives and strategists have raised questions about whether the tactic of ‘taking out’ perceived members of terrorist organizations using drones strikes makes a positive contribution to the US counterterrorism strategy. Some claim that the high rates of civilian casualties have caused a popular

backlash against the USA, and that each killed leader is replaced very quickly (Kreps and Wallace 2016; Walsh 2013; Enemark 2011; Gill 2015).

Impact on the nature of warfare

The increasing use of armed drones has triggered an active discussion within academic and military circles worldwide about the changing nature of warfare. Drone strikes are conducted over the entire globe, in and outside of established battlefields, and at very short notice. According to some scholars, this has ensured there is no longer any fundamental difference between wartime and peacetime, as well as between warzones and zones of peace (Gregory 2011; Shaw 2013; Graham 2010). Due to this constant nature, survivors and other civilians living in affected areas suffer severe psychological damage as they live under permanent threat of drone strikes as unlike fighter aircraft, UAVs are operating night and day (Holewinski et al. 2012). There is also a debate about whether the use of armed UAVs affects soldiers' experiences of violence. Some argue that the use of remote control dehumanizes the victim, as the physical and mental distance between the target and operator are increased (Holmqvist 2013; Wall and Monahan 2011). Others state that drone operators are actually more engaged than fighter pilots, as they watch potential targets for hours, and point to the high rates of Post-traumatic Stress Disorder (PTSD) to back their claim (Kirkpatrick 2015; Sparrow 2015; Fitzsimmons and Sangha 2012; Asaro 2013; Chappelle et al. 2014; Otto and Webber 2013).

Impact of proliferation on international security

The second general issue area that is prominent in the literature is the risk that the proliferation of UAVs poses to international security. Some scholars have argued that the USA opened a Pandora's box with its targeted strike campaigns. They fear that the USA has set a precedent which might allow other states to legitimize the use of drone strikes outside of declared armed conflicts (Davis et al. 2014; Sayler et al. 2014). Furthermore, some military strategists wonder whether the use of armed UAVs might undermine the concept of deterrence, as states could be less restrained in sending in unmanned aircraft than manned (Boyle 2013). Interestingly, the use of unarmed UAVs has gained little attention in the literature, although preliminary research indicates that their use is growing fast, and they are considered a must-have, high-status weapon by militaries around the globe (Franke 2015). Finally, policymakers around the globe are concerned about the weaponization of civilian UAVs by non-state actors. While their use so far has been limited to conflict areas, they could be used in non-conflict areas (Rassler 2016; Bunker 2015).

Regulation of UAVs

The above-mentioned concerns have triggered three parallel discussions about the regulation of armed UAVs: one about regulating their use, one about transparency and accountability, and one about the trade in and availability of UAVs.

The idea of regulating the use of armed drones, particularly for targeted killings, has been driven by NGOs, the academic community, and UN agencies and institutions. Calls by civil society have not yet resulted in concrete international outcomes, apart from a number of statements by 30 different countries at the Human Rights Council and in the First and the Third committees, as well as a number of reports by UN agencies (Kelton and Law 2015; Heyns 2015). Many countries consider armed drones to be useful military tools and therefore have little interest in putting limitations on their use (Franke 2015). Even for those that consider drone strikes problematic, there is disagreement on whether the problem is the impact of drones as a technology or the impact of their specific use (Carvin 2015 ; Carvin 2012). The Netherlands does not see the technology as problematic per se, but has concerns about the legality of and transparency around targeted killings, the impact of proliferation of armed UAVs on global security, and the lack of export controls (van der Kwast 2016; Koenders and Ploumen 2016; Schuwen 2016).

The European Union and the US Government have each been reflecting internally on the use of armed UAVs. The EU has been working on a Joint Position on the use of armed drones since 2014, but progress has been limited to debates in the European Parliament. Discussions are reportedly making limited progress as some EU members states are reluctant to engage with the issue due to the political sensitivity with regard to transatlantic relations, diverging opinions on how problematic targeted killings are, and their own military interests (Dworkin 2013; Paulussen and Dorsey 2015; Raemdonck 2012). There is no discussion on regulating use within the NATO, besides coordination to ensure interoperability (Ploeger 2010; Nolin 2012). In general there is little criticism of or interest in regulation on the military side, outside of a handful of whistleblowing reports by former operators (Scahill 2016).

The US Government released several documents in 2016 that clarify the procedures it follows when conducting drone strikes (American Civil Liberties Union 2016). It also published official figures on the number of civilian casualties that have been caused by US drone strikes. These releases were reportedly a result of legal pressure from the American Civil Liberties Union and President Obama's desire to outline a clear policy for his successor to follow (Chait 2016). It is not yet clear whether these policies are being followed by the Trump Administration. Preliminary research by Zenko (2017) suggests that the frequency of drone strikes and the proportion of civilian casualties have increased, which might be the result of a general loosening of the US rules of engagement on air strikes.

There have also been frequent international calls from NGOs and think tanks to strengthen exports controls on armed UAVs (Stohl and Abizaid 2015). The sale of UAVs is currently controlled under the Wassenaar Arrangement (WA), the MTCR (for UAVs with a payload over 500 kg), the ATT and the EU Common Position on arms exports. Some experts deem these regimes insufficient, most notably because two major exporters, Israel and China, are not members of any of these regimes. These states claim to adhere to the rules but this cannot be verified (Zwijnenburg 2015; Stohl 2015). Some have also highlighted that these regimes are ill-suited to tackling current technological development in the field of UAVs. Horowitz notes for instance that UAVs were originally included in the MTCR out of fear they would be used as delivery systems for WMD. In deciding on export licenses, states are thus required to take this into account. In practice, however, this is not what UAVs are used for at all, making the MTCR ill-suited to regulating UAVs (Horowitz 2017).

The USA consequently proposed a new export control regime on the sale and use of armed UAVs in the autumn of 2016, to which 41 countries, including the Netherlands, signed up (Ewers et al. 2017).⁵⁸ Israel and China did not, however, and the extent to which the other countries involved will be willing to restrict their own exports is unclear (Seligman 2016). The future of this initiative under the Trump Administration is also uncertain (Mehta 2017).

As a result of the use of weaponized civilian UAVs by non-state actors, a discussion has started on the possibility of controlling those too. However, this is generally deemed extremely difficult as UAVs are dual use and the ones used by non-state actors can be bought on the open market (Zwijnenburg 2015). Some experts have suggested that it would be more efficient to invest in counter-drone technologies and increase controls on civilian airspace (Wallace and Loffi 2015; Ruth Levush 2016).

Conclusions

UAVs have developed rapidly in the past 15 years and become a staple in the arsenals of militaries all over the world. The debate on armed drones is focused on the legal, ethical, political and strategic implications of their use for targeted strikes. There have been calls for the creation of a dedicated regulation. Competing attitudes, military interests and political sensitivity have ensured, however, that there is no consensus on this matter. There is a discussion on strengthening existing export control regimes, but little concrete progress has been made in this field either.

⁵⁸ The official name is the Joint Declaration for the Export and Subsequent Use of Armed Strike-Enabled Unmanned Aerial Vehicles (UAVs).

References

- Abbott, C. et al., *The Hostile Use of Drones By Non-State Actors Against British Targets*, Remote Control Project (Oxford Research Group: London, Jan. 2016).
- American Civil Liberties Union, *ACLU vs. CIA: Foia Case for Records Relating To Drone Killings*, 2016, <<https://www.aclu.org/cases/aclu-v-cia-foia-case-records-relating-drone-killings>>.
- Anderson, K., 'Targeted killing in US counterterrorism strategy and law', *Counterterrorism and American Statutory Law* (2009), pp. 1–44.
- Asaro, P. M., 'The labor of surveillance and bureaucratized killing: New subjectivities of military drone operators', *Social Semiotics*, vol. 23, no. 2 (2013), pp. 196–224.
- Aslam, W., 'A critical evaluation of American predator strikes in Pakistan: legality, legitimacy and prudence', *Critical Studies on Terrorism*, vol. 4, no. 3 (2011), pp. 1–19.
- Barela, S. J. and Plaw, A., 'The precision of drones: Problems with the new data and new claims', *E-International Relations*, 23 Aug. 2016.
- Benjamin, M., *Drone Warfare: Killing by Remote Control* (Verso: London, 2013).
- Bergen, P. et al., 'A world of drones: Examining the proliferation, development, and use of armed drones', *New America Foundation* (Feb. 2016).
- Boyle, M. J., 'The costs and consequences of drone warfare', *International Affairs*, vol. 89, no. 1 (2013), pp. 1–29.
- Brunstetter, D. R. and Jimenez-Bacardi, A., 'Clashing over drones: The legal and normative gap between the United States and the human rights community', *International Journal of Human Rights*, vol. 19, no. 2 (2015), pp. 176–98.
- Bunker, R. J., *Terrorist and Insurgent Unmanned Aerial Vehicles: Uses, Potentials, and Military Implications* (United States Army War College: Carlisle, 2015).
- Carvin, S., 'The trouble with targeted killing', *Security Studies*, vol. 21, no. 3 (2012), pp. 529–55.
- Carvin, S., 'Getting drones wrong', *International Journal of Human Rights*, vol. 19, no. 2 (2015), pp. 127–41.
- Chait, J., 'Five days that shaped a presidency', *New York Magazine*, 2 Oct. 2016.
- Chappelle, W. et al., 'An analysis of post-traumatic stress symptoms in United States Air Force drone operators', *Journal of Anxiety Disorders*, vol. 28, no. 5 (2014), pp. 480–87.
- Chase, M. S. et al., *Emerging Trends in China's Development of Unmanned Systems* (Rand Corporation: Santa Monica, 2015).
- Cockburn, A., *Kill Chain: Drones and the Rise of the High-Tech Assassins* (Henry Holt and Co: New York, 2015).

- CTIVD, 'Toezichtsrapport over Bijdrage MIVD Aan Targeting', *Commissie van Toezicht Op de Inlichtingen- En Veiligheidsdiensten*, no. 50 (2016).
- Davis, L. E. et al., *Armed and Dangerous? UAVs and US Security* (RAND Corporation: Santa Monica, 2014).
- Ducheine, P. and Osinga, F., '(On)duidelijkheid Bij Drones', *Internationale Spectator*, vol. 68, no. 9 (2014), pp. 41–43.
- Dworkin, A., 'Drones and targeted killing: defining a european position', *European Council for Foreign Relations*, vol. 84 (2013).
- Enemark, C., 'Drones over Pakistan: Secrecy, ethics and counterinsurgency', *Asian Security*, vol. 7, no. 3 (2011), pp. 218–37.
- Ewers, E. C. et al., *Drone Proliferation: Policy Choices for the Trump Administration*, Papers for the President (Center for a New American Security: Washington, DC, June 2017).
- Facon, I., *A Perspective on Russia: A World of Proliferated Drones* (Center for a New American Security: Washington, DC, May 2016).
- Fitzsimmons, S. and Sangha, K., 'Killing in high definition: combat stress among operators of remotely piloted aircraft', *Canadian Political Science Association*, vol. 24, no. 4 (2012), pp. 1–19.
- Franke, U. E., 'The global diffusion of unmanned aerial vehicles (UAVs) or "drones"', eds. M. Aaronson et al., *Precision Strike Warfare and International Intervention: Strategic, Ethico-Legal and Decisional Implications* (Routledge: Abingdon, 2015).
- Freedman, L. D., 'The drone revolution: less than meets the eye', *Foreign Policy*, vol. 95, no. 6 (2016), pp. 153–58.
- Friese, L., Jensen-Jones, N. R. and Smallwood, M., *Emerging Unmanned Threats: The Use of Commercially Available UAVs by Armed Non-state Actors*, Armaments Research Services and Pax for Peace (PAX: Utrecht, Feb. 2016).
- Gill, P., *The Impact of Drone Attacks on Terrorism: the Case of Pakistan*, Remote Control project (Oxford Research Group: London, June 2015).
- Graham, S., *Cities Under Siege: The New Military Urbanism* (Verso: London, 2010).
- Gregory, D., 'From a view to a kill: drones and late modern war', *Theory, Culture & Society*, vol. 28, nos 7–8 (2011), pp. 188–215.
- Haaretz Editorial Board, 'Israel's conspiracy of silence over its use of drones', *Haaretz*, 25 Oct. 2016.
- Heyns, C., *Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions*, Human Rights Council (United Nations, 2015).
- Holewinski, S. et al., *The Civilian Impact of Drones: Unexamined Costs, Unanswered Questions*, Columbia Law School Human Rights Clinic (Columbia Law School: New York, 2012).
- Holmqvist, C., 'Undoing war: war ontologies and the materiality of drone warfare', *Millennium Journal of International Studies*, vol. 41, no. 3 (2013), pp. 535–52.
- Horowitz, M. C., 'Drones aren't missiles, so don't regulate them like they are', *Bulletin of the Atomic Scientists*, 26 June 2017.

- House, P. B., *United States of America "Targeted Killing" Policies Violate the Right to Life* (Amnesty International: London, 2012).
- Kania, E. B., *Chinese Advances in Unmanned Systems and the Military Applications of Artificial Intelligence: the PLA's Trajectory towards Unmanned, "Intelligentized" Warfare*, Testimony before the US-China Economic and Security Review Commission (US Congress: Washington, Feb. 2017).
- Keane, J. F. and Carr, S. S., 'A brief history of early unmanned aircraft', *John Hopkins APL Technical Digest*, vol. 32, no. 3 (2013), pp. 558–71.
- Kelton, W. D. and Law, A. M., *Study on Armed Unmanned Aerial Vehicles* (United Nations Advisory Board on Disarmament Matters: New York, 2015).
- Kirkpatrick, J., 'Drones and the martial virtue courage', *Journal of Military Ethics*, vol. 14, nos 3–4 (2015), pp. 202–19.
- Koenders, B. and Ploumen, L., *Kamerbrief met reactie op rapport over de exportcontrole op drones*, DVB/NW-659/16 (Oct. 2016).
- Kreps, S., Horowitz, M. and Fuhrmann, M., 'Separating fact from fiction in the debate over drone proliferation', *International Security*, vol. 41, no. 2 (2016), pp. 7–42.
- Kreps, S. and Wallace, G. P., 'International law, military effectiveness, and public support for drone strikes', *Journal of Peace Research*, vol. 53, no. 6 (2016), pp. 830–44.
- Kretzmer, D., 'Targeted killing of suspected terrorists: extra-judicial executions or legitimate means of defence?', *European Journal of International Law*, vol. 16, no. 2 (2005), pp. 171–212.
- Kwast, H. C. van der, 'Dutch statement at the general debate on all disarmament and international security agenda items', Presented at the First Committee of the United Nations General Assembly, New York, 6 October 2016.
- Lewis, L. and Vavrichek, D. M., *Rethinking Drone Strikes: National Security, Legitimacy and Civilian Casualties in US Counterterrorism Operations* (Marine Corps University Press: Quantico, Virginia, 2016).
- Lewis, M., 'Drones and distinction: How IHL encouraged the rise of drones', *Georgetown Journal of International Law*, vol. 44, no. 3 (2013), pp. 1127–66.
- Manjikian, M., 'But my hands are clean: the ethics of intelligence sharing and the problem of complicity', *International Journal of Intelligence and Counterintelligence*, vol. 28, no. 4 (2015), pp. 692–709.
- McNeal, G., 'Targeted killing and accountability', *Georgetown Law Journal*, vol. 102 (2014), pp. 681–794.
- Mehta, A., 'Uncertainty at State Department holding up new agreement on armed drones', *Defense News*, 21 Mar. 2017.
- Modderkolk, H., 'Wij Willen Ook Zo'n Doodsmachine', *De Volkskrant*, 15 Apr. 2016.
- Moorehead, A., Hussein, R. and Alhariri, W., *Out of the Shadows: Recommendations to Advance Transparency in the Use of Force*,

- Columbia Law School Human Rights Clinic and Sana'a Center for Strategic Studies (Columbia Law School: New York, June 2017).
- Nolin, P. C., 'Unmanned Aerial Vehicles: Opportunities and challenges for the alliance', *NATO Parliamentary Assembly: Science and Technology Committee*, vol. 157, no. 12 (2012).
- Otto, J. L. and Webber, B. J., 'Mental health diagnoses and counseling among pilots of remotely piloted aircraft in the United States Air Force', *Medical Surveillance Monthly Report*, vol. 20, no. 3 (2013), pp. 3–8.
- Paulussen, C. and Dorsey, J., *Towards an EU Position on Armed Drones and Targeted Killing?*, International Centre for Counter-Terrorism Research Paper (ICCT: The Hague, Apr. 2015).
- Pejic, J., 'Extraterritorial targeting by means of armed drones: Some legal implications', *International Review of the Red Cross*, vol. 96, no. 893 (2015), pp. 1–40.
- Ploeger, F. W., *Strategic Concept of Employment for Unmanned Aircraft Systems in NATO* (Joint Air Power Competence Centre: Kalkar, 2010).
- Postma, F. and Zwijnenburg, W., *Drones achter de dijken: Het politieke debat in Nederland over de inzet van onbemande vliegtuigen*, Pax For Peace (PAX: Utrecht, Feb. 2017).
- Raemdonck, N. van, 'Vested interest or moral indecisiveness? Explaining the EU's silence on the US targeted killing policy in Pakistan', *Istituto Affari Internazionali*, vol. 12, no. 5 (2012).
- Rassler, D., *Remotely Piloted Innovation Terrorism, Drones and Supportive Technology*, Combating Terrorism Center (United States Military Academy: West Point, Oct. 2016).
- Ray, J. et al., *China's Industrial and Military Robotics Development*, Research Report Prepared on Behalf of the US-China Economic and Security Review Commission (US Congress: Washington, DC, Oct. 2016).
- Ruth Levush, *Regulation of Drones*, Law Library of Congress (Global Legal Research Center: Washington, DC, Apr. 2016).
- Sanders, R., 'An Israeli military innovation: UAVs', *Joint Forces Quarterly* (2002).
- Sayler, K. et al., *Global Perspectives: A Drone Saturated Future, A World of Proliferated Drones* (Center for a New American Security: Washington, 2014).
- Sayler, K. et al., *Technology Primer: A World of Proliferated Drones* (Center for a New American Security: Washington, DC, June 2015).
- Scahill, J., *The Assassination Complex: Inside the Government's Secret Drone Warfare Program* (Simon & Schuster: New York, 2016).
- Schuwen, H., 'Netherlands backs new rules on armed drones', *Dutch Embassy in the USA*, 5 Oct. 2016, <<http://nlintheusa.com/uavs/>>.
- Schweiger, R. C., *Strategies to Justify and Legitimate Armed Drone Strikes: The Reasons for the Differing Strategies of the US, the UK and Israel to Legitimate and Justify their Armed Drone Policies*, Master's thesis (Johann Wolfgang Goethe Universität: Frankfurt am Main, Nov. 2014).

- Seligman, L., 'Armed drone joint declaration could boost US UAV sales', *Aviation Week & Space Technology*, 10 Oct. 2016.
- Shaw, I. G. R., 'Predator empire: The geopolitics of US drone warfare', *Geopolitics*, vol. 18, no. 3 (2013), pp. 536–59.
- Shaw, I. G. R., 'Scorched atmospheres: The violent geographies of the Vietnam War and the rise of drone warfare', *Annals of the American Association of Geographers*, vol. 106, no. 3 (2016), pp. 688–704.
- Sixta Rinehart, C., 'Sharing security in an era of international cooperation: Unmanned Aerial Vehicles and the United States Air Force', *Defense & Security Analysis*, vol. 33, no. 1 (2017), pp. 45–56.
- Sparrow, R., 'Martial and moral courage in teleoperated warfare: A commentary on Kirkpatrick', *Journal of Military Ethics*, vol. 14, no. 3–4 (2015), pp. 220–27.
- Stohl, R., *Export Controls and Regulatory Challenges*, Working group report (Stimson Center: Washington, DC, Sep. 2015).
- Stohl, R. and Abizaid, J. P., *Recommendations and Report of the Task Force on US Drone Policy* (Stimson Center: Washington, DC, 2015).
- Wall, T. and Monahan, T., 'Surveillance and violence from afar: The politics of drones and liminal security-scapes', *Theoretical Criminology*, vol. 15, no. 3 (2011), pp. 239–54.
- Wallace, R. J. and Loffi, J. M., 'Examining unmanned aerial system threats & defenses: A conceptual analysis', *International Journal of Aviation, Aeronautics, and Aerospace Article*, vol. 2, no. 4 (2015), pp. 1–33.
- Walsh, J. I., *The Effectiveness of Drone Strikes in Counterinsurgency and Counterterrorism Campaigns* (United States Army War College: Carlisle, 2013).
- Zenko, M. and Wolf, A. M., 'Drones kill more civilians than pilots do', *Foreign Policy*, 25 April 2016.
- Zenko, M., 'The (Not-So) Peaceful Transition of Power: Trump's Drone Strikes Outpace Obama', *Council on Foreign Relations*, 24 April 2017.
- Zwijnenburg, W., *Unmanned and Uncontrolled: Proliferation of Unmanned Systems and the Need for Improved Arms Export Controls* (Pax for Peace: Utrecht, 2015).

2.4. The development and discussion on LAWS

VINCENT BOULANIN AND MAAIKE VERBRUGGEN

The development of lethal autonomous weapon systems (LAWS) is a recent concern in the arms control community, and one of the new areas of attention for the humanitarian disarmament movement. This section provides a brief discussion of definitions, maps out the spectrum concerns related to their potential proliferation and use, and takes stock of the current debate in the arms control community on whether the (potential) development, proliferation and use of such systems should be regulated.

Lethal autonomous weapon systems

The discussion on Lethal Autonomous Weapon Systems was initiated by members of civil society grouped under the banner of the ‘Campaign to Stop Killer Robots’ (UNIDIR 2014; Boulanin 2016). Noting the growing interest by the US military in increasing the autonomy of weapon systems (Work and Brimley 2014), the members of this campaign have voiced growing concerns about the potential development of LAWS (Docherty 2012). They define LAWS as ‘fully autonomous weapon systems’ or weapons that are capable of selecting and attacking targets, including human targets, without the direct involvement of a human operator.

The subject of LAWS was taken up for international intergovernmental discussion in 2014, under the framework of the 1980 United Nations Convention on Certain Conventional Weapons (CCW), which held three informal expert meetings on the subject between 2014 and 2016.

Despite three years of expert discussions, LAWS still lack a generally agreed definition. The proposed definitions vary greatly in substance. Some encompass a wide variety of systems, and include a number of deployed systems, while others describe systems of which the perception and decision-making capabilities are currently far beyond what is feasible given the current state of technology (Ekelhof 2017). The question of whether LAWS already exist depends, in other words, very much on the definition used (Boulanin 2016).

A number of experts have argued that the defining feature of LAWS is the ability to select and attack targets on their own (UNIDIR 2014). In that regard, LAWS are not a defined weapon system type. LAWS can come in any shape or form and be deployed for virtually any type of mission and in any operating environment. Military planners and commentators seem to agree that the use of LAWS would be particularly attractive for defensive missions that require a fast response time (air defence and cyber defence), or so-called dull, dangerous and/or dirty missions for which remote control operation is not suited. This would include covert offensive missions in enemy territory and combat operations in communications-denied environments (Williams and Scharre 2015).

Concerns surrounding their (potential) proliferation and use

The development and use of LAWS raises a wide range of concerns, which may be parcelled up into three main discussion areas: legal, ethical and strategic.

From a legal standpoint, there is a debate about whether the use of LAWS would be lawful or unlawful per se. The fundamental issue is whether LAWS would or could be capable of complying with the rules and principles of International Humanitarian Law (IHL) with regard to the conduct of hostilities, that is the obligation to apply the principles of distinction, proportionality and precaution in attack. Some experts have argued that

LAWS will never be able to abide by these principles, particularly that of proportionality (International Human Rights Clinic 2016; Sharkey 2013). Others disagree, arguing that there is nothing about LAWS as a category of weapon system that makes them fundamentally unable to comply with IHL, as this depends on the specifics of their use (Schmitt 2012). Another key legal issue is whether it would be possible to assign responsibility should the operation of LAWS result in a violation of IHL. Some experts fear that the use of LAWS would create an accountability gap as there would be uncertainty over who should be held accountable: the military commander, the programmer or the company that produced it (International Human Rights Clinic 2015). The alternate view is that these concerns are exaggerated and that there is nothing inherently unaccountable about LAWS. Accountability for its use would lie with either the commander who launched the system or the manufacturer if it malfunctions (Krishnan 2009; Dunlap 2016).

Ethics is another important discussion area with regard to the development and use of LAWS. The central issue is whether it would be morally acceptable to delegate the right to take life to a machine. There are two opposing views. Some argue that, from a deontological perspective, the use of LAWS would be unethical as it would violate the victim's right to dignity (Lin, Bekey and Abney 2008). Others argue, from a utilitarian perspective, that the use of LAWS would be ethical because LAWS can be programmed to behave more ethically than human warfighters: they would not get involved in sexual violence, carry out acts of revenge or conduct other war crimes (Sullins 2010; Müller and Simpson 2014). A related debate is whether the use of LAWS would be acceptable from the perspective of the theory of a just war. The key question here is whether reciprocal risk is necessary for a just war. Some have argued that LAWS would make the risk calculus fundamentally asymmetrical (Vallor 2013; Ohlinn 2016) and therefore unethical from a deontological standpoint. To that, ethicists from a utilitarian perspective respond that governments have a moral imperative to reduce risk for their soldiers if they can (Arkin 2013).

A third important discussion area relates to the impact of LAWS on international security and the future of warfare more generally. Some experts fear that this might trigger a new arms race and reinforce the military imbalance between countries, notably between major powers, on the one hand, and middle and lesser powers, on the other (Gubrud 2014a; Asaro 2013). There are also concerns that the use of LAWS would create unprecedented risk in terms of conflict escalation. One scenario that crystallizes most fears is a case in which autonomous systems from two opposing sides fight each other and respond to each other faster than humans could possibly follow. (Scharre 2016; UNIDIR 2016). Finally, there are also fears that the proliferation of LAWS, like the proliferation of armed UAVs, would lower the threshold for armed conflicts, as their deployment provides opportunities to reduce the economic and political costs of going to war (Nasu and McLaughlin 2013).

Regulation of autonomous weapon systems

The issue of whether LAWS should be banned or regulated by some kind of new protocol is not officially on the agenda of the UN CCW, but it is already a key component of informal intergovernmental discussions. While 19 countries came out in favor of a complete ban on LAWS, the majority of states parties to the CCW are still in the process determining their position. Many states, including the Netherlands, have announced that they are not ready to engage in formal negotiations on the need for regulation (Boulanin 2016).⁵⁹

The discussion on whether LAWS should be prohibited or regulated takes place primarily in the academic and grey literature. The debate is split across multiple lines. There is first and foremost a disagreement between those who wish to see LAWS prohibited as a category of weapon system, and those who maintain that the use of LAWS is sufficiently regulated under IHL (Anderson and Waxman 2013; Weizmann 2014).

Among those who see a need for a ban, the timing of possible regulation is also a contentious issue. Supporters of the Campaign to Stop Killer Robots advocate a pre-emptive ban, arguing that this would increase the control and enforcement possibilities, and reduce states' economic incentives to block such a ban (Crotof 2015; International Human Rights Clinic 2016). Others feel that a pre-emptive ban would be premature, as the technology could also have unknown benefits and a ban might prevent the development of beneficial and/or profitable civilian applications of autonomy (Dunn Cavely, Fischer and Balzacq 2016; McCreight 2013).

In the light of the above, some experts have suggested that instead of a prohibition or regulation of specific systems, the CCW could investigate the possibility of a positive regulation that would place requirements on their use. In this context, some NGOs and scholars have proposed the concept of 'meaningful human control' (MHC) (Scharre and Horowitz 2015; Roff and Moyes 2016; Vignard 2014). This suggestion has triggered a debate in itself. Some experts have argued that such a concept is highly subjective and that the parameters of MHC would be hard to define. Some states parties to the CCW have also expressed discomfort with the concept as it would significantly expand the scope of discussion and draw attention to some existing weapon systems, such as guided munitions and air defence systems (Gubrud 2014b; Horowitz and Scharre 2014).

Finally, there is a discussion on whether the CCW is the right forum for discussing the possible regulation of LAWS. Some experts are sceptical about the ability of the CCW to act as the development of autonomy is taking place mainly in the civilian sphere and at rapid speed, while the CCW process is known for being slow and consensus-based (Anderson and Waxman 2013).

⁵⁹ The countries calling for a ban are: Algeria, Argentina, Bolivia, Chile, Costa Rica, Cuba, Ecuador, Egypt, Ghana, Guatemala, Mexico, Nicaragua, Pakistan, Panama, Peru, Venezuela and Zimbabwe, as well as the Holy See and the Palestinian territories (Wareham 2016).

The Netherlands believes that autonomy has potentially useful military applications, but should only be used under meaningful human control. Use is currently sufficiently regulated through IHL and IHRL, as well as in the Rules of Engagement designed before every mission. At the moment, additional regulation is therefore not needed, although this might change as the technology develops (Reubzaet and Leeuwe 2016; Urlings et al. 2015; Spiegeleire, Maas and Sweijts 2017).

Conclusions

The discussions on LAWS are still at a very early stage. There are strong disagreements about how to define them and as a result, whether they exist yet. These disagreements on definition create substantial problems for regulation, as there is no consensus on what the exact problem is, what should be banned and the manner in which regulation should occur. Nonetheless, the issue is being pressed by civil society, as there are concerns over whether LAWS can comply with the fundamental principles of IHL, the ethical dimension of delegating decision-making to machines and the potential impact on global stability. LAWS could provide significant military benefits to states, however, and it is unlikely that consensus on regulation will be achieved soon.

References

- Anderson, K. and Waxman, M. C., 'Law and ethics for autonomous weapon systems: Why a ban won't work and how the laws of war can', *Columbia Public Law Research Paper*, vol. 11 (2013).
- Arkin, R., 'Lethal autonomous systems and the plight of the non-combatant', *AISB Quarterly*, vol. 137 (2013), p. 1–9.
- Asaro, P., 'On banning autonomous weapon systems: Human rights, automation, and the dehumanization of lethal decision-making', *International Review of the Red Cross*, vol. 94, no. 886 (2013), p. 687–709.
- Boulanin, V., *Mapping the Debate on LAWS at the CCW: Taking Stock and Moving Forward*, EU Non-proliferation Paper no. 49 (SIPRI: Stockholm, 2016).
- Crootof, R., 'The killer robots are here: legal and policy implications', *Cardozo Law Review*, vol. 1837 (2015), p. 101–79.
- Docherty, B., 'Losing humanity: The case against killer robots', *Human Rights Watch* (2012).
- Dunlap, C. J., 'Accountability and autonomous weapons: Much ado about nothing?', *Temple International & Comparative Law Journal*, vol. 30, no. 1 (2016), p. 63–76.
- Dunn Caveltly, M., Fischer, S. and Balzacq, T., 'Killer robots and preventive arms control', eds. Myriam Dunn Caveltly and Thierry Balzacq, *Routledge Handbook of Security Studies* (Routledge: Abingdon, 2016).

- Ekelhof, M. A. C., 'Complications of a common language: Why it is so hard to talk about autonomous weapons', *Journal of Conflict & Security Law* (2017), p. 1–21.
- Gubrud, M., 'Stopping killer robots', *Bulletin of the Atomic Scientists*, vol. 70, no. 1 (2014a), p. 32–42.
- Gubrud, M., 'Killer robots and laser-guided bombs: A reply to Horowitz & Scharre', *1.0 Human: Mark Gubrud's Weblog*, 4 December 2014b, <<http://gubrud.net/?p=398>>.
- Horowitz, M. C. and Scharre, P., 'Do killer robots save lives?', *Politico*, 19 November 2014.
- International Human Rights Clinic, 'Mind the gap: The lack of accountability for killer robots', Human Rights Watch (2015).
- International Human Rights Clinic, 'Making the case: the dangers of killer robots and the need for a preemptive ban', Human Rights Watch (2016).
- Krishnan, A., *Killer Robots: Legality and Ethicality of Autonomous Weapons* (Ashgate Publishing: Farnham, 2009).
- Lin, P., Bekey, G. and Abney, K., 'Autonomous military robotics: Risk, ethics, and design' (2008).
- Mccreight, R., 'Convergent technologies and future strategic security threats', *Strategic Studies Quarterly* (2013), p. 11–19.
- Müller, V. C. and Simpson, T. W., 'Autonomous killer robots are probably good news', *Frontiers in Artificial Intelligence and Applications*, vol. 273 (2014), p. 297–305.
- Nasu, H. and McLaughlin, R., *New Technologies and the Law of Armed Conflict* (Asser Press: The Hague, 2013).
- Ohlinn, J. D., 'Remoteness and reciprocal risk', *Cornell Law School Legal Studies Research Paper Series*, vol. 16, no. 24 (2016).
- Reubzaet, M. and Leeuwe, H. van, *Kabinetsreactie op AIV/CAVV-advies Autonome wapensystemen: de noodzaak van betekenisvolle menselijke controle*, DVB/NW-139/16 (Mar. 2016).
- Roff, H. and Moyes, R., 'Meaningful human control, artificial intelligence and autonomous weapons', *Article 36* (2016).
- Scharre, P., *Autonomous Weapons and Operational Risk*, Ethical Autonomy Project (Center for a New American Security: Washington, DC, 2016).
- Scharre, P. and Horowitz, M. C., *Meaningful Human Control in Weapon Systems: A Primer*, Working Paper (Center for a New American Security: Washington, DC, Mar. 2015).
- Schmitt, M. N., 'Autonomous weapon systems and International Humanitarian Law: A reply to the critics', *Harvard National Security Journal*, vol. 73, no. 2003 (2012), p. 1–37.
- Sharkey, N., 'The inevitability of autonomous robot warfare', *International Review of the Red Cross*, vol. 94, no. 886 (2013), p. 787–99.
- Spiegeleire, S. de, Maas, M. and Sweijs, T., *Artificial Intelligence and the Future of Defense: Strategic Implications for Small and Medium-Sized Force Providers* (The Hague Centre for Strategic Studies: The Hague, 2017).

- Sullins, J. P., 'RoboWarfare: Can robots be more ethical than humans on the battlefield?', *Ethics and Information Technology*, vol. 12, no. 3 (2010), p. 263–75.
- UNIDIR, 'Framing discussions on the weaponization of increasingly autonomous technologies', *UNIDIR Resources*, no. 1 (2014).
- UNIDIR, 'Safety, unintentional risk and accidents in the weaponization of increasingly autonomous technologies', *UNIDIR Resources*, no. 5 (2016).
- Urlings et al., 'Autonome Wapensystemen: De Noodzaak van Betekenisvolle Menselijke Controle', *Adviesraad Internationale Vraagstukken*, vol. 97, no. 26 (2015).
- Vallor, S., 'The future of military virtue: autonomous systems and the moral deskilling of the military', Paper presented at the Fifth International Conference on Cyber Conflict (2013), <<http://ccdcoe.org/429.html>>.
- Vignard, K., 'The weaponization of increasingly autonomous technologies: considering how meaningful human control might move discussion forward', *UNIDIR Resources*, no. 2 (UNIDIR: Geneva, 2014).
- Wareham, M., 'Moving forward in 2016', *Campaign to Stop Killer Robots*, 30 October 2016>.
- Weizmann, N., 'Autonomous weapon systems under International Law', *Geneva Academy Briefing*, no. 8 (2014).
- Williams, A. and Scharre, P., *Autonomous Systems: Issues for Defence Policymakers* (NATO: Norfolk, USA, 2015).
- Work, R. O. and Brimley, S., *20YY: Preparing for War in the Robotic Age* (Center for a New American Security: Washington, 2014).

2.5. Improvised Explosive Devices

PIETER WEZEMAN

An improvised explosive device (IED) has been defined as 'a device placed or fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic or incendiary chemicals and designed to destroy, incapacitate, harass or distract. It may incorporate military stores, but is normally devised from non-military components' (NATO 2011). When IEDs are used in combination with chemical, biological, radiological and nuclear materials they are often referred to as CBRN explosives (CBRNe) and are of relevance to the chemical weapons control regimes.

IEDs are a common tool of violence, mainly for non-state actors, in war zones or in terrorist attacks. In 2016, 19 246 deaths or injuries were recorded globally as resulting from the use of IEDs, and 74 per cent of these casualties were civilians (AOAV 2017b).

It has primarily been the task of the military and security forces to address the use of IEDs. Such counter-IED (C-IED) efforts include monitoring and investigation aimed at identifying and apprehending actors that use IEDs, and developing and procuring the technical means to detect, protect against and

disarm IEDs (NATO 2011). However, in the area of multilateral arms control and export controls, efforts have been made to curtail access to the components and materials needed to make IEDs. This section discusses the limitations to efforts to control the availability and international movement of components for IEDs.

Controlling access to IED components

Examples of IED components are chemicals such as fertilizer, potassium chlorate and hydrogen peroxide, which are used to produce explosives. These are coupled with igniters and detonators used in the mining or oil industry and connected to mobile phones for remote detonation. In conflict zones, military ammunition is often a key component of IEDs. The need for adequate controls on stockpiles of military equipment has therefore been highlighted (Seymour 2014). Some of the non-military, commercially available components of an IED may be on control lists for dual-use goods but many are not.

Several publicly available studies have shown how the components and materials for making IEDs have been obtained from countries' available stocks, either originally acquired on the international market for other purposes, or specifically acquired on the international market (AOAV 2017a; Conflict Armament Research 2016). One study identified 50 companies and 20 countries in the supply chain for components used by the Islamic State (IS) group to make IEDs. However, the study stressed that it found no evidence to suggest any direct transfer of goods to IS forces by the companies and countries concerned. Instead, the components, whether dual-use goods subject to exports controls or uncontrolled goods, reached IS through what was initially lawful commerce that was then diverted, sometimes soon after their lawful supply to local entities. This was considered a sign of the lack of end-use monitoring (Conflict Armament Research 2016). In the case of IED use in Afghanistan it has been observed that the Taliban has been able to acquire from abroad 'detonators, detonating cord and remote control triggers, as well as precursors for homemade explosives' (UN 2016). Such reports have increased efforts to improve national and multilateral controls on the availability of key components and precursors for IEDs, not least export controls on dual-use goods.

In Europe this realization has resulted in harmonized EU rules since 2013 aimed at limiting the availability to the general public of substances that could be misused for the manufacture of explosives, and ensuring the appropriate reporting of suspicious transactions, significant disappearances and thefts (European Commission 2017). In addition, as noted in section 3 of this report, the end-use controls on unlisted items based on potential use in acts of terrorism will be highly relevant if they become EU law.

The UN General Assembly has called on states to strengthen national measures aimed at controlling IED precursor components and materials by improving stockpile control of ammunition and international cooperation in

this area, and also involving the private sector (United Nations, General Assembly 2016). However, no specific measures were agreed.

Within the UN CCW, an informal Group of experts on IEDs has examined the possibilities of enhancing information exchange between states, and between governments and civil society organizations (UNIDIR 2015). This does not, however, seem to have resulted in the development of concrete tools.

International cooperation between law enforcement agencies, including information sharing, is a key response to the use of IEDs. INTERPOL has several programmes in this context. The Global Shield programme, a partnership with the World Customs Organization and the UN Office on Drugs and Crime, aims to prevent the diversion of chemicals that could be used to make IEDs through information-sharing between customs agencies from over 90 countries (UNIDIR 2015). Global Shield reported in 2015 that since its inception, participating countries had seized more than 347 tonnes of solid precursor chemicals and 139 000 litres of liquid precursor chemicals. It claimed that these materials would otherwise have been used to manufacture hundreds of IEDs (WCO 2015). However, the source does not explain how it was determined that these chemicals were intended for use in IEDs. This highlights the challenge of assessing the success of activities aimed at preventing the use of IEDs.

Conclusions

It is widely acknowledged that measures are needed to counter the use of IEDs, such as measures linked to international arms control and controls on transfers of dual-use goods. Reports on the continuing large-scale use of IEDs and investigations into the availability of IED components indicate that there are significant limitations to efforts to control the availability and international movement of IED components. This is not surprising, given the fact that many of the items of concern have widespread and important civilian applications, and the quantities required for use in IEDs are not large—which makes them extremely difficult to control. For example, when chemicals which originated in the Netherlands were used by IS in Iraq to produce IEDs, the Dutch Government argued that controlling the export of the chemicals would have been very difficult as they had been exported for use in the food industry in Iraq (Tweede Kamer 2016).

Nonetheless, the various existing global activities in the area of C-IED would benefit from enhanced leadership and coordination at the international level, in particular with regard to sharing information about the possible users of IEDs, and raising awareness, not least by better utilizing the UN framework to achieve a more coherent approach (UNIDIR 2015).

References

Action on Armed Violence (AOAV), Understanding the regional and transnational networks that facilitate IED use, 2017a.

- AOAV, 'Explosive truths: Monitoring explosive violence in 2016', May 2017b, <<https://aoav.org.uk>>.
- Conflict Armament Research, 'Tracing the supply of components in Islamic State IEDs: Evidence from a 20-month investigation in Iraq and Syria', Feb. 2016.
- European Commission, Guidelines by the European Commission and the Standing Committee on Precursors relating to Regulation (EU) 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors, 1 March 2017.
- NATO, Allied joint doctrine for countering improvised explosive devices, AJP-3.15(A), Mar. 2011.
- Seymour, C., 'Countering Improvised Explosive Devices', *Small Arms Survey, Research Notes*, no. 46 (Oct. 2014).
- Tweede Kamer der Staten-Generaal, Beantwoording vragen van het lid Jasper van Dijk over een rapport over import door Islamitische Staat van onderdelen voor de productie van IED's (Improved Explosive Devices-geïmproviseerde bommen), Ministerie van Buitenlandse Zaken, 18 Mar. 2016.
- UNIDIR, *Addressing Improvised Explosive Devices: Options and Opportunities to Better Utilize UN Processes and Actors* (UNIDIR: Geneva, 2015).
- United Nations, General Assembly Resolution, 'Countering the threat posed by improvised explosive devices', A/RES/71/72, 5 Dec. 2016.
- United Nations, Security Council, Seventh report of the Analytical Support and Sanctions Monitoring Team submitted pursuant to resolution 2255 (2015) concerning the Taliban and other associated individuals and entities constituting a threat to the peace, stability and security of Afghanistan, annex to S/2011/842, 5 Oct. 2016.
- World Customs Organization (WCO), Programme Global Shield expands to monitor movements of detonators in its efforts to combat the threat of improvised explosive devices, 26 June 2015.

3. Developments at the European Union level

3.1. Controls on exports of arms and dual-use goods

SIBYLLE BAUER AND MARK BROMLEY

Introduction

Under the 1957 Treaty of Rome, the 1992 Treaty Establishing the European Community (the Maastricht Treaty) and the 2009 Treaty on the Functioning of the European Union (the Lisbon Treaty), arms and dual-use export controls, along with other defence- and security-related issues, were largely exempted from European Community (EC) and European Union rules.⁶⁰ Nonetheless, since the early 1990s there have been ongoing efforts at the EU level to increase the degree of coordination and convergence in the field of arms and dual-use export controls. These efforts have led to the creation of EU-level policy instruments that cover both arms and dual-use export controls under the Common Foreign and Security Policy (CFSP) and the EC ‘pillars’ of the EU—as conceived by the Maastricht Treaty—as well as the areas of ‘exclusive’, ‘shared’ and ‘special’ EU competence—as conceived by the Lisbon Treaty.

One key driver of this process has been the strong interest among the European defence industry, certain EU member states and parts of the European Commission as well as Members of the European Parliament (MEPs) in achieving greater coordination and streamlining of national export control policies in order to facilitate cross-border cooperation in the defence sector (Hofhansel 1999; Bauer 2003). Other efforts in this area include encouraging the joint development and procurement of weapon systems and promoting the consolidation of the EU’s defence technology industrial base (Schmitt 2000, 2001). Another driving factor was the interest among EU member states in uploading particular aspects of their national arms export control policies to the EU level. During the 1980s and 1990s, a number of EU member states, particularly the Netherlands, the United Kingdom and Germany, developed stricter and more transparent export licensing procedures—in the case of the latter two, partly as a result of scandals (Davis 2002). These governments then sought to offset any potential loss of competitiveness incurred by their domestic industries by uploading their policy changes to the EU level. Finally, NGOs and sections of the European Parliament also drove the development of particular aspects of the regime as part of broader attempts to extend human security principles—particularly norms on human rights and international humanitarian law (IHL)—to the field of arms export controls.

⁶⁰ Article 223 of the original treaty, article 296 of the 1992 Treaty and article 346 of the 2009 treaty exempt ‘the production of or trade in arms, munitions and war material’ from EU treaty provisions.

This section analyses developments in each of these policy instruments, focused on: (a) the main components of the EU's arms and dual-use export control regime; (b) the key findings of the primary and secondary literature that has examined the regime's impact at the member state level; and (c) the current state of the debate on the regime's future development.

Key components of the EU's arms and dual-use export control regime

The EU began to use arms export controls as an instrument of its emerging foreign and security policy in the 1980s, principally through the imposition of arms embargoes. In particular, in June 1989 the European Council adopted a number of punitive measures against China after the events in Tiananmen Square, such as a halt to 'military cooperation' and 'an embargo on trade in arms with China' (European Council 1989). However, EU arms embargoes lacked legal force until the creation of the EU's CFSP in 1993. Since then, EU arms embargoes have been imposed via a Common Position, which forms part of the EU's CFSP, one of the areas of *special* EU competence.⁶¹ Most of the arms embargoes imposed since have been reaffirmations of existing UN sanctions. However, the EU has also adopted a range of 'autonomous' sanctions that do not have a UN equivalent or that are broader in scope than equivalent measures adopted by the UN. Of the 22 EU arms embargoes in place in July 2017, 11 are directly implementing UN decisions, 3 are modified versions of UN embargoes and 8 have no UN counterpart.⁶²

In the 1990s the EU began to develop coordinated policies on regulating the trade in dual-use items.⁶³ The first EC Regulation governing the trade in dual-use goods entered into force in March 1995. Controls on member states' trade in dual-use goods are currently governed by EC Regulation 428/2009 (the Dual-use Regulation). The Dual-use Regulation is part of the EU's Common Commercial Policy, which is one of the areas of *exclusive* EU competence (Council of the European Union 2009a).⁶⁴ The main focus of the Dual-use Regulation is to prevent the supply of goods and technologies that might contribute to the proliferation of Weapons of Mass Destruction (WMD) but it also places controls on a wide range of items with potential conventional military end-uses. The EU dual-use control list, which specifies the dual-use goods that are subject to export controls, incorporates the lists of items agreed

⁶¹ Measures adopted in areas of 'special' EU competence are legally binding on member states. However, member states are free to determine their mechanisms of implementation and the EU has no legal powers to sanction non-compliance.

⁶² The 3 EU embargoes that are broader than their UN equivalents are those on Iran, North Korea and Sudan. The 8 with no UN counterpart were those on Belarus, China, Myanmar, Russia, South Sudan and Zimbabwe and the partial embargoes on Egypt and Syria. See the SIPRI Arms Embargoes Database, <<http://www.sipri.org/databases/embargoes>>.

⁶³ Dual-use items are goods and technologies that have the potential to be used in both civilian and military products.

⁶⁴ Only the EU is able to legislate in areas of 'exclusive' EU competence—except where member states have been specifically empowered to do so—and any measures adopted are legally binding and directly applicable throughout the EU. Certain aspects of the dual-use exports controls—such as licensing decisions and enforcement—have been left in the hands of member states.

in the four multilateral export control regimes: the Australia Group (AG), the Missile Technology Control Regime (MTCR), the Nuclear Suppliers Group (NSG) and the Wassenaar Arrangement (WA), as well as some items controlled under the Chemical Weapons Convention. At present, the EU lists contain no additional items but only consolidate and implement international agreements. An EU autonomous list for cyber-surveillance technologies has been proposed by the European Commission (see below), and this would set a precedent.

In the 1990s the EU also took steps to agree policies on the trade in military goods under the auspices of the CFSP. In 1998, EU member states adopted the EU Code of Conduct on Arms Exports (Code of Conduct), which was transformed into the legally binding EU Common Position on Arms Exports (Common Position) in 2008 (Council of the European Union 2008). Under the Common Position, EU member states engage in processes of information exchange and consultation, which aim to harmonize member states' application of eight common criteria for assessing arms export licences and to avoid cases of 'undercutting', where one EU member state approves a deal that is essentially the same as one that another member state has previously blocked. These criteria focus, among other things, on the risk that exported arms will be used in violations of human rights law or IHL, exacerbate an ongoing armed conflict or be used aggressively against a neighbouring state. The EU military list, which specifies the military items that are subject to export controls, is based on the WA military list.

In 2009 EU member states also adopted a Directive (the ICT Directive) simplifying the terms and conditions for transfers of defence-related products within the community (Council of the European Union 2009b). The ICT Directive entered into force in 2012 and forms part of a wider package of EU efforts to reduce different types of regulatory barriers to intra-EU cooperation in the European defence industry. The ICT Directive obliges member states to adopt simplified export licensing processes for transfers of arms and related components to certain designated recipients within the EU. Among these recipients are the armed forces of another member state or a 'certified' company based in another member state. The ICT Directive forms part of the EU's 'internal market' measures, one of the areas of 'shared' EU competence.⁶⁵

As part of its Common Commercial Policy, the EU has also established a regulation covering the trade in certain goods that could be used for capital punishment, torture or other cruel, inhuman or degrading treatment or punishment (the Torture Regulation) (Council of the European Union 2005). The regulation entered into force on 30 July 2006. The other components of the EU's 'export control regime' are:

⁶⁵ Measures adopted in areas of 'shared' EU competence are legally binding on member states and the EU has the ability to sanction non-compliance. However, member states are largely free to determine their mechanisms of implementation.

- The Council joint actions on small arms and light weapons (SALW) of December 1998 and July 2002, part of the EU's CFSP.
- The 2003 Common Position on the control of arms brokering (the Common Position on Brokering), part of the EU's CFSP.
- The 2012 Regulation implementing article 10 of the United Nations Protocol against the illicit manufacturing of and trafficking in firearms (the Firearms Regulation), part of the EU's Common Commercial Policy.

The EU promotes its standards in the field of arms export controls by agreeing common positions at international conferences and by running workshops and training seminars for third countries. A significant amount of this outreach work has focused on the states of the Former Yugoslavia, a process which has generated significant improvements in these states' arms export control policies both in terms of the regulations in the place and the capacity of government officials to effectively implement controls (Holtom and Micic 2012). The EU and its member states have also invested significant resources in supporting the negotiation and implementation of the Arms Trade Treaty (ATT), which entered into force in December 2014 and reflects many of the standards and principles contained in the Common Position. Since then, the EU has funded three Council Decisions aimed at promoting the effective implementation of the ATT among partner states (Council of the European Union 2013; Council of the European Union 2015b; Council of the European Union 2017).

At the same time as it seeks to develop policies aimed at achieving better harmonized export control policies in line with agreed minimum standards, the EU is also looking at ways in which it can help the European defence industry respond to falling defence spending by boosting arms sales abroad. This process gathered pace in the wake of the 2008 financial crisis, the cuts to member states' defence spending and procurement budgets, and the consequent pressure on defence companies to replace lost revenue through international sales. A July 2013 paper from the European Commission on promoting a more competitive and efficient defence and security sector notes that falling defence budgets have made exports to states outside the EU 'increasingly important for European industries' (European Commission 2013, p. 15). The paper proposes that the European Commission develop a dialogue focused on 'how to support the European defence industry on third markets' and that it explore the ways in which EU institutions can 'promote European suppliers in situations where only one company from Europe is competing with suppliers from other parts of the world'. It is unclear what has happened since in terms of the practical implementation of these policies and it is clear that member states will continue to take the lead on the promotion of arms exports abroad for the foreseeable future.

Assessments of the impact on member states' policies and practices

Despite the existence of EU arms embargoes, the EU Dual-use Regulation and the EU Common Position, member states still have substantial leeway in terms of how their export controls are implemented at the national level. They are able to determine:

- whether items are controlled through the use of individual, global or general licences, unless—in the case of dual-use goods—EU General Export Authorizations are in place;
- the mechanisms through which licences are assessed;
- the additional control measures that companies are required to implement through, for example, the use of end-user certificates; and
- enforcement mechanisms by the customs, investigation and prosecution authorities.

In addition, EU member states' export control policies are subject to a range of competing pressures that affect the manner in which they are framed and implemented. They are also influenced by discussions in and implementing consensus decisions by the multilateral forums for coordinating export controls (see section 1.5).

Implementation of the EU's export control regime is also affected by the extent to which responsibility for overseeing these different instruments is spread among different EU institutions. For example, the Foreign Policy Instruments service of the European Commission oversees the implementation of EU arms embargoes and the Torture Regulation, the Directorate General for Trade in the European Commission (DG Trade) oversees the implementation of the Dual-use Regulation, the European External Action Service (EEAS) oversees the implementation of the Common Position, and the Directorate-General for the Internal Market, Industry, Entrepreneurship and SMEs (DG Growth) oversees the implementation of the ICT Directive. In contrast, in a majority of EU member states most or even all aspects of policy implementation in these areas are managed by the same government agency.⁶⁶ As is the case in other areas of EU policymaking, these different branches have had limited success in working together to develop joined up policy mechanisms. This increases the operational costs incurred by member states as they engage with different aspects of the EU's arms export control regime.

Despite these caveats, it is clear that the EU's export control regime has had an impact on certain aspects of member states' national policies and practices. For example, member states are legally obliged to apply the criteria in the Common Position when assessing licences for the export of military items; and many states have included the text in their national legislation.

⁶⁶ Of the 27 EU member states that are also Wassenaar Arrangement participating states, 21 name a single government agency as being responsible for both arms and dual-use export controls. The exceptions are Austria, the Czech Republic, France, Italy, Portugal and Slovenia. Cyprus is not a Wassenaar Arrangement participating state. See 'Participating States', Wassenaar Arrangement, 7 July 2016, <<http://www.wassenaar.org/participating-states/>>.

Moreover, the Dual-use Regulation and ICT Directive create legal obligations regarding the types of export licences that member states allow companies to apply for, as well as the coverage of the control lists that determine which goods require an export licence. Finally, the Common Position obliges member states to collect and report detailed information on their arms exports for inclusion in the publicly available EU Annual Report, and to publish national reports on arms exports. As of May 2017, 23 of the 28 member states had done so, compared with 6 of the 15 member states in 1997.⁶⁷

However, academic and policy-focused studies aimed at systematically assessing the precise impact of these instruments at the national level have generally found mixed results. For the most part, they emphasize the extent to which certain obligations—particularly the export licensing criteria—have been loosely defined or where key powers have been delegated to member states. This, in turn, leads to differences of interpretation and implementation at the national level. For example, a Commission funded study on the impact of the ICT Directive highlighted the fact that member states have drawn up different national lists of exempted items, creating a lack of standardization and confusion in industry about the benefits of the ICT Directive (Masson et al. 2015). As of May 2017, only 50 companies in 14 member states had been awarded ‘certified status’, which allows them to receive military goods under the simplified procedures created by the ICT Directive.⁶⁸ In addition, studies by Amnesty International have raised questions about the extent to which member states are fully implementing the Torture Regulation (Amnesty International 2015).

Other studies have highlighted the extent to which more influential EU member states have been able to steer EU policy formation processes to reflect their own national priorities. As a result, what initially looks like an EU member state altering its national regulations in response to EU pressures turns out to be a much more dynamic and complex process. For example, in 2014, France completed a range of steps aimed at simplifying its export licensing procedures as part of its national implementation of the ICT Directive. This meant replacing France’s two-step export licensing procedure for military items with one-step, individual and global licences, as well as introducing a general licence that allows multiple shipments to a particular destination or set of destinations (Béraud-Sudreau 2014). However, a detailed analysis of the underlying process involved found that France played a key role in shaping and promoting the ICT Directive in order to facilitate a planned simplification of its arms export controls (Béraud-Sudreau 2014).

A small number of articles have sought to use constructivist approaches to better understand the processes of regime formation at the EU level, the norms that have been created and the impact these norms have had on individual

⁶⁷ All national reports on arms exports are available at <http://www.sipri.org/research/armaments/transfers/transparency/national_reports/sipri-national-reports-database>.

⁶⁸ European Commission, Certified Enterprise Register, Certified Defence-related Enterprises (CERTIDER) database, <<http://ec.europa.eu/growth/tools-databases/certider/index.cfm?fuseaction=undertakings.countries>>, accessed 9 May 2017.

member states' arms export controls. In the 2000s, studies explored whether development of the EU's export control regimes resulted in the 'Europeanization' of member states' policies, whereby the transfer of competencies and processes of socialization and norm diffusion had a direct impact on the formation and implementation of national level decision-making processes (Hofhansel 1999; Bauer and Remacle 2004). In particular, Bauer (2003) argued that the transfer of competencies to Brussels and processes of socialization had a direct impact on national policy formation and implementation, and were instrumental in the increase in transparency. A small number of studies have also sought to assess the impact of the EU's export control regime on the 'outcomes' of member states' arms export policies, that is, the decisions made about what to export and where. For example, a 2008 study found that there had been a reduction in exports from member states to countries in conflict and countries where human rights abuses were taking place, and that this reduction has been greater than the global trend. However, it found little evidence of any increase in convergence in the pattern of member states' exports (Bromley and Brzoska 2008). A 2011 study found that states with poor human rights records or that were engaged in low-level interstate conflicts were more likely to be recipients of EU member states' arms exports in 1990–1997 than states where these conditions did not apply, but were no more likely in 1998–2004. However, states engaged in low-level internal conflicts were more likely to be recipients in 1998–2004 than in 1990–1997, and states engaged in a high-level interstate or internal conflict were just as likely to be recipients in both periods (Erickson 2013).

These studies have been used to support accounts that have questioned the ability of EU policymaking in the field of export controls to have a direct impact on member states' policies and raised doubts about the accuracy of the Europeanization model. These have also drawn on work that highlights the way in which policymaking processes at the EU level 'become a vector of change by providing new resources, references and policy frames, which national policy actors use strategically' (Woll and Jacquot 2010). How these resources are used depends on the preferences of national level officials, which—particularly in the field of foreign and security policies—will continue to be framed by national priorities and interests. Supporting these conclusions, accounts from the field of international law have drawn attention to the peculiarly complex nature of EU policymaking in the field of export controls (Lustgarten 2013). This means that compliance with the policies agreed at the EU level is entirely in the hands of member states' national legal systems, and that pressures to harmonize and converge are minimal.

Measuring the impact of the EU's export control regime on the outcomes of member states' policies is difficult, particularly given the limitations in the available data. What is clear is that differences in key aspects of member states' foreign and security policies—such as the extent to which states' defence-industrial policies are dependent on arms exports, states' historical or strategic ties with particular recipient states and the strength of domestic lobbies that either oppose or support restrictions—continue to act as a strong

counterweight to processes of policy convergence. For example, Germany has traditionally been more willing to export certain types of arms to Israel than other member states and less willing to supply other states in the Middle East if Israel views this as a threat to its security (Nassauer 2004; and Holtom et al. 2011). In 2014, the UK Government indicated that it would block the proposed export of Gripen combat aircraft from Sweden to Argentina by refusing permission for the re-export of British-manufactured components used in the aircraft (Chuter 2014). Finally, a 2015 study showed that despite almost three decades of implementation there are still clear differences in the way that EU member states interpret and apply the 1989 EU arms embargo on China (Bräuner, Bromley and Duchâtel 2015).

Recent changes and potential future developments

There has if anything been a slowdown in the further expansion and deepening of the EU's policy mechanisms in the field of arms and dual-use export controls in recent years. For example, the Common Position was the subject of a review that began in 2011 and was concluded in 2015 (Council of the European Union 2015a). During the review, the EEAS suggested a number of issues be included that would have had a significant impact in both these areas. Among these was an analysis of how the Common Position is implemented by states' national laws and regulations, and improvements in the submission of data to the EU Annual Report (Bromley 2012). However, member states opposed their inclusion and the review generated only minor changes to the 'User's Guide' that accompanies the Common Position along with some improvements to the mechanisms for information sharing among member states (Council of the European Union 2015a).

One of the causes—and consequences—of this slowdown is the fact that attempts to increase the 'pooling and sharing' of EU defence assets have continued to generate limited returns, as states have continued to favour national solutions over shared projects. As a 2015 report noted, EU efforts to date in the field of pooling and sharing lack 'definitions of success, useful models of cooperation and a permanent monitoring of opportunities and capabilities' while progress to date has been made at a 'snail's pace' (Mölling 2015). In addition, consolidation of the EU's larger arms manufacturers has yet to happen, as seen most dramatically in the failed merger between EDA and BAE Systems in 2012 (Jackson 2013). As noted above, the drive to consolidate the European defence industry was one of the key drivers of the creation of the EU export control regime and a slowdown here is likely to reduce interest in the latter. Another contributory factor to the slowdown is a decline in the ability and willingness of NGOs and sections of the European Parliament to continue to play their role as supporters of the further development of the EU's export control regime. For example, Anna Stavrianakis has argued that the process of lobbying for incremental improvements to national and EU level arms export policies—and the drive to promote EU standards internationally through the adoption of the ATT—has

created a process of co-option that has reduced the radicalism of NGOs' proposals (Stavrianakis 2010).

That said, developments in the EU's export control regime are far from uniform. Particular elements are clearly developing at different paces and in different directions; and there have been a number of developments in recent years that are clearly having an impact on the development of the EU's export control regime. As noted above, in recent years there has been an increasing willingness to adopt 'autonomous' EU arms embargoes. This reflects a broader upswing in the EU's use of sanctions as a foreign policy instrument, something that can be seen, for example, in the EU's recent policies towards Iran, Syria and Russia (Portela 2016). The effectiveness of arms embargoes as a policy instrument is a hotly contested topic—and assessments vary depending on the scope of the analysis and the questions asked (see Graduate Institute Geneva 2013). As it stands, the perceived success of the nuclear-related sanctions on Iran—and the EU's key role in their development and enforcement—indicates that they will continue to be a central tool of EU policymaking for the foreseeable future.

In addition, the UK's decision to trigger article 50 and other ongoing threats to the long-term health of the EU could lead to a deepening of different aspects of defence cooperation among the remaining 27 EU member states. Discussions are ongoing on revitalizing efforts to boost the European Defence Industrial Base, promote joint procurement efforts and use EU funding to support military R&D (Emmott 2016). These have traditionally been areas where the UK has been accused of blocking progress. These are also areas that have been key drivers of EU action in the field of arms and dual-use export controls. At the same time, NGOs and sections of the European Parliament have recently shown an increased interest in strengthening certain aspects of the EU's export control regime. For example, in March 2016 the European Parliament issued a non-binding resolution calling for an EU-wide suspension of arms sales to Saudi Arabia (O'Farrell 2016).

Sections of the European Parliament have also sought to integrate controls on exports of so-called cyber-surveillance technologies into the EU's export control regime. In particular, under pressure from NGOs and MEPs, the European Commission is seeking to make the expansion of controls on cyber-surveillance technologies one of the key outcomes of the review of the EU Dual-use Regulation, which began in 2011. The outcome of this review process could indicate the extent to which EU member states are willing to support attempts to further harmonize their policies in the field of arms and dual-use export controls and agree to a further delegation of powers to the EU level. The review has already resulted in a decision to initiate a recast of the EU Dual-use Regulation, and a draft version was published by the Commission in September 2016. This is currently in first reading and is likely to become the subject of 'trialogue' negotiations between the Council, the Commission and the European Parliament. Significant disagreements about

issues such as the proposed catch-all expansion mean that the process is unlikely to be concluded before 2019.

The draft recast includes measures to adapt the Regulation to changes in trading patterns, business routines and technologies, such as increased reliance on intangible transfers of technology (ITT) (Rebolledo 2012; Stewart 2015; Stewart et al. 2016). ITT can occur via email attachments, server uploads or downloads, cloud computing and other Internet-sharing platforms, but also through in-person sharing of knowledge. The regulatory proposal also seeks to reduce the administrative burden licensing processes place on business and authorities by introducing facilitated licensing procedures for intra-company transmission of software and technology, large projects, encrypted products and low-value transactions. For example, the proposal attempts to bring greater clarity to the application of ITT controls by specifying that controls should only apply when the technology is made available to ‘legal and natural persons and partnerships’ outside the EU, rather than ‘a destination’, as is currently the case (European Commission 2016). The draft recast also proposes a new EU General Export Authorization for ‘Intra-company transmission of software and technology’ (European Commission 2016). The intention of the new language is—in part—to ‘facilitate the use of cloud services’ (European Commission 2016). However, Digital Europe has argued that the language needs to be further clarified, particularly by ‘deleting the element of “making available” software and technology in electronic form’ (Digital Europe 2017). The concern appears to be that even under the proposed language a company that is providing cloud services, rather than just the user of the cloud services, would be responsible for who downloads information from the cloud.

However, the most ambitious and controversial aspect of the recast document is the attempt to expand the range of concerns that the EU Dual-use Regulation seeks to address to include considerations of ‘human security’. The issue of whether and if so, how to integrate human security concerns into dual-use export controls has been gaining prominence at the EU level since 2011. This is largely due to the expansion in the range of cyber-surveillance technologies covered by the WA and EU-level controls on dual-use exports following events connected to the ‘Arab Spring’. This, in turn, has driven debates in the EU about how best to integrate human rights concerns into dual-use export controls.

The draft recast of the EU Dual-use Regulation contains various measures that would serve to expand both the range of items that are subject to dual-use export controls at the EU level and the normative concerns that EU member states are required to take into account when assessing their exports. These measures have four main elements: an expansion of the definition of dual-use goods; the adoption of an EU-level control list for cyber surveillance systems; an expansion of the catch-all controls to include unlisted items that are likely to be used in violations of human rights, IHL or acts of terrorism and a requirement for companies to carry out ‘due diligence’ to assess potential

risks; and new language that would expand the range of concerns that EU member states address when assessing licence applications to include human rights and IHL issues. The proposed language therefore has the potential to shift dual-use export controls beyond the civilian-use or military-use paradigm that currently frames the range of goods controlled and explicitly encompass systems that are used by law enforcement and intelligence agencies (Bauer and Bromley 2016). The changes would also mean that human rights and IHL issues would be explicitly included in the EU Dual-use Regulation, and expand the control rationale and assessment criteria to include potential use in acts of terrorism. What this will mean in practice in terms of member states' decision making on the issuing and denying of licences is unclear. The proposed revision states that 'guidance and/or recommendations to ensure common risk assessments by the competent authorities of the Member States for the implementation of those criteria' will be produced by the European Council and the European Commission (European Commission 2016: 33). However, it is uncertain how detailed these will be and when or how they will be produced.

The expanded catch-all controls are a direct result of a 2014 Joint Statement by the European Parliament, the Council and the Commission (annex to European Parliament and Council of the European Union 2014). This proposed provision has drawn industry opposition from across the EU (Kantel 2017; Mildner et al. 2017; Cefic 2017). However, the initial generic opposition to any expansion in catch-all controls appears to have shifted to a more focused exploration of the specific scope and modalities of the proposal. Discussions have focused on the 'due diligence' requirement and the balance of responsibility between companies and governments when it comes to assessing risks as well as the benefits of having a specific list of items and/or countries of concerns versus a more general catch-all as currently proposed. From the start, the Netherlands Government has been a strong supporter of a catch-all regarding cyber-surveillance technology.

Finally, among the key issues currently under discussion are where to place responsibility among the different players in the export control system, and how to shift responsibility to some extent to industry and other stakeholders. This will require even greater emphasis on and resources for outreach and engagement with stakeholders; but also resource mobilization on their part to establish and adapt compliance programmes, for example through enhanced record-keeping procedures for open licences.

Conclusions

Although limits on data availability make any analysis difficult, it's clear that the EU's export control regime has had some influence at the national level in terms of increased transparency and assessments on what to export and where. Nonetheless, differences in foreign and security policy's interests among the EU member states continue to affect processes of policy convergence. While there are key signs of a slowdown in the processes of policy convergence that

began in the 1990s it is also the case that different elements of the regime are developing at different paces. For example, in recent years there has been an increasing willingness to adopt ‘autonomous’ EU arms embargoes. Moreover, potential increases in EU defence spending and the UK’s exit from the EU could reinvigorate interest in strengthening the EU’s export control regime. The outcome of the ongoing review process for the EU Dual-use Regulation will be a key indicator of the extent to which EU member states are willing to support attempts to further harmonize their policies in the field of arms and dual-use export controls.

References

- Amnesty International, ‘Grasping the nettle: ending Europe’s trade in execution and torture technology’, 28 May 2015.
- Bauer, S., ‘The Europeanisation of arms export policies and its impact on democratic accountability’ (Doctoral thesis, Université libre de Bruxelles and Freie Universität Berlin, May 2003).
- Bauer, S. and Bromley, M., ‘The dual-use export control policy review: Balancing security, trade and academic freedom in a changing world’, *Non-Proliferation Papers*, no. 48 (Mar. 2016).
- Bauer, S/ and Remacle, E., ‘Theory and practice of multi-level foreign policy: the European Union’s policy in the field of strategic trade controls’, eds B. Tonra and T. Christiansen, *Rethinking European Union Foreign Policy* (Manchester University Press: Manchester, 2004).
- Béraud-Sudreau, L., ‘French adaptation strategies for arms export controls since the 1990s’, IRSEM Paris Paper no. 10 (Oct. 2014).
- Bräuner, O., Bromley M. and Duchâtel, M., ‘Western arms exports to China’, SIPRI Policy Paper, Jan. 2015.
- Bromley, M., ‘The review of the EU Common Position on Arms Exports: prospects for strengthened controls’, EU Non-Proliferation Consortium, Jan. 2012.
- Bromley, M. and Brzoska, M., ‘Towards a common, restrictive EU arms export policy? The EU Code of Conduct on major conventional arms exports’, *European Foreign Affairs Review*, vol. 13, no. 2 (2008), pp. 333–56.
- Cefic, *Cefic Views on ‘the Recast of the EU Dual Use Goods legislation’*, Briefing paper (Cefic: Brussels, Jan. 2017).
- Chuter, A., ‘Argentina buying Gripens? Brits say “no way”’, *Defence News*, 8 Nov. 2014.
- Council of the European Union, Council Regulation (EC) no. 1236/2005 of 27 June 2005 concerning trade in certain goods which could be used for capital punishment, torture or other cruel, inhuman or degrading treatment or punishment, *Official Journal of the European Union*, L200, 30 July 2005.
- Council of the European Union, ‘European Union Code of Conduct on Arms Exports’, 8675/2/98 Rev. 2, 5 June 1998; and Council of the European

- Union, Council Common Position 2008/944/CFSP of 8 Dec. 2008 defining common rules governing control of exports of military technology and equipment, *Official Journal of the European Union*, L335, 8 Dec. 2008.
- Council of the European Union, Council Regulation (EC) no 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items, *Official Journal of the European Union*, L 134, 29 May 2009a.
- Council of the European Union, Directive 2009/43/EC of the European Parliament and of the Council of 6 May 2009 simplifying terms and conditions of transfers of defence-related products within the Community, *Official Journal of the European Union*, L146, 10 June 2009b.
- Council of the European Union, Council Decision 2013/768/CFSP of 16 December 2013 on EU activities in support of the implementation of the Arms Trade Treaty, in the framework of the European Security Strategy, *Official Journal of the European Union*, L341, 18 Dec. 2013.
- Council of the European Union, ‘Council conclusions relating to the review of Common Position 2008/944/CFSP on arms exports and the implementation of the Arms Trade treaty (ATT)’, 20 July 2015a.
- Council of the European Union, Council Decision 2015/2309 of 10 December 2015 on the promotion of effective arms export controls, *Official Journal of the European Union*, L326, 11 Dec. 2015b.
- Council of the European Union, Council Decision 2017/915 of 29 May 2017 on Union outreach activities in support of the implementation of the Arms Trade Treaty, *Official Journal of the European Union*, L139, 30 May 2017.
- Davis, I., *The Regulation of Arms and Dual-Use Exports: Germany, Sweden and the UK* (Oxford University Press: Oxford, 2002).
- Digital Europe, *European Commission Proposed Recast of the European Export Control Regime: Making the Rules Fit for the Digital World* (Digital Europe: Brussels, Feb. 2017).
- Emmott, R., ‘Spurred by Trump and Brexit, EU plans 5 billion euro defence fund’, Reuters, 30 Nov. 2016.
- Erickson, J., ‘Market imperative meets normative power: Human rights and European arms transfer policy’, *European Journal of International Relations*, vol. 19, no. 2 (2013), pp. 208–33.
- European Council, ‘Council of Ministers Declaration on China’, 27 June 1989.
- European Commission, ‘Towards a more competitive and efficient defence and security sector’, 24 July 2013.
- European Commission, ‘Proposal for a Regulation of the European Parliament and of the Council setting up a Union regime for the control of exports, transfer, brokering, technical assistance and transit of dual-use items (recast)’, COM(2016) 616 final, 28 Sep. 2016.

- European Parliament and Council (2014), 'Regulation 599/2014 of the European Parliament and of the Council of 16 April 2014 amending Council Regulation (EC) no. 428/2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items', *Official Journal of the European Union*, L173, 12 June 2014, pp. 79–83
- Graduate Institute Geneva, 'Targeted Sanctions Consortium (TSC), Effectiveness of UN targeted sanctions: Findings from the Targeted Sanctions Consortium', Nov. 2013.
- Hofhansel, C., 'The harmonization of EU export control policies', *Comparative Political Studies*, vol. 32, no. 2 (1999), pp. 229–56.
- Holtom, P. et al., 'International arms transfers', *SIPRI Yearbook 2011* (Oxford University Press: Oxford, 2011), pp. 271–90.
- Holtom, P. and Micic, I., 'European Union arms export control outreach activities in Eastern and south eastern Europe', European Non-Proliferation Consortium, Apr. 2012.
- Jackson, S. T., 'Key developments in the main arms-producing countries, 2011–12', *SIPRI Yearbook 2013* (Oxford University Press: Oxford, 2013), pp. 205–17.
- Kantel, V., *Why BDI Supports Dual-Use Reform but Not the New Catch-All Rules* (Federation of German Industries (BDI): Berlin, Apr. 2017).
- Lustgarten, L., 'The European Union, the member states and the arms trade: A study in law and policy', *European Law Review*, no 4 (2013).
- Masson, H. et al., 'The impact of the "defence package" Directives on European defence', European Parliament, DG for External Policies, June 2015.
- Mildner, S.-A., Kantel, V. and Wendenburg, F., *EU Dual-Use Reform: EC Proposed Regulation COM(2016) 616* (Federation of German Industries (BDI): Berlin, Apr. 2017).
- Mölling, C., 'State of play of the implementation of EDA's pooling and sharing initiatives and its impact on the European defence industry', European Parliament, DG for External Policies, June 2015.
- Nassauer, O. and Steinmetz, C., *Rüstungskooperation zwischen Deutschland und Israel*, Berlin Information-Center for Transatlantic Security (BITS), 2004.
- O'Farrell, K. T., 'The European Parliament called for an EU arms embargo against Saudi Arabia. Now what?', Saferworld, 30 March 2016.
- Portela, C., 'How the EU learned to love sanctions', ed. M. Leonard, *Connectivity Wars* (London: European Council on Foreign Relations, 2016).
- Rebolledo, V. G., *Intangible Transfers of Technology and Visa Screening in the European Union*, Non-Proliferation Papers no. 13, EU Non-Proliferation Consortium (Mar. 2012).

- Schmitt, B., *From Co-operation to Integration: Defence and Aerospace Industries in Europe*. Chaillot Paper 40 (Paris: Western European Union Institute for Security Studies, July 2000).
- Schmitt, B., *A Common European Export Policy for Defence and Dual-Use Items?* Occasional Paper 25 (Paris: Western European Union Institute for Security Studies, May 2001).
- Stavrianakis, A., *Taking Aim at the Arms Trade: NGOs, Global Civil Society and the World Military Order* (London: Zed Books, 2010).
- Stewart, I., 'The contribution of intangible technology controls in controlling the spread of strategic technologies', *Strategic Trade Review*, vol. 1, no. 1 (Autumn 2015), pp. 41–55.
- Stewart, I. J., Williams, D., and Gillard, N., *Examining Intangible Controls*, Project Alpha, Centre for Science and Security Studies, King's College London (King's College London: London, June 2016).
- Woll, C. and Jacquot, S., 'Using Europe: Strategic action in multi-level politics', *Comparative European Politics*, vol. 8, no. 1 (2010), pp. 110–26.

3.2. EU debates on WMD-related policies

GIOVANNA MALETTA

This section focuses on the EU debate on WMD-related policies. It first describes the key elements of the EU Strategy against the proliferation of WMD and provides an overview of the wide range of EU institutions, and services within them, which are involved in its implementation. The section then summarizes the academic discussion about the implementation of the Strategy. Finally, the section examines the current state of the debate on the new EU Global Strategy.

The EU Strategy against the proliferation of Weapons of Mass destruction

Key elements of the strategy

In December 2003, the Council of the European Union adopted the EU Strategy against the proliferation of weapons of mass destruction (EU WMD Strategy). It was the first document to outline the priorities of the EU in the field of non-proliferation and the tools to address it (Council of the European Union 2003a). The Strategy was the outcome of a process that led to the adoption of both the European Security Strategy (ESS) and the Declaration on non-proliferation of Weapons of Mass Destruction, which EU member states adopted in June the same year (Council of the European Union 2003b). The ESS defined the proliferation of WMD as a key threat to European security

(Council of the European Union 2003e). A related Action Plan was also adopted shortly before the meeting (Council of the European Union 2003c).

The terrorist attacks of 11 September 2001 and the US invasion of Iraq in 2003 created favourable conditions within the EU for a review of its international role as a non-proliferation and security actor from a more strategic perspective. Key EU member states in particular realized that they needed to reach a consensus on major security issues if they wanted the EU to be a credible international security actor (Portela and Kienzle 2015: 48–50; Anthony 2004: 586–88; Portela 2003: 1–2; Kienzle 2013: 1).

The Strategy recognized that the proliferation of WMD and their means of delivery represented a major risk to international and European peace and security, and that meeting this challenge must be a ‘central element in the EU’s external action’, to be addressed by using ‘all instruments and policies’ at the EU’s disposal (Council of the European Union 2003a: 2). These include political and financial means and, ‘as a last resort, coercive measures in accordance with the UN Charter’ (Council of the European Union 2003a: 8). All this led to the introduction of an element of political conditionality, the so-called non-proliferation clause (Council of the European Union 2003d), in agreements between the EU and third countries. The clause contains a commitment by the EU and its counterparts to abide by ‘all relevant international legal instruments that seek to counter the proliferation of WMD as well as to establish an effective system of national export controls’ (Anthony 2005: 591).

Nonetheless, as reflected in chapter 2 of the Strategy, the preferred approach to tackling proliferation-related threats remains ‘effective multilateralism’, that is, the EU’s commitment to pursue the universalization of the NPT, IAEA safeguards agreements and additional protocols, the CWC, the BWC, the HCOG and the early entry into force of the CTBT (Council of the European Union 2003a: 6). These provisions proved that the EU was willing to approach the non-proliferation issue with a renewed degree of ‘seriousness’ (Anthony 2005: 590). The Action Plan, in particular, conveyed a sense of urgency in taking concrete measures as well as developing the possible instruments and resources needed to meet the objectives of the strategy (Anthony 2005: 589; on the EU measures to implement the WMD Strategy see Anthony 2005: 535–39). The deliverables and the timeframe of the Action Plan were further updated through the adoption of ‘New lines for action’ to combat the proliferation of WMD in 2008 (Council of the European Union 2008a; Anthony and Bauer 2009: 475–76) and 2010 (Council of the European Union: 2010a).

The EU WMD Strategy: key implementing actors

The EU had taken small steps towards the development of a common non-proliferation policy in the 1980s, through the establishment of a Working Party on Non-Proliferation within the framework of European Political Cooperation (Van Ham 2011: 1; Kienzle 2013: 18). It was only the legal

establishment of the Common Foreign and Security Policy (CFSP), through the Maastricht Treaty in 1993, however, that offered the institutional conditions for closer cooperation among EU member states on foreign and security matters, including WMD non-proliferation (Van Ham 2011: 1–2). Since then, the EU non-proliferation policy has been implemented by two separate institutions with differing cultures, instruments and resources: (a) the Council of the European Union, operating within the CFSP; and (b) the European Commission, acting within the former Community framework (Zwolski 2011: 358–59; 363–64).

This fragmented structure still has considerable influence on the way the strategy is implemented. In addition, EURATOM still exists as a separate legal entity from the EU. Finally, the entry into force of the Lisbon Treaty in 2009 introduced a new foreign policy architecture through the establishment of the European External Action Service (EEAS), intended to provide enhanced coordination and coherence, *inter alia*, among the EU's expanded non-proliferation policies (Grip 2011a: 1). Nonetheless, the 'hybrid' and 'horizontal' nature of the issue, which covers a wide range of overlapping EU policy domains, such as health, counterterrorism, trade and energy, made it inevitable that some relevant activities in this field would be conducted outside the CFSP framework by different institutional actors (Kienzle 2013: 8; Grip 2011a). The relevant EU actors related to WMD non-proliferation are mapped in a detailed and comprehensive way in Grip (2011a: 2–16).

The Council of the European Union is responsible for the adoption of non-proliferation strategies, policies, and related conclusions and decisions, the latter being the main tool through which CFSP funds are allocated to support the major multilateral treaties and bodies. The Council is also the forum in which EU member states coordinate their positions on non-proliferation in the framework of the Foreign Affairs Council (FAC) and on the basis of the preparatory work carried by the Committee of Permanent Representatives (COREPER) and the Political and Security Committee (PSC), assisted, in turn, by the Council Working Party on Non-Proliferation (CONOP),⁶⁹–chaired by the EEAS (Council of the European Union 2017).

The European Parliament, by means of its budgetary powers and its political oversight role, can affect the substance of EU non-proliferation policy by allocating or withholding resources. Here, WMD-related issues are handled by the Standing Committee on Foreign Affairs (AFET) and its Subcommittee on Security and Defence (SEDE) (European Parliament 2017).

The Disarmament, Non-proliferation and Arms Control division of the EEAS, which belongs to the Security Policy Directorate under the Deputy Secretary General for CSDP and crisis response, is responsible for the preparation and implementation of all CFSP Council Decisions, assisted by the FPI (EEAS 2017a; European Commission 2017). In addition, its staff chair the relevant Council Working Parties, including CONOP. The EEAS also plays an important role in contributing to the strategic programming of the

⁶⁹ Since January 2016 the CONOP Working Party incorporated the agenda of the CODUN.

external relations instruments (such as the Instrument for Stability,⁷⁰ IFS), and the Instrument for Nuclear Safety Cooperation (INSC), and in assessing the implementation of the WMD Strategy by means of six-monthly progress reports, published in an annual version since 2016. In addition, the EU Delegations are expected to advise or inform headquarters of potential WMD-related threats, monitor the implementation of IFS-funded programmes and, in some cases, contribute to the negotiations on and conclusions of assistance projects (Grip 2011a: 8; Duke and Ojanen 2006: 491). Finally, the EU Delegations in Geneva and Vienna represent the EU in international organizations, and specialized agencies and bodies, several of which work on non-proliferation issues (EEAS 2017b; EEAS 2017c).

The Commission is increasingly and explicitly engaged in non-proliferation-related activities with both an external and an internal dimension. Of particular relevance is the responsibility, carried out by the European Commission's FPI, for the financial implementation of the CFSP budget, and the IFS/IcSP instrument, through which most of the WMD non-proliferation programmes are funded (Grip 2011a: 5–6). In addition, the European Development, Enlargement, Humanitarian Aid and Civil Protection, and Trade policies still fall under the competence of the relevant directorate-generals (DGs) of the European Commission and, to the extent that these policies are affected by the issue, these services are important for the implementation of the WMD Strategy (Grip 2011a: 9–12). The same applies to those DGs that handle relevant internal policy issues (health, energy and internal security) (Grip 2011a: 12–17). More specifically, the main services involved and their respective activities are summarized in table 3.2.1.

Table 3.2.1. EU External and Internal policy services' activities in the field of WMD non-proliferation and related funding instruments.

External policy services		
Directorate General	Roles and Activities	Financial Instrument
Directorate-General for International Cooperation and Development (DG DEVCO)	Nuclear safety assistance; CBRN risk mitigation; technical and legal assistance for the implementation of Resolution 1540; biosafety and biosecurity assistance.	INSC; IFS/IcSP; Development Cooperation Instrument (DCI)
Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR)	Nuclear safety and security assistance to candidate and potential EU membership candidates	Instrument for Pre-accession Assistance (IPA)
Directorate-General for European Civil Protection and Humanitarian Aid Operations (DG ECHO)	Civil protection from natural and man-made disasters including CBRN incidents	Civil Protection Mechanism; Civil Protection Financial Instrument 2007-2013 ⁷¹

⁷⁰ Since 2013, the Instrument Contributing to Stability and Peace (IcSP).

⁷¹ For an ex-post evaluation of these instruments in the period 2007–13 see also 'Ex-post evaluation of Civil Protection Financial Instrument and Community Civil Protection Mechanism (recast) 2007–13:

Directorate General for Trade (DG Trade)	Responsible for dual-use export control policies.	
--	---	--

Internal policy services		
Directorate General	Roles and Activities	Financial Instrument
Directorate-General for Migration and Home Affairs (DG Home)	Implementation of the EU counterterrorism Strategy (Council of the European Union 2005) and of the EU CBRN Action Plan (Council of the European Union 2009a)	
Directorate General for Health and Food Safety (DG SANTE)	Protection of health security from cross-border health threats such as biological and chemical incidents	EU Health Programme ⁷² (European Commission)
Directorate General for Energy (DG ENER)	Implementation of the nuclear safety directive (Council of the European Union 2009b)	
Joint Research Centre (JRC)	Technical and scientific support on non-proliferation related security; technical support to DG ENER, NEAR and DEVCO nuclear safety initiatives	Currently under Horizon 2020, previously under EC Framework Programmes

Source: Author's own table based on the services' website and Grip 2011a.

The impact of the EU WMD Strategy on the academic debate

Successes, shortcomings and challenges of the EU WMD Strategy

With the adoption of the WMD Strategy, the EU's non-proliferation policy was framed within the CFSP. This 'expanded the scope' of the CFSP and provided common funds—allocated through Joint Actions/Council Decisions—to implement the Strategy (Anthony and Grip 2013: 4). It also required consensus among EU member states for direct EU involvement and created a pool of national financial resources and expertise that empowered the responsible national agencies to engage in external assistance programmes and in EU candidate countries (Anthony and Grip 2013: 4). The reference to multilateralism offered common ground on which all member states could agree as it did not lead to additional measures, given that budget procedures to fund the implementation of the WMD Strategy had already been created, and that EU member states were states parties to the most relevant international agreement (Anthony and Grip 2013: 4). Some even praised the WMD Strategy

Final Report', ICF International, 16 Dec. 2014, <http://ec.europa.eu/echo/files/evaluation/2015/CPM_final_report_en.pdf>.

⁷² A list of projects funded under this Programme is available at <https://ec.europa.eu/health/projects_en>.

as a document ‘ahead of its time’, as it was already promoting a comprehensive approach to the field on non-proliferation before the entry into force of the Lisbon Treaty (Quille 2015: 68).

Commentators, however, do not agree on their assessment of EU efforts in the field of non-proliferation. Some have argued positively that the WMD Strategy was instrumental in developing an EU approach to WMD proliferation that could be used in future actions. Key elements of this approach include a different perspective on security, which recognizes the importance of being ready to face a wider range of risks, not only those coming from a conventional military attack but also terrorists (Anthony and Grip 2013: v). This approach particularly stresses the importance of cooperation to identify and tackle particular issues rather than ‘particular countries’. In addition, Anthony and Grip highlighted that the WMD Strategy has been instrumental in developing stronger links among the ‘resources, skills and competences’ available within the EU institutions, together with ‘sufficiently comprehensive and flexible’ financial instrument to carry related programmes and projects (Anthony and Grip 2013: v). In this regard, positive comments have been made that the EU performed ‘surprisingly well’ because the Strategy worked as a ‘catalyst’ for intense collaboration in this field at the European level (Kienzle 2013: 2).

More generally, as is shown below, the academic discussion over the implementation of the WMD Strategy focused on a series of specific elements. First and foremost, some of the comments addressed the ‘effective multilateralism’ component of the strategy, that is, the economic and technical support the EU provided to multilateral security organizations such as the IAEA, the OPCW and the CTBTO. The debate also addressed issues related to the institutional structure of the EU and how this affected the implementation of the Strategy, for example in terms on external representation within international disarmament and non-proliferation forums. Finally, observers also focused on the effectiveness of the non-proliferation clause while providing their own assessment of the use of this instrument.

According to some analysts, the Strategy’s emphasis on international cooperation led to the implementation of programmes and policies that prepared the ground for future further collaboration with major international initiatives and specialized agencies (Anthony and Grip 2013: v). This is particularly noteworthy given that the Strategy was adopted at a time when multilateralism was in crisis (Kienzle 2013: 2). In addition, it has been noted that the EU approach to support for multilateral security organizations was fairly ‘consistent’. Decisions with financial implications targeted only organizations with a well-established legal framework (rather than informal initiatives) and, among those, priority was given to those with larger international structures (the IAEA, the OPCW and the CTBTO) (Anthony and Grip 2013: 21).

Financial support to the above-mentioned organizations has been largely provided through CFSP Joint Actions/Council Decisions, whose stated

objectives were to promote universality and implementation, and to improve the functioning of the related conventions. Broadly speaking, it has been argued that through these documents the EU has made a ‘a considerable contribution’ in the field of non-proliferation as they have been instrumental in ‘expanding the implementation of international norms, securing sensitive materials and facilities, enhancing national capabilities in the area of border controls against illicit trafficking and re-directing former WMD scientists to peaceful activities’ (Caponetti 2014: 14–15). In terms of the promotion of universality, it can be assumed that this was met to the extent that it increased participation in key non-proliferation instruments (e.g. the BWC, CWC, CTBT and IAEA Additional Protocol) after the Strategy came into effect (Grip 2011b: 4; Grip 2015: 130–31). Yet, it would be ‘unreasonable’ to attribute these improvements to the Council Decisions alone as other factors may have positively affected these figures, not least the EU Member States’ single contributions, political and diplomatic oriented actions carried by the EU itself, and the use of the non-proliferation clause, as well as outreach efforts by the organizations themselves and by other countries (Grip 2011b: 4–5; Grip 2015: 130).

As regards the improvement of the functioning of these multilateral instruments, it can be argued that the EU assistance to the IAEA, the CTBTO and the OPCW increased after the WMD Strategy and that it positively contributed to these organizations’ technical and financial capacity to carry out their core activities (Grip 2015: 131–32). Therefore, the EU contribution in the spirit of effective multilateralism since 2003 may have produced some tangible results in terms of countries adhering to international instruments and meeting their reporting duties, as well as increased number of core activities carried by the supported organizations.⁷³ In other words, the large number of actions funded by the EU is likely to have strengthened the capabilities and the non-proliferation work of these organizations (Kienzle 2013: 2, 13).

Nonetheless, as noted above, an ‘attribution gap’ remains, which makes it difficult to assess whether the EU caused those improvements (Grip 2011b: 18; Grip 2015: 135–36; Kienzle 2013: 16) and it would be ‘dangerously wrong to equate money spent with results achieved’ (Van Ham 2011: 9). This situation has led some commentators to argue that a methodology should be developed to assess the influence the EU acquires through its financial support to these bodies (Van Ham 2011: 14). In this regard, some conclusions on the limited increase in EU political influence in these forums can be drawn from the rather ‘technical’ nature of the relevant Joint Actions/Council Decisions as well as the ‘non-controversial’ nature of the EU support (Kienzle 2013: 13; Portela and Kienzle 2015: 60). Furthermore, the fact that the EU funded projects are implemented by other organizations had a negative impact on the visibility of the EU itself (Portela and Kienzle 2015: 60).

As far as the institutional structure of the EU is concerned, the fragmentation of WMD non-proliferation-related activities among several

⁷³ For an overview of the period 2003–13 see Grip (2011b) and Anthony and Grip (2013).

different actors has also been considered a weakness of the Strategy (Van Ham 2011). Despite the horizontal nature of the WMD non-proliferation issue, ‘few links were made between the new external non-proliferation policy and existing internal policies’ (Grip 2011a: 2) and establishing this ‘nexus’ remains one of the biggest challenge (Kienzle 2013: 8). Therefore, while this feature of the Strategy positively affected the availability of resources and expertise engaged in external WMD non-proliferation activities, it also made it hard to ensure their ‘oversight’, ‘coherence’ and coordination (Grip 2011a: 17). In addition, despite attempts to improve coordination between the different institutions after the Lisbon Treaty, the EU struggled to ensure coherence between the work of the Commission, the European Parliament and the Council, which are often in competition (Van Ham 2011:5; Zwolski 2011), or to act as a unitary actor in the field of non-proliferation. Nonetheless, these institutional issues are likely to have been typical ‘transitional hiccoughs’ and some practical arrangements to foster coordination among these institutions have been established in the meantime, not least the establishment of the above-mentioned non-proliferation unit within the EEAS (Kienzle 2013: 7, Portela and Kienzle 2015: 57).

The fact that the EU WMD policy remains largely intergovernmental had also been highlighted as a critical issue (Van Ham 2011) and remains an issue in spite of the Lisbon Treaty. As discussions mainly take place at the Council Working Parties level, with representatives from member states playing a major role, this arrangement could signal a certain scepticism among the member states of the EU’s capacity to effectively tackle ‘the hard challenge of devising and implementing a WMD non-proliferation policy that would yield better results than the current arrangement’, meaning they are reluctant to go beyond simple policy coordination (Van Ham 2011: 6, 14). More specifically, member states such as France and the UK believe that the EU may be ‘too inexperienced to trust with such a strategic portfolio’, and not all member states are willing to ‘relinquish their own strategic interests for the sake of more coherence on the EU level’ (Van Ham 2011: 10). Hence, as no European consensus can be achieved on ‘the role of nuclear weapons, the use of (military) force and the course of (nuclear) disarmament’, this inevitably means that EU-related policies ‘remain vague’ (Van Ham 2011: 10).

Finally, criticism had also been directed at the limited impact of the non-proliferation clause.⁷⁴ According to Grip, one of the reasons for this is that the use of the clause is ‘contingent on existing contractual relations’ between the EU and the country. Therefore, the assumption that the EU would have looked for or maintained this type of relationship with countries of proliferation concern, such as North Korea or, to some extent, Iran, has been a limitation on the effectiveness of the clause (Grip 2014: 11). In addition, Kienzle argues that the impact of the clause is not ‘entirely clear’. While it has been included in several ‘contractual relations’, no ‘causal link’ can be made with the

⁷⁴ These concerns were raised even before the reference period, <http://www.europarl.europa.eu/meetdocs/2004_2009/documents/dv/sede011007exponote_/sede011007exponote_en.pdf>.

'ratifications of relevant agreements', which eventually makes the clause a rather 'weak' foreign policy instrument (Kienzle 2013: 12; Portela and Kienzle 2015: 59). On the other hand, with regard to states of moderate concern such as Israel, India and Pakistan, the effectiveness and the credibility of the clause have been challenged by 'competing' policy and strategic interests, the main point of criticism involving India (Grip 2014: 1; Kienzle 2013: 12). In this regard, it was argued that EU acceptance of 'India's intransigence' could have undermined the 'credibility of mainstreaming CFSP matters within the EU and abroad' (Van Ham 2011: 7; Caponetti 2014: 16). In at least two circumstances the EU and its member states failed to abide by their non-proliferation principles: failure to overcome Indian opposition to the conclusion of a political agreement containing the non-proliferation clause, and not managing 'to block a special waiver for India by the Nuclear Suppliers Group' (Kienzle 2013: 12). All in all, it could be argued that India became a 'crucial test case to observe how the EU and its member states react to emerging powers' fundamental challenges to existing multilateral regimes' (Kienzle 2014: 37). Therefore, according to Grip and Kienzle, the non-proliferation clause, as a foreign policy instrument, did not generate genuine incentives to increase non-proliferation responsibilities. Kienzle, in particular, noted that compliance had commonly been a result of the concern of some countries to see the partnership agreement with the EU suspended in case the responsibilities mentioned above were not met (Kienzle 2013:12).

According to these authors, generally the clause served instead as an outreach and awareness-raising tool with third states to inform them about their EU non-proliferation commitments, and mainly addressed countries of low proliferation concern (Grip 2014: 13; Kienzle 2013: 12). For example, as of 2014, WMD clauses had been preliminarily agreed but not signed with countries such as China and Libya, while 'only two mixed agreements that incorporate the WMD clause have actually entered into force and neither of them will have a significant impact since they involve poor countries without WMD capabilities and aspirations' (Caponetti 2014: 16).

Another feature of the clause which raised criticism relates to the area of export control. While the second part of the clause refers to a commitment to establish an effective export control system at the national level, it does not mention the major multilateral export control regimes, which is arguably inconsistent with the Strategy (Hertwig 2014: 242–43)

Finally, it has been noted that the WMD Strategy will have to cope with new challenges that have arisen since its enactment, such as the rise of new informal initiatives based on law-based and global treaties, the risk that universal non-proliferation standards might be overlooked when tailoring solutions to difficult cases, and the development of new weapons and dual-use technologies (Anthony and Grip 2013: 4–15).

EU performance in international non-proliferation and disarmament forums

The effectiveness of the WMD Strategy can be also considered in terms of the capacity of the EU to successfully keep up with the ambitions outlined in that document in the framework of key international non-proliferation and disarmament forums. This has often proved a fairly arduous task due to the EU's difficulty in acting as a unitary actor and being heard as a single voice. This aspiration has been challenged not only by the institutional fragmentation of the EU but also by the different (and sometimes conflicting) interests of EU member states.

There have been cases, however, in which the EU performed fairly positively and its peculiar nature was an advantage, for example regarding the IAEA (see below). It has been argued that, notwithstanding its fragmented representation, the EU made efficient use of the technical resources and expertise of its member states, especially through the *chef de file* system (Grøndahl 2014: 27). However, the EU's bureaucratic power within the Agency is not reflected by an equal 'fixation' to impose its interpretations on questions related to nuclear security and safeguards, where the ability to conduct political negotiations is important (Grøndahl 2014: 28).

The case of EU representation in the OPCW is discussed in more detail in section 3.3. It has been argued that the performance of the EU during negotiations could have been better in the presence of an effective and engaged European representation, although it has been reasonably easy for EU member states to agree on the substance of the discussions conducted within the Organization (Delaere and Van Schaik 2012).

Nonetheless, the most challenging 'external environment' for the EU probably remains the nuclear non-proliferation regime (Dee 2015: 78). Several commentators have argued that the effectiveness of the EU WMD Strategy has been challenged by the different positions the EU member states traditionally take on issues such as nuclear disarmament and, to some extent, nuclear energy (Kienzle 2013: 2-3; Van Ham 2011: 5-6, 10; Anthony 2005; Portela 2003: 3). On the one hand, the very existence of the Strategy means that EU member states eventually 'toned down their most radical positions' over time, the ratification of all international non-proliferation agreements by the EU member states and their membership of all relevant institutions being the main examples (Kienzle 2013: 3-4). On the other hand, their different positions on key issues are still highly visible, especially in the context of the NPT where since 1995 they 'have represented a raft of divergent positions' (Dee 2012: 22-23).⁷⁵ The EU nuclear weapons states France and the UK commonly align with the other permanent members of the Security Council, while countries such as Ireland and Sweden traditionally support the 'stronger non-proliferation objectives' of the New Agenda Coalition (NAC) (Dee 2015: 79), namely the establishment of a legally binding instrument to 'close the legal gap' in article VI (Smetana 2016: 141).

⁷⁵ On the nuclear energy debate within the NPT see also Franceschini (2012).

These two states are also part of the group of countries, which includes other EU member states such as Austria, Hungary, Finland, Denmark and the Netherlands, known as the ‘Vienna group of ten’, that pursues, *inter alia*, the ‘strengthening of the IAEA, export controls, verification standards, and nuclear safeguards’ (Dee 2015: 79; Dee 2012: 17–19). Germany and the Netherlands, together with Poland, are also part of the Non-Proliferation and Disarmament Initiative (NPDI), which seeks to act as a bridge between the Nuclear Weapon States and the Non-Nuclear Weapon States (Smetana 2016: 141). Denmark, Finland and Sweden are also part of a newly formed ‘Nordic Countries group’ together with Norway and Iceland, ‘with a focus on disarmament pillar issues’. Furthermore, Austria has recently assumed the informal lead of a wide group of countries (such as Cyprus, Finland, Ireland, Malta and Sweden) that backs the Humanitarian Initiative, and ‘has committed itself to building up momentum for the substantive advancement of the nuclear disarmament agenda within the NPT regime’ (Smetana 2016: 141)⁷⁶. However, the EU non-nuclear weapons states do not constitute a homogeneous group. The position of those that are NATO members is that they ‘accept to some extent a positive role for nuclear weapons in security, as they support NATO’s nuclear doctrine’ (Mölling 2010: 63).

All of this eventually led to a rather peculiar EU position on the NPT, whereby the EU, which is not a member of the NPT, shows its support for the promotion of the regime itself on the basis of the WMD Strategy, without being a driving force—this being the most pragmatic approach it could have taken in the light of the constraints described above (Dee 2015: 81–83; Dee 2012: 12). This highly atypical position, however, had also been considered a ‘distinct and important advantage’ for the EU in the context of the so-called NPT grand bargain (Mölling 2010: 60), for the EU working as a ‘laboratory of consensus’ (Grand 2010: 24). Notwithstanding its peculiar formulation, the EU—made up of nuclear and non-nuclear, NATO and neutral states—has nonetheless been able to ‘forge a common position’ (Smetana 2016: 140). This has allowed the EU to represent all the ‘NPT-related collective objectives and individual interests’ in one single body, which means that the EU has ‘the potential to foster a compromise within the EU context, which can serve as the middle ground for different ‘camps’ of NPT members’ (Mölling 2010: 60). It could be argued that despite the EU’s impact on the NPT’s most politicized and sensitive issues, where more ‘modest positions, timid decisions and compromised policies’ were adopted (Giovannini 2013), the EU has nonetheless been able to keep fundamental multilateral issues on the agenda such as strengthening the IAEA, linkages with other multilateral arms control treaty and so on (Dee 2015: 89-90). In addition, the entry into force of the Lisbon Treaty and establishment of the EEAS positively affected EU representation within the NPT—at least initially. At the 2010 NPT Review Conference, the EU was allowed to join the final stages of the negotiations,

⁷⁶ On the engagement of EU member states with the humanitarian initiative see Nielsen and Hanson (2014).

including those on the Action Plan, which did not happen in 2000 and 2005 (Van Ham 2011: 10; Dee 2015: 85–86).

These positive developments and the expectations for future EU performance however were largely disappointed by the outcome of the 2015 NPT Review Conference, the context of which simply made it unfeasible for the EU to pursue its traditional approach of ‘side-lining’ the disarmament issue while finding common ground on non-proliferation and the peaceful use of energy (Smetana 2016: 142). Consensus on the EU Common Position was not found among the EU member states, as is easily imaginable after Mogherini’s speech at the European Parliament (European Parliament 2015). The clash between the nuclear and non-nuclear weapon states was, this time, particularly bitter, as Austria pushed not only for the inclusion of Humanitarian Initiative language, but also for a clear ‘reference to the findings of the 2014 Vienna Conference on the Humanitarian Impact of Nuclear Weapons’⁷⁷ (Smetana 2016:142-44). These divisions resulted in the adoption of non-binding Council Conclusions in place of the traditional Common Position, where ‘ongoing discussions’ over the ‘consequences of nuclear weapons’ were noted (Council of the European Union 2015). Eventually, the statement Mogherini delivered during the NPT general debate (United Nations 2015) also seemed to privilege the language preferred by France and the UK (United Nations 2015). Discussions did not end with the adoption of the EU Council Conclusions and the divisions among EU member states were largely visible in the framework of the Review Conference itself, especially over the issue of nuclear disarmament, where Austria strongly advocated for the Humanitarian Initiative, supported by Cyprus, Denmark, Finland, Ireland, Malta and Sweden, and the fiercest opposition came from within the EU as well, from France (see Chapter of this report). As far as the role of the EU is concerned, in face of lack of unity among its members’, it remained a rather ‘passive’ stance and proved ‘significantly less active’ in trying ‘to achieve some coordination of the common position’ (Smetana 2016:149).

The poor performance of the EU in this context led Smetana to conclude that the EU may be losing its distinctive feature of being a ‘laboratory of consensus’, as its internal divisions are becoming more and more ‘irreconcilable’ (Smetana 2016:152), not even finding agreement on the lowest common denominator. This is likely to negatively affect the positive contributions the EU has made in past NPT Review processes. Nonetheless, it can also be argued that this outcome was nothing less than a disaster waiting to happen: from the moment the EU WMD Strategy was adopted, commentators started warning that the lack of a unified policy on nuclear disarmament would be unsustainable in the long term and prevent the EU from acting as a ‘cohesive and effective negotiating bloc within the NPT review process’ (Nielsen and Hanson 2014: 17). This has been evident very recently in the framework of the negotiations on a nuclear ban treaty.

⁷⁷ Report of the Conference available at <https://www.bmeia.gv.at/fileadmin/user_upload/Zentrale/Aussenpolitik/Abruestung/HINW14/ViennaConference_BMEIA_Web_final.pdf>.

Divergences in voting patterns emerged between the EU member states both on the occasion of the adoption of Resolution 71/258 (see also European Parliamentary Research Service 2017) and during the first round of negotiations (see Chapter 1 of this report).

The EU WMD Strategy after the adoption of the EU Global Strategy

In June 2016, more than 12 years after adoption of the WMD Strategy, the EU set out a new Global Strategy (EUGS) for its foreign and security policy (EEAS 2016). The historical context in which this document was conceived was clearly different from the one addressed by the 2003 Strategy. In 2016, many other issues monopolized the attention of EU political leaders as well as their agendas, with the result that non-proliferation was not given as prominent a role in the EUGS as was the case in the ESS (Lundin 2017: 1). Differences can also be noted on the type of approach the EU will now privilege to achieve its goals in the international arena. The emphasis previously put on the role of ‘effective multilateralism’ was replaced with a ‘less ambitious “rules-based global order”’ (Dijkstra 2016: 370). More generally, the EUGS seems to offer a fairer picture of what the EU can actually accomplish as a global security and foreign policy actor, considering its institutional nature.

The EUGS is far from being a major power’s grand strategy, for the simple reason the EU cannot (yet) be considered ‘such a strategic, unitary or autonomous player’ (Arteaga 2017:3). This may justify the vagueness of the language used in this document, as well as the lack of clear reference to which set of tools the EU is willing to use for the implementation of the Global Strategy, given that its implementation depends on ‘on an array of EU, intergovernmental and national players’ (Arteaga 2017: 4). The increased awareness of the need to focus on what is achievable is further underlined by putting the immediate interests of European citizens back at the centre and by focusing on the EU’s immediate neighbours (Dijkstra 2016: 370). With security in Europe no longer a given, the relevance of the EU being questioned and a raising wave of nationalism, it has been argued that it is no wonder that the EUGS is ‘very much about the home turf’ (Mälksoo 2016:380).

A certain degree of far-sightedness is shown by the newly ‘integrated, comprehensive and multi-dimensional approach’ to conflict and crises the EUGS endorses, by paying very little attention to ‘military and (territorial) defence’, while looking more attentively at cyber, trade, health, migration and resilience (Dijkstra 2016: 370). This latter term, in particular, is often mentioned in this new document but was completely absent from its 2003 predecessor. As argued by some commentators, this is a clear signal of the fact that the EU will increasingly rely on the capacity of local communities to adapt, as it will no longer be able to fully protect them from recurring crises, or compensate them for their devastation (Wagner and Anholt 2016).

On how far the EUGS will affect the implementation and dynamics of the EU WMD Strategy, the debate has been rather limited, given that the Strategy is only a year old. Nonetheless, it is clear that the new Strategy contains fewer and less explicit references to the threat of WMD proliferation (Lundin 2017: 1). Notably, the EU commitment to expanding the ‘membership, universalization, full implementation and enforcement of multilateral disarmament, non-proliferation and arms control treaties and regimes’ is clearly mentioned only as part of the fifth main priority, ‘global governance’ (EEAS 2016: 41–42). A number of more or less explicit references are also made under the fourth main priority, ‘cooperative regional orders’ (EEAS 2016: 32–38), with reference to the Middle East, Latin America and Asia. According to Lars-Erik Lundin, a former senior EU official (Lundin 2017: 2–3), WMD proliferation-related issues could also have been mentioned under the first priority, ‘the security of our union’ (EEAS 2016: 18), where the main headlines, ‘security and defence, counterterrorism, cybersecurity, energy security and strategic communications’. All have links to WMD-related risks. When the Global Strategy underlines the need for a more integrated approach to conflicts and crises under the third priority (EEAS 2016: 28–35), he argues that a link to WMD, although apparently less easy to find, could have been made when referring to ‘organized crime, human trafficking and dual-use items’ (Lundin 2017: 3–4).

Given the above, the main question left open by the adoption of this document is whether the EU should undertake a brand new, dedicated effort, that is ‘one or more new strategy documents’, to deal with WMD-related problems (Lundin 2017: 1). Lundin in particular is an advocate of elaborating a WMD-related contingency plan to increase preparedness in order to prevent and counter crises. He argues that the proliferation of WMD should not return to the top of the agenda only when there is a new crisis, not least because unlike 2001, the EU has all the budgetary and institutional instruments needed to adopt a more comprehensive security approach (Lundin 2017: 5, 12).

Conclusions

The EU WMD Strategy represented the ambition of the EU to act as a unitary non-proliferation actor on the international scene. For many reasons, the EU did not manage to fulfil this expectation. The distinctive institutional nature of the EU, coupled with the conflicting strategic interests shared by its member states over key related issues, especially nuclear disarmament, made it difficult for the EU to exercise significant political influence within the main international security forums. Moreover, conflicting policy interests within the EU itself resulted in poor use of the European economic leverage to mainstream its non-proliferation objectives within relationships with third countries possibly posing proliferation threats.

References

- Anthony, I., ‘Major trends in arms control and non-proliferation: The EU approach to arms control, disarmament and non-proliferation’, *SIPRI Yearbook 2004* (Oxford University Press: Oxford, 2004), pp. 586–95.
- Anthony, I. and Bauer, S., ‘Controls on security-related international transfers: Supply-side measures in the European Union’, *SIPRI Yearbook 2009* (Oxford: Oxford University Press: Oxford, 2009), pp. 471–76.
- Anthony, I. and Grip, L., ‘Strengthening the European Union’s future approach to WMD non-proliferation’, SIPRI Policy Paper no. 37 (June 2013).
- Arteaga F., ‘European defence between the Global Strategy and its implementation’, Working Paper 4/17, Real Instituto Elcano (Feb. 2017).
- Caponetti, L., ‘European Union’s WMD Non-proliferation policy: the competence-sharing between EU institutions’, ReShape Online Paper Series no.7, University of Catania, February 2014.
- Council of the European Union, ‘Fight against the proliferation of weapons of mass destruction: EU strategy against proliferation of Weapons of Mass Destruction’, 15708/03, 10 December, 2003a.
- Council of the European Union (2003b): ‘Presidency conclusions: Thessaloniki European Council 19 and 20 June 2003’, 11638/03, 1 October 2003b.
- Council of the European Union, ‘Action Plan for the Implementation of the Basic Principles for an EU Strategy against Proliferation of Weapons of Mass Destruction’, 13 June 2003c, 10354/1/03 REV 1.
- Council of the European Union, ‘Fight against the proliferation of weapons of mass destruction: Mainstreaming non-proliferation policies into the EU’s wider relations with third countries’, 19 November 2003d, 14997/03.
- Council of the European Union, ‘A Secure Europe in a better world: A European Security Strategy’, Brussels, 12 December 2003e.
- Council of the European Union, ‘The European Union Counter Terrorism Strategy’, Brussels, 30 November 2005, 14469/4/05.
- Council of the European Union, ‘Council Conclusions and new lines for action by the European Union in combating the proliferation of weapons of mass destruction and their delivery systems’, 17172/08, 17 Dec. 2008.
- Council of the European Union, ‘Council conclusions on strengthening chemical, biological, radiological and nuclear (CBRN) security in the European Union—an EU CBRN Action Plan—Adoption’, 15505/1/09, 12 November 2009a.
- Council of the European Union, ‘Council Directive 2009/71/ Euratom of 25 June 2009 establishing a Community framework for the nuclear safety of nuclear installations’, *Official Journal of the European Union*, L 172, 25 June 2009b.

- Council of the European Union, 'New lines for action by the European Union in combating the proliferation of weapons of mass destruction and their delivery systems: Council Conclusions', 17078/10, 16 December 2010.
- Council of the European Union, Council conclusions on the Ninth Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons', 8079/15, 20 April 2015.
- Council of the European Union, *Working Party on Non-Proliferation (CONOP)*, Council of the European Union website, 2017, <<http://www.consilium.europa.eu/en/council-eu/preparatory-bodies/working-party-non-proliferation/>>.
- Dee, M., 'Explaining EU performance in the NPT Review Conferences: Limited ambitions but pragmatic positioning', *Europe and the non-proliferation of nuclear weapons*, UNISCI Discussion Paper no. 30 (Oct. 2012).
- Dee, M., 'The European Union and its performance in the NPT negotiations: consistency, change and challenges', eds S. Blavoukos, D. Bourantonis and C. Portela, *The EU and the Non-proliferation of Nuclear Weapons: Strategies, Policies, Actions* (Springer, 2015).
- Delaere V. and Van Schaik L. G., 'EU representation in the OPCW after Lisbon: Still waiting for Brussels', *Clingendael Paper No. 7* (2012).
- Duke S. and Ojanen H., 'Bridging internal and external security: Lessons from the European security and defence policy', *Journal of European Integration*, vol. 28, no. 5 (2006): pp. 477–94
- Dijkstra, H., 'Introduction: one-and-a-half cheers for the EU Global Strategy', *Contemporary Security Policy*, vol. 37: no. 3 (2016), pp. 369–73.
- EEAS, Organisation chart as of February 2017, EEAS website, accessed 1 June 2017a.
- EEAS, 'About the EU Delegation in Geneva', EEAS website, 2017b, <https://eeas.europa.eu/delegations/un-geneva/659/about-eu-delegation-geneva_en>.
- EEAS, 'Delegation of the European Union to the international organisations in Vienna', EEAS website, 2017c, <https://eeas.europa.eu/delegations/vienna-international-organisations_en>.
- European Commission, 'Service for Foreign Policy Instrument (FPI)', 2017, <http://ec.europa.eu/dgs/fpi/what-we-do/common_foreign_and_security_policy_en.htm>
- European Parliament, 'Review Conference of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) (debate)', 10 February 2015.
- European Parliament, 'European Parliament Committees: Foreign Affairs' European Parliament website, 2017, <<http://www.europarl.europa.eu/committees/en/afet/home.html>>.
- European Parliamentary Research Service, 'A nuclear ban treaty taking forward multilateral nuclear disarmament negotiations', Briefing, Jan. 2017.

- Franceschini, G., 'The NPT review process and strengthening the treaty: Peaceful uses', Non-proliferation paper no. 11, SIPRI (Feb. 2012).
- Giovannini, F., 'A soon-to-be global nuclear leader? The European Union in global nuclear politics', *FSI News*, Stanford University, 19 Feb. 2013,
- Grand, C., 'The Non-Proliferation Treaty in an era of proliferation crisis', eds I. Anthony et al., 'Nuclear Weapons after the 2010 NPT Review Conference', Chaillot Papers (EU ISS, Apr. 2010).
- Grip, L., 'Mapping the European Union's institutional actors related to WMD non-proliferation', Non-proliferation Papers no.1, May 2011a.
- Grip, L., 'Assessing selected European Union external assistance and cooperation projects on WMD non-proliferation', EU Non-proliferation papers no. 6, Dec. 2011b.
- Grip, L., 'European Union's weapons of mass destruction non-proliferation clause: a 10 year assessment', EU Non-proliferation Papers no. 40, Apr. 2014.
- Grip, L., 'EU in external nuclear non-proliferation assistance', eds S, Blavoukos, D. Bourantonis and C. Portela, *The EU and the Non-proliferation of Nuclear Weapons: Strategies, Policies, Actions* (Springer, 2015).
- Grøndahl, G. J., 'Bureaucratic power at play? The performance of the EU in the International Atomic Energy Agency', *European Security*, vol. 24, no. 1 (2015), pp. 19–35.
- Hertwig, J., 'European Union initiatives: Strategy against proliferation of weapons of mass destruction', *Nuclear Non-proliferation in International Law*, vol. 1 (Asser Press, 2014).
- Kienzle, B., 'A European contribution to non-proliferation? The EU WMD Strategy at ten', *International Affairs*, vol. 89, no. 5 (Sep. 2013), pp. 1143–59.
- Kienzle, B., 'The exception to the rule? The EU and India's challenge to the non-proliferation norm', *European Security*, vol. 24, no. 1 (2014), pp. 36–55.
- Lundin, L. E., 'The European Union and weapons of mass destruction: A follow-on to the Global Strategy?', Non-proliferation Papers no. 58 (May 2017).
- Mälksoo, M., 'From the ESS to the EU Global Strategy: External policy, internal purpose', *Contemporary Security Policy*, vol. 37, no. 3 (2016), pp. 374–88.
- Mölling, C., 'The grand bargain in the NPT: Challenges for the EU beyond 2010', eds I. Anthony et al., *Nuclear Weapons After the 2010 NPT Review Conference*, Chaillot Papers (EU ISS, April 2010).
- Nielsen, J. and Hanson, M., 'The European Union and the humanitarian initiative in the 2015 non-proliferation treaty review cycle', Non-proliferation paper no. 41, SIPRI (Dec. 2014).
- Portela, C., 'The role of the EU in the non-proliferation of nuclear weapons: The way to Thessaloniki and beyond', PRIF Report no. 65 (2003).

- Portela, C. and Kienzle, B., 'The European Union non-proliferation policies before and after the 2003 strategy: Continuity and change', *The EU and the Non-proliferation of Nuclear Weapons: Strategies, Policies, Actions* (Springer, 2015).
- Quille, G., 'A practitioner's view: the EU Strategy on Non-proliferation and Disarmament', *The EU and the Non-proliferation of Nuclear Weapons: Strategies, Policies, Actions* (Springer, 2015).
- Smetana, M., 'Stuck on disarmament: the European Union and the 2015 NPT Review Conference', *International Affairs* 92.1 (2016): 137–52.
- United Nations, 'EU Statement by H.E. Ms Federica Mogherini High Representative of the European Union for Foreign Affairs and Security Policy Vice-President of the European Commission at the General Debate 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), 28 Apr. 2015.
- Van Ham, P., 'The European Union's WMD strategy and the CFSP: A critical analysis', *Non-proliferation Papers* no. 2 (Sep. 2011).
- Zwolski, K., 'The External Dimension of the EU's Non-proliferation Policy: Overcoming inter-institutional competition', ed. P. J. Cardwell, *EU External Relations Law and Policy in the Post-Lisbon Era* 2011.

3.3. EU technical and financial support for security-related multilateral organizations such as the OPCW and the IAEA

GIOVANNA MALETTA

This section gives an overview of the technical and financial support that the EU provided to the OPCW and the IAEA over the period 2009–16. It describes which types of activity and through which funding instruments the EU has been able to assist these organizations.

EU technical and financial support to the OPCW

EU support to OPCW core activities

Since 2004, the EU has financially supported the core activities of the Organization for the Prohibition of Chemical Weapons (OPCW) in the framework of the implementation of the EU Strategy against the Proliferation of Weapons of Mass Destruction with contributions of €12.5 million (EEAS 2017a, Council of the European Union 2003). More specifically, in the period 2009–2016, by means of the Common Foreign and Security Policy (CFSP) budget, the EU allocated €6.778.069 through the adoption of three Council Decisions (Council of the European Union 2009a; Council of the European Union 2012b; Council of the European Union 2015b).

The funds allocated by these Decisions have supported the Organization's initiatives to promote the universalization and national implementation of the

Chemical Weapons Convention (CWC). They have also contributed to the implementation of activities in the field of international cooperation, assistance and protection, verification and demilitarization. Furthermore, the three Decisions also foresaw funds for activities related to developments in the area of ‘Science and Technology and their potential impact on the implementation of the Convention’ (Council of the European Union 2009a; Council of the European Union 2012b; Council of the European Union 2015b). Finally, the 2009 Council Decision provides funding for the ‘Africa programme’, a tailored model of assistance that specifically targets African states, introduced by the OPCW in 2007.

Evaluation of the EU’s technical and financial support to the OPCW has so far not been subject to academic debate. The evaluation of the Council Decisions in support of the OPCW (and the IAEA) has been externally audited (reference to the evaluation of past Joint Actions in Council of the European Union 2009b: 28), but these documents are not publicly available. This is the main difference between CFSP funded projects and normal Community-based funding: the CFSP budget is somewhat outside the evaluation framework of the community funding, the latter being, on the other hand, subject to a rigorous system of both *ex-ante* and *ex-post* impact assessment procedures and evaluations, for which documents are generally publicly available.

Hence, no overall evaluation of the above-mentioned Council Decisions, or of any previous ones, has been carried out to date, as is typically the case for CFSP-funded projects under the auspices of the EU member states. The OPCW Secretariat regularly sends financial implementation progress reports to the Foreign Policy Instrument (FPI) service of the European Commission, and further details on the EU-funded projects can be found in the six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (EEAS 2017b) and in ad hoc outreach material produced by the OPCW (the production of the one specifically mentioned being also funded by the EU).

Council Decision 2009/569/CFSP provided €2.110.000 in support of the OPCW. The 2009/II WMD Progress Report (Council of the European Union 2009c) describes the projects originally envisaged in this Decision and a detailed breakdown of the activities implemented can be found in WMD Report 2010/I (Council of the European Union 2010a) and 2010/II (Council of the European Union 2010b). A more comprehensive overview of these projects is available in the leaflet ‘The OPCW and the European Union’ (OPCW 2013), according to which Council Decision 2009/569/CFSP funded 60 activities and assisted 91 countries. This information is summarized in table 3.3.1.

Table 3.3.1. Activities implemented under Council Decision 2009/569/CFSP

Area of Work	Activity				
Promotion of the Universality of the CWC	Outreach to States not Party	Africa Programme			
National Implementation of the CWC	Technical Assistance Visits (TAVs)	Training of customs officials on transfer regime	Africa Programme		
International Cooperation in the field of chemical activities	Analytical skills development course	Industry outreach - The CWC and Chemical Safety	Africa Programme		
Assistance and Protection against chemical weapons	Regional workshops of emergency response & regional cooperation	Table Top Exercise	Seminar-OPCW Contribution to International Security	Seminar-Security and Non-Proliferation	Africa Programme
Verification	Challenge Inspection Field Exercise	Training National Authorities in Electronic Declarations	Training of National Escorts		
Demilitarisation	Visits to Chemical Weapons Destruction Facilities (US)	Visits to Chemical Weapons Destruction Facilities (Russian Federation)			
Science & Technology	Contribution to session of Scientific Advisory Board				

Source: Organization for the Prohibition of Chemical Weapons, ‘The OPCW and the European Union’, The Hague, Sep. 2013, p. 6.

However, this source does not provide the same information—the number of the activities carried out and the beneficiary countries—for Council Decision 2012/166/CFSP, the implementation of which was still under way at the time the leaflet was published in September 2013. The document only provides an overview of the projects to be carried on the basis of the text of the Council Decision. Nonetheless, the six-monthly WMD progress reports contain brief references to the activities implemented through this Council Decision (Council of the European Union 2012c: 5; Council of the European Union 2015a). In 2015, a contribution of €2.528.069 to the OPCW core agenda for the period 2015–17 was agreed by Council Decision 2015/259/CFSP. The planned objectives and activities are modelled after those of previous Council Decisions and Joint Actions.

A partial description of all these EU funded activities is reported in the six-monthly WMD progress reports 2015/I, 2014/II, 2014/I, 2013/II and 2013/I (Council of the European Union 2015c; Council of the European Union 2015a; Council of the European Union 2014b; Council of the European Union 2014a; Council of the European Union 2013a). The most recent six-monthly report states that the countries that are the beneficiaries of EU support have been allowed to ‘fill critical technical gaps’ and to ‘make significant progress

towards national implementation of the CWC'. It is also noted that among 'the 90 national implementation sub-projects carried out by the OPCW Technical Secretariat in recent years, about half could not have been performed without Joint Actions/Council Decision funds'. In addition, with regard to the promotion of universality, 19 countries have become states parties to the Convention 'since the first Joint Action was adopted, and four of those that joined the Convention in 2005 had been involved in an EU Joint Action/Council Decision-funded outreach activity' (Council of the European Union 2015c). According to the WMD Progress Reports 2014/I, 2014/II and 2013/II, 'this was the case for all countries that joined during the following years', meaning that all the countries joining the CWC after 2005 have been beneficiaries of the mentioned EU funded activities (Council of the European Union 2015a, 2014b; 2014a).

A detailed account of the activities carried by the OPCW in the field of verification, international cooperation and assistance, and science and technology can be found in the OPCW annual reports on the Implementation of the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction (OPCW 2017). The structure of the reports, however, does not provide a proper account of the activities implemented through EU support.

On the future objectives of EU support to the OPCW, in 2011 the EU and its member states started reflecting on the future role of the organization, identifying four main priorities: completion of the destruction of the remaining stockpiles, promotion of universality, a shift to non-proliferation efforts and promotion of capacity building and national responses on the basis of articles XI and X of the CWC (Council of the European Union 2012a; 2011). These priorities remained the same after the 2013 Third Review Conference (Council of the European Union 2013a; 2014a;) which, however, was followed by more structured reflection on the post-chemical weapons destruction stage and the future challenges in keeping the organization relevant (i.e. prohibit re-emergence of CW, use by non-state actors and terrorists, convergence with biology) (Council of the European Union 2014b; 2016a).

The 2015 Council Decision in support of the OPCW has been built on this reflection (Council of the European Union 2014b; 2015b), which is also meant to feed the priority discussion ahead of the 2018 Review Conference (Council of the European Union 2016a). In this regard, the EU supported the establishment of the 'OPCW Open Ended Working Group on Future Priorities' and engaged in drafting an EU common position to contribute to the relevant OPCW debate (Council of the European Union 2016a). An opportunity to reflect on the future challenges of the Organization within the EU had already been offered ahead of the Third Review Conference, by a workshop that took place in Brussels in September 2012 arranged by the European Union Institute for Security Studies in cooperation with the EEAS, on 'The future of the Chemical Weapons Convention: transitioning towards the post-destruction phase' (Zanders 2012). The workshop contributions were

published in an EUISS report (Balci et al. 2013). Among them, Vestegaard, in particular, stressed the importance of the EU and its member states maintaining support for the OPCW financially not only to sustain ‘the world’s longest chemical peace’ but also to ‘enforce its WMD strategy overall’—all the more so as economic crises were likely to increase the Organization’s financial constraints (Vestegaard 2013: 58–60).

EU Support to the Special Trust Fund for the destruction of chemical weapons outside Syria.

In addition to the support provided to the OPCW core agenda, the EU has been one of the major contributors to the Organization’s activities to address the destruction of Syria’s chemical weapons.

Following a UN General Assembly report which confirmed the use of chemical weapons on civilians in the area of Damascus in the summer of 2013, the OPCW decided that Syria, where the CWC entered into force the 14 October 2013, should have completed ‘the elimination of all chemical weapons material and equipment in the first half of 2014’ (UN General Assembly 2013a; Executive Council of the OPCW 2013a). A UN-OPCW Joint Mission was then established to oversee their timely elimination (UN-OPCW 2017a).

At the end of 2013, the EU welcomed the establishment of this mission and contributed to its activities through the adoption of Council Decision 2013/726/CFSP (Council of the European Union 2013c), which allocated €2.311.842 ‘in support of the UNSCR 2118 (2013) and OPCW Executive Council EC-M-33/Dec 1’. The Decision constituted a response to a request made to the EU by the OPCW Director-General on 21 November 2013, for a contribution to the OPCW Special Trust Fund for the destruction of the Syrian chemical weapons outside Syria, established by the OPCW EC on 15 November 2013 (Executive Council of the OPCW 2013b). Council Decision 2013/726/CFSP contributed to the Syrian chemical weapons destruction plan by covering part of the ‘costs associated with the inspection and verification of the destruction of Syrian chemical weapons’ and by providing satellite imagery to protect the safety and efficiency of the UN-OPCW Joint Mission operations in Syria. In addition, on 19 December 2013 the EU pledged €12 million for the OPCW Special Trust Fund to be allocated by the European Commission through the Instrument for Stability (since 2013 renamed the Instrument Contributing to Stability and Peace or IcSP) budget (EEAS 2013; European Commission 2014a).

Furthermore, the EC provided the OPCW with additional ‘technical and logistical support (e.g. providing armoured cars) totalling approximately 4.5 million euros’ (European Commission 2014a). According to the website of the UN-OPCW Joint Mission, the EU also provided an additional funding of €2.196150 for the OPCW Trust Fund for Syria (OPCW-UN 2014), although the source of the funding is not specified. According to the EU WMD Report 2014/II, at the end of 2014 EU contributions to the elimination of Syrian

chemical weapons programme amounted to ‘a total of close to EUR 17 million’ (Council of the European Union 2015a). EU support has been provided through two different financial instruments (the CFSP and the IcSP) and by contributing both financially and in-kind (armoured vehicles and satellite imagery) (Council of the European Union 2013a; UN-OPCW 2017). According to the European External Action website (EEAS 2017a), the EU has contributed €21.6 million to the dismantling of the Syrian chemical weapons arsenal since 2013.

EU support to the OPCW–UN Joint Investigative Mechanism

On 7 August 2015, the UN Security Council established a Joint Investigative Mechanism (JIM) of the United Nations and the Organization for the Prohibition of Chemical Weapons. Its mandate was to identify, ‘to the greatest extent feasible, individuals, entities, groups, or governments who were perpetrators, organizers, sponsors or otherwise involved in the use of chemicals as weapons’ in Syria (UN Security Council 2015). In September 2015, the Director-General of the OPCW and the Head of the OPCW–UN JIM sought EU financial support for ‘activities related to the OPCW FFM in support of the JIM’ through a trust fund (Council of the European Union 2015d). Council Decision 2015/2215/CFSP secured this support through the allocation of €4.586.096 to ‘the OPCW and the UN Office for Disarmament Affairs (UNODA) as the implementing office of the JIM trust fund’ (Council of the European Union 2015d).

The establishment of an EU representative to the OPCW

While the EU technical and financial support to the OPCW did not trigger any real academic debate, limited attention has focused on the EU’s formal status within the Organization (Delaere and Van Schaik 2012, 2014). The Lisbon Treaty provides for EU external representation on CFSP issues to be conducted by the EU High Representative (Treaty on European Union, article 27) assisted by the EEAS. Until 2013, however, this did not seem to particularly affect the way the EU was expressing its positions within the OPCW, where EU statements and coordination meetings were still handled by the member state holding the rotating Presidency and not by a designated representative of the EEAS. This has been attributed to a number of factors: the extent to which the agenda of the OPCW falls under the CFSP, as well as the minor level of attention paid in Brussels to the CWC compared to other international non-proliferation regimes, because the OPCW is considered ‘too technical’ and the expertise within the EEAS insufficient to follow and understand the discussions (Delaere and Van Schaik 2012: 13–15, 19, 21).

On the other hand, according to a former EU diplomat consulted on the issue, this should not be attributed to a lack of interest but a lack of resources and staff in the EEAS as well as the ‘major battle in the Council on priorities in setting up new Delegations’. Others have argued that several circumstances

could have made the case for the establishment of proper EU representation at the OPCW by then: evidence that EU member states' representatives at the OPCW were disappointed by this alleged lack of interest from the EEAS; the fact that the EEAS had legal powers to 'take the driving seat on OPCW issues'; and the impression of some European delegates in the Hague that if the EU would speak 'more solidly with a single voice' its effectiveness would increase (Delaere and Van Schaik 2012: 19, 25–26).

A half measure in this direction was taken only in the second half of 2013, when the EEAS designated a 'laptop diplomat' as the official representative of the EU at the OPCW (Delaere and Van Schaik 2014: 2). The outbreak of the Syrian crisis and the increased attention on the role of the OPCW in addressing allegations of the use of chemical weapons in the country heavily influenced this move. Therefore, even though this decision has been interpreted by some as an ad hoc and temporary solution that will remain in place only until the Syrian chemical weapons programme has been dismantled, the presence of an EU representative might have other positive outcomes. Nonetheless, at present, the EU is not a member of the OPCW and EU Statements are still delivered by the Member State holding the rotating presidency of the Council.

EU technical and financial support to the IAEA

Over the decades, EU cooperation with the IAEA has developed into a 'highly complex relationship' involving a plurality of actors (Lundin 2012: 2). The EU has related to the IAEA in 'more than one way and in more than one context'—in the context of both the WMD Strategy and the European Atomic Energy Community (EURATOM) (Lundin 2012: 2) and its 'framework for non-proliferation' (European Commission 2009a). More specifically, the EU has been supporting the IAEA through various thematic financial instruments in pursuit of EU objectives in the fields of nuclear safety, security, safeguards and research while 'ensuring consistency with the objectives' of the EU WMD Strategy (IAEA 2011) (see table 3.3.2). On the other hand, over the years, the EU has resisted the tendency, on the IAEA's part, to be seen as just another source of funding. As a matter of fact, both the EU (through the EURATOM) and its member states, as accredited to the IAEA, are entitled to participate in discussions concerning the Agency's priorities.

Nonetheless, linking the allocation of resources to these priorities has proved difficult due to the institutional fragmentation of the EU (reflected also by the support to the IAEA stemming from multiple sources of funding as explained below). Fragmented representation within the IAEA may also constitute an issue in terms of the effectiveness of EU political action. The EU, as an international organization, is neither a member of the IAEA, nor an observer and, thus, it does not have speaking rights in the Agency's General Conference or the Board of Governors, where it is, however, represented by the rotating presidency and by the EU member state member of the Board, respectively (Grøndahl 2015: 25). In addition, EURATOM, which is separate

legal entity from the EU (Grip 2011b: 16), has formal status as an observer within the IAEA, which entitles it to speak during the General Conference, where it is generally represented by the Directorate-General for Energy of the European Commission (Grøndahl 2015: 25; Lundin 2012: 4–5).

Table 3.3.2. Overview of the EU instruments in support to the IAEA

EU support to the IAEA provided through the EC budget			
Implementing service	Name of the Instrument	Field	Projects/Activities
Joint Research Center (JRC)	N/A (technical and scientific support)	Safeguards	e.g. Safeguards implementation and Cooperative Support Programme (EC-SP)
DG NEAR	The Instrument for Pre-Accession Assistance (IPA)	Nuclear Safety	Assistance, to EU candidate and potential candidate countries (e.g. Vinca project)
DG DEVCO	Instrument for Nuclear Safety Cooperation (INSC)		Promotion of nuclear safety culture in non-EU countries (e.g. EC-IAEA-Ukraine Joint Project on Safety Assessment of Ukrainian Nuclear Power Plants; INSAG-21; IAEA Action Plan on Nuclear Safety)
	Instrument for Stability/Instrument Contributing to Stability and Peace (IfS/IcSP)	Nuclear Security	Risk mitigation and preparedness relating to CBRN materials or agents (e.g. contribution to IAEA-LEU fuel bank; support to a new IAEA safeguard lab.; cooperation for CBRN CoE)
EU support to the IAEA provided through the CFSP budget (2009–2016)			
Council Decision		Title	
Council Decision 2010/585/CFSP		On support for IAEA activities in the areas of nuclear security and verification and in the framework of the implementation of the EU Strategy against Proliferation of Weapons of Mass Destruction	
Council Decision 2013/517/CFSP			
Council Decision 2016/2383/CFSP			
Council Decision 2016/2001/CFSP		EU contribution to the establishment and the secure management of a Low-Enriched Uranium (LEU) nuclear fuel Bank under the control of the International Atomic Energy Agency (IAEA)	

However, the ‘division of labour’ between the EU Presidency/EU Delegation and EURATOM appears very clear, with the former acting as a political actor and the latter as a technical one (Grøndahl 2015: 25). Although the EU still lacks formal representation in the IAEA, the position of the EU Delegation in Vienna has been strengthened by the Lisbon Treaty. It has been entrusted with new tasks (i.e. ‘chairing meetings’, ‘preparing and coordinating all EU statements’, formally represents the EU at ‘informal meetings in the Agency’) and empowered by experienced diplomatic staff from the EU member states (Grøndahl 2015: 26).

Cooperation in the field of safeguards

Through its nuclear safeguards activities, the IAEA verifies whether a country is complying with its NPT obligations not to use its nuclear programmes to develop nuclear weapons (IAEA n.d.). Prior to the WMD Strategy, the European Commission and the IAEA were already cooperating closely in the field of safeguards in what eventually became ‘a unique regional arrangement’ (Lundin 2012: 9).⁷⁸

Cooperation in the field of nuclear security and non-proliferation

The EU supports the nuclear security and non-proliferation activities of the IAEA through different sources of funding. Since 2003, the WMD Strategy has provided the basis for ‘releasing financial resources to support specific projects conducted by multilateral institutions (i.e. the IAEA, CTBTO Preparatory Commission and OPCW)’ (Council of the European Union 2003: 9–10). These resources are allocated by the Council Secretariat through the instrument of CFSP Council Decisions, on the basis of the WMD Strategy. In the period 2009–16, four CFSP Council Decisions were adopted in support of the IAEA:

- Three in the areas of nuclear security and verification (Council of the European Union 2010c; Council of the European Union 2013b; Council of the European Union 2016b).
- An additional Council Decision secured an EU contribution of €4.362.200 for the establishment and secure management of the IAEA

⁷⁸ In the early 1970s, after the NPT entered into force, the IAEA and EURATOM negotiated an agreement on the application of safeguards in the European non-nuclear weapon states parties to the treaty. This was further developed into the ‘New Partnership Approach’ (NPA) in 1992. Cooperation between the two agencies extended beyond safeguards implementation in 1981, when EURATOM and the IAEA established a Cooperative Support Programme (EC-SP) operated by the Joint Research Centre (JRC) in close collaboration and coordination with the European Commission’s Directorate General for Energy. The JRC, in particular, provides equipment and expertise in many technical areas linked to the effective implementation of safeguards verification measures, including the detection of undeclared materials, activities and facilities. The JRC also provides other services, such as ‘the research and development of safeguards’, ‘analytical laboratory support’ and the ‘development of technical applications’. For further references see: Lundin 2012; Thorstensen and Chitumbo, 1995; IAEA 2010; Grip 2015 and European Commission 2017g.

Low-Enriched Uranium (LEU) nuclear fuel bank (Council of the European Union 2016c).

Through its Council Decisions, as well as its earlier Joint Actions, the EU has become one of the largest donors to the IAEA Nuclear Security Fund, with the aim of creating an enabling environment for the peaceful uses of nuclear technology and applications (IAEA 2011). According to the most recent annual WMD progress report (in its first annual version), ‘the total EU financial contribution to the Fund based on six successive Council Joint Actions/Decisions has reached almost EUR 42 million for the period 2009–2016’ (Council of the European Union 2016a). EU contributions are argued to have been instrumental in supporting IAEA assistance projects in the security of nuclear and radioactive materials field in the Balkans, the Caucasus, Central Asia, the Mediterranean region, Africa and South East Asia (IAEA 2011). The assistance provided by the IAEA covers a number of areas: legislative and regulatory assistance with the implementation of states’ obligations under IAEA safeguards agreements and their Additional Protocol, projects aimed at strengthening the physical protection of nuclear and radiological materials and activities to strengthen states’ capabilities to detect and respond to illicit trafficking (IAEA 2011). The most recent Council Decisions have also helped (and are helping) to support raising awareness of and strengthening states’ responses and resilience to cybercrime affecting nuclear security, and projects that address the security of radioactive sources through source repatriation (Council of the European Union 2013b; Council of the European Union 2016b).

Another financial and thematic instrument (stemming this time from the Commission) through which the EU supports IAEA activities in the field of nuclear security is the Instrument Contributing to Stability and Peace (IcSP), which succeeded the Instrument for Stability (Ifs) in 2014. In the period 2007–2013, nearly €300 million was allocated by the Ifs under Priority 1 of the Instrument ‘Risk mitigation and preparedness relating to chemical, biological, radiological and nuclear materials or agents’ (IAEA 2011, Council of the European Union 2016a: Annex II). Among the activities in support of the IAEA funded by the Ifs were:

- A €20 million contribution in support of a low-enriched uranium fuel bank under the auspices of the IAEA (complemented by Council Decision 2016/2001/CFSP);
- Support for the construction of a new IAEA safeguards laboratory for the analysis of nuclear material;
- Cooperation in the framework of the Chemical, Biological, Radiological and Nuclear Centres of Excellence Initiative, where the expertise of the IAEA was considered necessary (IAEA 2011).

A complete overview of the IfS projects in the framework of Priority 1 is available in Annex II of the 2016 Annual WMD progress report (Council of

the European Union 2016a). CBRN Risk mitigation is also a priority in the IcSP's 'Thematic Strategy Paper 2014–2020' (European Commission 2017c: 33–34), which allocated roughly €85 million for the period 2014–17 (European Commission 2017c: 58). Nonetheless, even before the publication of the WMD Strategy, and before the establishment of the IfS/IcSP instruments, the Commission was investing resources in programmes aimed at preventing the diversion of proliferation-sensitive knowledge from the countries of the former Soviet Union (Grip 2015: 117).

Cooperation in the field of nuclear safety

The EU also provides financial support for IAEA activities in the field of nuclear safety, which include projects that help countries prepare for and respond to emergencies, through work in the areas of 'safety standards, installations safety, regulatory issues, safe management of spent fuel, radioactive waste, transport of radioactive material and safe decommissioning' (Lundin 2012: 10). In recent years, a considerable proportion of this support has been provided by the European Commission through different funding instruments.

1. The Instrument for Nuclear Safety Cooperation (INSC), implemented by the Directorate General for International Cooperation and Development (DG DEVCO) (Grip 2015a: 118; European Commission 2017a)⁷⁹

Soon after, the INSC was launched for the period 2007–13, with a budget of €525 million, to strengthen the regulatory authorities and promote an effective nuclear safety culture and the safe management of spent fuel and radioactive waste in non-EU countries (European Commission 2013a: 1). Among the activities implemented in cooperation with the IAEA in the 2007–13 period was the European Commission-IAEA-Ukraine Joint Project on Safety Assessment of Ukrainian Nuclear Power Plants (IAEA 2011a). In addition, cooperation with the Agency envisaged helping to set up regulatory infrastructures in countries looking to develop a nuclear energy programme (IAEA 2011).

The second cycle of the INSC, covering the period 2013–20, has a budget of €225.3 million (European Commission 2017e). The programme envisages cooperation with the IAEA on all its major activities in the form of 'grants, co-financing or joint projects' (European Commission 2017f: 7) and covers several of the INSC components, such as the promotion of an effective nuclear safety culture and implementation of the highest nuclear safety and radiation

⁷⁹ It is worth mentioning that in the period 1991–2006, the Commission allocated €1.56 million to the Technical Assistance to the Commonwealth of Independent States (TACIS) programme (European Commission 2014b), the aim of which was to promote a safety culture and nuclear safety improvements in the former Soviet Union (Lundin 2012: 10). The evaluation conducted on the programme is publicly available (European Commission 2010). For more on international non-proliferation and disarmament assistance activities in Russia see Anthony and Fedchenko (2006: 676–98) and Anthony, Fedchenko and Wetter (2005).

protection standards, the safety of radioactive waste and spent nuclear fuel, and safeguards (European Commission 2017e: 4–5). Under the auspices of this instrument, cooperation with the IAEA is sought, in particular ‘in areas where it is complementary to activities’ carried out under the programme itself or in cases where the IAEA ‘is better placed’ to carry them out, e.g. in terms of ‘availability of resources, synergies with other IAEA activities or continuity’ (European Commission 2017f: 7). According to the INSC Multiannual Indicative Programme, specific projects in cooperation with the Agency will include: INSAG-21, ‘strengthening the global nuclear safety regime’ and the IAEA Action Plan on Nuclear Safety (European Commission 2017f: 7).

2. The Instrument for Pre-Accession Assistance, managed by the Directorate General for Neighbourhood and Enlargement Negotiations (European Commission 2017b)

In addition, the Commission has also provided assistance, through the IAEA, to candidate and potential candidate countries in the field of nuclear safety and security by means of the Instrument for Pre-accession Assistance (IPA) (European Commission 2017b; IAEA 2011). The IPA for the period 2007–2013 financed, inter alia, a regional programme in the Western Balkans to address the regulatory environment. Of particular importance was the ‘Vinca Nuclear Decommissioning Programme’, which sought to ensure the safe return to Russia of the spent fuel from the Vinca research reactor in Serbia (IAEA 2011; Lundin 2012: 12).

The impact of EU assistance to the OPCW and the IAEA

As in the case of EU support to the OPCW, the impact of the EU technical and financial assistance to the IAEA has not triggered a wide academic debate. Debate has instead focused on the EU’s performance on the implementation of the EU WMD Strategy and as an international non-proliferation actor (see section 3.2). This is due mainly to the fact that it is ‘tremendously difficult, if not impossible’ to ‘establish causality between the EU actions and the changed environment in order to credit the EU with developments and establish solidly any claim about the EU performance record’ (Blavoukos 2015: 21; Grip 2015: 129). In other words, it is extremely difficult to assess what would have happened if the EU had not intervened or the added value of EU support compared to that of its member states.

The impact of the support provided to multilateral organizations, such as the OPCW and the IAEA, through the CFSP budget by means of the various Council Decisions, is discussed in section 3.2. As previously argued, even though no document on the evaluation of these actions is publicly available, partial conclusions on the outputs of the EU support in this framework were drawn based on the ‘common objectives’ that the Council Decisions in support of the OPCW and the IAEA share, these being the ‘universality,

implementation, and enhancement and improved functioning’ of the main multilateral non-proliferation regimes (Grip 2011a: 3-4). As regards universality and implementation, with reference to the EU’s support to the OPCW, as mentioned above, 19 states have become parties to the CWC ‘since the first Joint Action was adopted’ (Council of the European Union 2015c; see also Grip 2011a: 4–5). In addition, the number of state parties to the CWC that submitted their initial declarations, pursuant to the Convention, increased by 27 in the period 2003–2011 (Grip 2011a: 6). With regard to the impact of EU assistance on the IAEA, since the Strategy was adopted, 59 countries have signed an Additional Protocol, and 99 additional countries have an Additional Protocol in place (Grip 2011a: 4, Grip 2015:130).⁸⁰

As regards the impact on the functioning of these multilateral instrument, the EU may also have produced some tangible results (Grip 2011a: 7; Grip 2015:135). In the case of the IAEA, the EU contributed to the enhancement of the Agency’s verification capacities, both technical and financial. Moreover, it is unlikely that the EU member states individually could have sustained specific verification activities by increasing their national voluntary contributions in the way the Council Decisions did (Grip 2015: 132–36). In the case of the OPCW, the EU financial and technical assistance ‘could be said to have strengthened the organizational capacity of the Technical Secretariat’ responsible ‘for carrying out the EU-supported activities’ (Grip 2011a: 7). However, as Grip (2011a: 18) notes, ‘while undoubtedly strengthening the administrative and financial capacities that support these instruments’, EU efforts have not succeeded in making them more ‘attractive’ to those countries that decided not to join them for either ‘ideological’ or ‘national security reasons’.

Nonetheless, the ‘attribution gap’ mentioned above remains and it would be ‘unreasonable’ to state that there is a direct link between the support provided through Council Decisions in support of the IAEA and the OPCW and the ‘sharp increase’ in these figures since the WMD Strategy entered into force (Grip 2011a: 4; Grip 2015: 130). For instance, in the case of the OPCW, activities to promote the universalization of the CWC had been complemented in the past by the diplomatic and political action by both the EU Presidency and the member states, targeted at specific countries (Grip 2011a: 5).

On the other hand, evaluations of the funding provided (mostly to the IAEA) from the Commission’s budget, through the multiple instruments described above, have regularly been conducted by external consultants. Some of these documents are public.

As regards the IfS, external evaluation has been conducted on the Crisis Response Component (European Commission 2016) under article 3 of EC Regulation 1717/2006 establishing the IfS⁸¹ and on the pre-and post-crisis capacity building component of article 4.3 (European Commission 2014b). The Commission also funded a project evaluation of the CBRN component of

⁸⁰ For an overview of the current status of the Additional Protocol see IAEA (2017).

⁸¹ Regulation (EC) no 1717/2006 of the European Parliament and of the Council of 15 November 2006 establishing an Instrument for Stability.

the IfS, envisaged by article 4.2 of the same Regulation.⁸² This document, however, is not publicly available. A mid-term evaluation of the IcSP started in the first quarter of 2016 and is currently ongoing (European Commission 2017h). The draft report of this evaluation, with reference to article 5 of the IcSP Regulation⁸³ ('Assistance in addressing global and trans-regional threats and emerging threats' including those related to CBRN), states that the CBRN Centres of Excellence provided a 'well-accepted and effective platform' involving effectively, both in the planning and the implementation phases, several international organizations, including the IAEA and the OPCW (European Commission 2017i). In addition, the report 'found no direct evidence of inconsistencies between Article 5 programmes and those of Member States and other international organisations, but note that there remains space for closer coordination' (European Commission (2017i).

Evaluations of the two phases of the INSC have also been conducted. Considering the nature of the Programme, envisaging cooperation with the IAEA in more than one component, it is very difficult to draw a conclusion on the impact the use of this Instrument had on the Agency. The same applies for the mid-term evaluation report drafted for the second phase of the Programme. Nonetheless, from the evaluation report for the period 2007–2013, is it possible to conclude that the introduction of the INSC 'marked a major increase in the nature and scope of cooperation between the EU and IAEA in relation to enhancing nuclear safety in third countries' (European Commission 2014c: 28). Among the factors that led to this development is, first and foremost, the global scope of the INSC as opposed to the 'narrower scope of its predecessor, TACIS'. This allowed the programme to make better use of the IAEA's 'extensive knowledge of global needs in the area of nuclear safety' and 'established networks and experience with technical cooperation globally', by entrusting the Agency with the implementation (via co-financing or joint management) of some of the INSC funded projects (European Commission 2014c: 28–29).

These projects covered the development of a nuclear safety culture and related capacities and expertise at the global level; the adherence of third countries to international conventions and treaties; and implementation of international codes, standards, instruments and mechanisms (European Commission 2014c: 30). It is worth noting that 'increased cooperation with international organisations' is outlined as one of the major achievements of the INSC Programme in 2007–2013 (European Commission 2014c: 44). Nonetheless, the report also recommends 'greater clarity and transparency' on 'the criteria or process used in deciding which INSC projects are judged likely to be more effectively implemented by IAEA, rather than through open tendering' (European Commission 2014c: 48). A mid-term evaluation of INSC II (2012–20), limited to the activities carried between 2014 and 2017 is also available on the DEVCO website (European Commission 2017l). This

⁸² 'Past projects', Ralf Trapp's website, <<http://www.ralfrapp.eu/projects.php>>.

⁸³ Regulation (EU) 230/2014 of the European Parliament and of the Council of 11 March 2014 establishing an Instrument Contributing to Stability and Peace.

report also judges the cooperation between the Commission and the IAEA fairly positively to the extent that links with the Agency allowed ‘operation and influence at global level’ as well as the ‘promotion of EU priorities in its neighbourhood’ (European Commission 2017l: 30).

An evaluation of the implementation carried out so far of the IPA in its second phase (2014–20) has also been conducted (European Commission 2017m) and its publicly available. No references have been found to an evaluation of the first phase of this instrument, which funded projects in cooperation with the IAEA.

Conclusions

Since 2003, the EU has provided the OPCW and the IAEA with substantial financial and technical support in the framework of the implementation of the WMD Strategy. In the case of the OPCW, the EU assistance has proven quite consistent over time and been specifically intended to sustain the core agenda of the organization. Nevertheless, this support showed a certain degree of flexibility when it came to allocating additional resources to support the destruction of the Syrian chemical weapons as well as the investigative activities carried by the OPCW and the UN to identify the perpetrators of the chemical attacks in Syria.

In the case of the IAEA, cooperation between the EU and the IAEA preceded the existence of the WMD Strategy. Also after the Strategy came into force, assistance and cooperation programmes have been funded through several other instruments in addition to the CFSP budget. This added further complexity to the relationship between the EU and the IAEA, making it particularly hard to give proper and exhaustive accounts of all the EU activities carried out by or in cooperation with the IAEA, not to mention to draw conclusions regarding the possible impact these had on its functioning and performance. This latter point also applies to EU support to the OPCW, evaluation of which is not publicly disclosed. Finally, it is striking how such a considerable contribution, besides not being properly visible (especially when the funded activities are carried by their beneficiaries), has not been matched by an increased EU ability to affect the agenda of these organizations nor has led to a legitimate representation of the EU within them.

References

- Anthony, I., Fedchenko, V. and Wetter, A., ‘The delivery of EU non-proliferation and disarmament assistance in Russia’, *SIPRI Background Paper*, no. 9 (Oct. 2005).
- Anthony, I. and Fedchenko, V., ‘International non-proliferation and disarmament assistance’, *SIPRI Yearbook 2005: Armaments, Disarmament and International Security* (Oxford: Oxford University Press, 2006), pp. 689–98.

- Balci et al., 'The future of the CWC in the post-destruction phase', EU Institute for Security Studies, *Report no. 15* (March 2013), <http://www.iss.europa.eu/uploads/media/ISS_15The_future_of_the_CWC_in_the_post-destruction_phase.pdf>.
- Blavoukos, S. 'Capturing the EU's international performance: an analytical framework', eds S. Blavoukos, D. Bourantonis, and C. Portela, *The EU and the Non-proliferation of Nuclear Weapons: Strategies, Policies, Actions* (Springer, 2015).
- Council of the European Union, 'Fight against the proliferation of Weapons of Mass Destruction: EU Strategy against the proliferation of Weapons of Mass Destruction', 15708/03, 10 December 2003.
- Council of the European Union, 'Council Decision 2009/569/CFSP, *Official Journal of the European Union*, L 197, 27 July 2009a.
- Council of the European Union, 'Six-monthly progress reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2009/I)' 11490/09, 26 June 2009b.
- Council of the European Union, 'Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2009/II)' 17387/09, 9 December 2009c.
- Council of the European Union, 'Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2010/I)', 11135/10. 14 June 2010a.
- Council of the European Union, 'Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2010/II)' 17080/10, 16 December 2010b.
- Council of the European Union, Council Decision 2010/585/CFSP, *Official Journal of the European Union*, L 259/10, 27 September 2010c.
- Council of the European Union, 'Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2011/I)', 13132/11, 20 July 2011.
- Council of the European Union, 'Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2011/II)', 13132/11, 6 March 2012a.
- Council of the European Union, Council Decision 2012/166/CFSP, *Official Journal of the European Union*, L 87, 23 March 2012b.
- Council of the European Union, 'Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2012/II)', 2013/C 37/04, 9 February 2012c.
- Council of the European Union, 'Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2013/I)', 2013/C 228/05, 7 August 2013a.
- Council of the European Union, Council Decision 2013/517/CFSP, *Official Journal of the European Union*, L 329, 9 December 2013b.
- Council of the European Union, Council Decision 2013/726/CFSP, *Official Journal of the European Union*, L 329, 9 December 2013c.

- Council of the European Union, ‘Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2013/II), 2014/C 54/01, 25 February 2014a.
- Council of the European Union, ‘Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2014/I), 2014/C 266/01, 12 August 2014b.
- Council of the European Union, ‘Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2014/II), 2015/C 041/01, 5 February 2015a.
- Council of the European Union, Council Decision, 2015/259/CFSP, *Official Journal of the European Union*, L 43, 17 February 2015b.
- Council of the European Union, ‘Six-monthly Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction (2015/I), 2015/C 296/01, 8 September 2015c.
- Council of the European Union, Council Decision 2015/2215/CFSP, *Official Journal of the European Union*, L 314, 30 November 2015d.
- Council of the European Union, ‘Annual Progress Reports on the implementation of the EU Strategy against the proliferation of Weapons of Mass Destruction, 2016a.
- Council of the European Union, Council Decision 2016/2383/CFSP *Official Journal of the European Union*, L 352, 21 December 2016b.
- Council of the European Union, Council Decision 2016/2001/CFSP, *Official Journal of the European Union*, L 308, 15 November 2016c.
- Delaere, V. and Van Schaik, L. G., ‘EU representation in the OPCW after Lisbon: Still waiting for Brussels’, *Clingendael Paper*, no. 7 (2012).
- Delaere, V. and Van Schaik, L. G., “‘The cavalry has arrived’: EU external representation in The Hague and at the OPCW”, *Clingendael Policy Brief* 2014.
- EEAS, ‘Statement by the Spokesperson of EU High Representative Catherine Ashton on EU support to the OPCW Special Trust Fund for the Destruction of Syrian chemical weapons’, 19 December 2013, <http://eeas.europa.eu/archives/docs/statements/docs/2013/131219_01_en.pdf>
- EEAS, ‘Weapons of mass destruction’, EEAS website, 2017a, <https://eeas.europa.eu/headquarters/headquarters-homepage/8462/weapons-mass-destruction_en>.
- EEAS (2017b), ‘Progress reports of Strategy against the Proliferation of Weapons of Mass Destruction, EEAS website, 2017b, <https://eeas.europa.eu/headquarters/headquartershomepage_en/14708/Progress%20reports%20of%20Strategy%20against%20WMD%20proliferation>.
- EU CBRN CoE, ‘The EU CBRN Risk Mitigation Centres of Excellence Initiative’, 2017, <<http://www.cbrn-coe.eu/>>.

- European Commission, ‘Communication from the Commission to the Council and the European Parliament of 26 March 2009a: Communication on nuclear non-proliferation (COM(2009) 143 final).
- European Commission, ‘An evaluation of the TACIS Country Programme’, January 2010, <http://ec.europa.eu/europeaid/how/evaluation/evaluation_reports/reports/tacis/951500_synth_en.pdf>.
- European Commission, ‘Building nuclear safety together’, 2013a, <https://ec.europa.eu/europeaid/sites/devco/files/information-brochure-insc-building-nuclear-safety-20140115_en.pdf>.
- European Commission, ‘EU to support the destruction of Syrian chemical stockpile’, Press release, 2014a, <http://europa.eu/rapid/press-release_IP-14-151_en.htm>.
- European Commission, Evaluation of the Instrument for Stability Crisis Preparedness Component (2007–2013), Final report, June 2014b.
- European Commission, ‘Report from the Commission to the European Parliament and the Council, on the evaluation of the implementation of the Council Regulation (EURATOM) no. 300/2007 (Instrument for nuclear safety cooperation) in the period 2007 – 2013’, March 2014c.
- European Commission, ‘Final Report Evaluation of the Instrument for Stability: Crisis Response Component (2007–2013)’, vol. 1, September 2016.
- European Commission, ‘Instrument for Nuclear Safety Cooperation’, DG DEVCO, 2017a.
- European Commission, ‘Instrument for Pre-Accession Assistance’, DG NEAR, 2017b,
- European Commission, ‘Instrument Contributing to Stability and Peace: Thematic Strategy Paper 2014–2020’, 2017c.
- European Commission, ‘The Instrument for Nuclear Safety Cooperation’, Presentation at the IAEA Regulatory Cooperation Forum Meeting, April 2014, 2017d.
- European Commission, ‘Strategy for a Community Cooperation Programme in the field of Nuclear Safety 2014–2020’, Foreign Policy Instrument, 2017e.
- European Commission, ‘Instrument for Nuclear Safety Cooperation: Multi-annual Indicative Programme 2014–2017’, Foreign Policy Instrument, 2017f.
- European Commission, ‘The European Commission Cooperative Support Programme: Activities and Cooperation’, 2017g.
- European Commission: ‘Evaluation Roadmap 2022’, <http://ec.europa.eu/smart-regulation/roadmaps/docs/2017_fpi_004_evaluation_icsp_en.pdf>, 2017h.
- European Commission (2017i): ‘Mid-term evaluation of the Instrument contributing to Stability and Peace (IcSP): Draft Report’, January 2017i <https://ec.europa.eu/europeaid/sites/devco/files/draft-eval-icsp-report_en_0.pdf>.

- European Commission: 'Evaluation of the Instrument for Nuclear Safety Cooperation (INSC) Draft Evaluation Report', January 2017l http://ec.europa.eu/europeaid/sites/devco/files/draft-eval-report-insc_en.pdf.
- European Commission: 'Evaluation of the Instrument for Pre-accession Assistance (IPA II): Draft Report', January 2017m, <http://ec.europa.eu/europeaid/sites/devco/files/draft-eval-ipa-report_en.pdf>.
- Executive Council of the OPCW, 'Decision by the Executive Council of the Organisation for the Prohibition of Chemical Weapons on the destruction of Syrian Chemical Weapons', EC-M-33/DEC.1, 27 September 2013a, <https://www.opcw.org/fileadmin/OPCW/EC/M-33/ecm33dec01_e_.pdf>.
- Executive Council of the OPCW, 'Decision by which the Executive Council of the Organisation for the Prohibition of Chemical Weapons approved detailed requirements for the destruction of Syrian chemical weapons and Syrian chemical weapons production facilities', EC-M-34/DEC.1, 15 November 2013b, <https://opcw.unmissions.org/sites/default/files/old_dnn/E_EC-M-34DEC.1_e_.pdf>.
- Grip, L., 'Assessing selected European Union external assistance and cooperation projects on WMD non-proliferation', *EU Non-proliferation papers*, no.6, SIPRI, December 2011a.
- Grip, L., 'Mapping the European Union's institutional actors related to WMD non-proliferation', *EU Non-proliferation Paper*, no.1, SIPRI 2011b.
- Grip, L., 'EU in external nuclear non-proliferation assistance', eds S. Blavoukos, D. Bourantonis and Portela, C., *The EU and the Non-proliferation of Nuclear Weapons: Strategies, Policies, Actions* (Springer, 2015).
- Grøndahl G. J., 'Bureaucratic power at play? The performance of the EU in the International Atomic Energy Agency', *European Security*, vol. 24, no.1 (2015), pp. 19–35.
- IAEA, 'The European Commission Cooperative Support Programme: Activities and Achievements', Safeguards Symposium, 2010, <<https://www.iaea.org/safeguards/symposium/2010/Documents/PapersRepository/230.pdf>>.
- IAEA, 'Communication dated 16 November 2011 received from the Delegation of the European Union to the International Organizations in Vienna on international cooperation by the European Union in support of peaceful uses of nuclear energy', INFCIRC/830, 30 November 2011.
- IAEA, 'Safeguards and Verification', IAEA website [n.d.], <<https://www.iaea.org/topics/safeguards-and-verification>>.
- IAEA, 'Additional Protocol Status', as of 19 May 2017, IAEA website, <<https://www.iaea.org/safeguards/safeguards-legal-framework/additional-protocol/status-of-additional-protocol>>.

- Lundin, L. E., 'The European Union, the IAEA and WMD non-proliferation: Unity of approach and continuity of action', *Non-proliferation paper* no. 9 (2012), EU Non-proliferation Consortium.
- OPCW-UN, Organisation for the Prohibition of Chemical Weapons: UN Joint Mission, OPCW-UN website, 2017, <<https://opcw.unmissions.org/>>.
- OPCW-UN, 'Status of contributions: The OPCW-UN Joint Mission in Syria, as of 31 July 2014', 2014, OPCW-UN website, <https://opcw.unmissions.org/sites/default/files/donor_factsheet_310714_final.pdf>.
- Organization for the Prohibition of Chemical Weapons, 'The OPCW and the European Union', The Hague, September 2013.
- Organization for the Prohibition of Chemical Weapons : 'Annual reports', OPCW Website, various 2017, <<https://www.opcw.org/documents-reports/annual-reports/>>.
- Organization for the Prohibition of Chemical Weapons, 'OPCW to undertake fact-finding mission in Syria on alleged chlorine gas attacks', OPCW News release, 29 April 2014, <<https://www.opcw.org/news/article/opcw-to-undertake-fact-finding-mission-in-syria-on-alleged-chlorine-gas-attacks/>>.
- Thorstensen, S. and Chitumbo, K., 'Safeguards in the European Union: The New Partnership Approach', *IAEA Bulletin*, no. 1 (1995), <<https://www.iaea.org/sites/default/files/publications/magazines/bulletin/bull37-1/37102382528.pdf>>.
- United Nations, General Assembly, 'Report of the United Nations Mission to Investigate Allegations of the Use of Chemical Weapons in the Syrian Arab Republic on the alleged use of chemical weapons in the Ghouta area of Damascus on 21 August 2013', A/67/997-S/2013/553, 16 Sep. 2013.
- United Nations Security Council Resolution 2118, 27 Sep. 2013.
- United Nations Security Council Resolution 2235, 7 Aug. 2015a.
- Vesteegard C., 'Maintaining chemical peace: the CWC, the European Union, and political developments', ed. Balci et al., *The Future of the CWC in the Post-destruction Phase*, European Union Institute for Security Studies, Report no. 15, March 2013, <http://www.iss.europa.eu/uploads/media/ISS_15The_future_of_the_CWC_in_the_post-destruction_phase.pdf>.
- Zanders J. P., 'Workshop on the future of the chemical weapons convention transitioning towards the post-destruction phase', Brussels, 10 Sep. 2012', EU ISS, Oct. 2012, <http://www.iss.europa.eu/uploads/media/CWC_report.pdf>.

4. Arms exports and developments in the Middle East

4.1. Arms acquisitions by states in the Middle East and arms transfers to the region since 2011

MARK BROMLEY AND PIETER D. WEZEMAN

Introduction

The Arab Spring was a series of anti-government protests and uprisings that spread across North Africa and the Middle East from early 2011. It involved the forceful repression of anti-government demonstrations, and the deaths of protesters in Bahrain, Egypt and Tunisia, and led to the outbreak of wars with large-scale foreign interventions in Libya, Syria and Yemen. The tools for this violence included a wide variety of weapons and security equipment. For example, in Bahrain government forces used tear gas, rubber bullets, small arms, armoured vehicles and tanks to repress demonstrations. Saudi Arabia provided military backup by sending armoured vehicles to Bahrain (Amnesty International 2011). In Libya, Syria and Yemen the violence involved the full spectrum of conventional weapons for land, air and sea warfare. Most of these tools of violence were either imported directly from abroad or assembled or produced domestically using foreign technology and components. Throughout the region government agencies used a range of cyber-surveillance systems to identify and monitor the communications of opposition activists. Some of the systems involved were not subject to either arms or dual-use export controls.

In the period follow the Arab Spring uprisings, NGOs, parliamentarians and opposition parties questioned whether EU member states had been rigorous enough with their arms export licensing risk assessments and demanded increased transparency in relation to arms export licensing and improved standards for end-use controls, among other things. In response, arms exporting states implemented restrictions of varying scope and endurance on arms supplies to the states where violence occurred or which were involved in such violence. In other cases states decided to suspend or revoke arms export licences for particular deals, particularly the weapons or military technology considered most relevant in relation to violations of human rights abuse or international humanitarian law (IHL) (Bromley and Wezeman 2012; Duquet 2014; Amnesty International 2011). The Arab Spring also had an effect on dual-use export controls at both the Wassenaar Arrangement and the EU levels. In response to revelations about the use of cyber-surveillance systems in states affected by the Arab Spring, the EU embargoes on Iran and Syria and the Wassenaar Arrangement and EU dual-use control lists were expanded to include a wide range of these systems.

This section examines these developments and explores: (a) overall trends in military spending and arms acquisitions in the region since 2007, highlighting key trends and the respective motivations of buyer and seller states; (b) developments in Egypt, Libya and Syria in years preceding and after the Arab Spring uprisings and—particularly—the use of military equipment supplied by EU member states and changes in EU and EU member states’ arms export controls with regards to each country; and (c) changes made at the EU, Wassenaar Arrangement and EU member state level to arms export controls as a result of the Arab Spring uprisings.

Table 4.1.1. Trends in arms imports by states in the Middle East

	Per cent change, 2007–11 to 2012–16	Share of arms imports to Middle East, 2012–16 (%)
Egypt	69	10
Bahrain	–18	0.3
Iran	28	1
Iraq	123	11
Israel	12	5
Jordan	0.7	2
Kuwait	175	3
Lebanon	15	0.3
Oman	692	4
Qatar	245	5
Saudi Arabia	212	28
Syria	–35	2
Turkey	42	11
UAE	63	16

Source: SIPRI arms transfers database.

Middle East Arms Imports and Military Spending, 2007–16

Countries in the Middle East remain highly dependent on arms imports because the size and capabilities of their own arms industries are limited (Gaub and Stanley-Lockman 2017, Wezeman 2017a). Arms imports to the Middle East (including Turkey), as measured by SIPRI on the basis of deliveries of major arms, increased by 86 per cent between 2007–11 and 2012–16. The region accounted for 29 per cent of global arms imports in 2012–16, making it the second-largest importing region in that period. Comprehensive data on the financial value of arms exports to the region are not available.

SIPRI data on transfers of major arms shows large differences between the levels of and trends for arms imports by states in the region (see table 4.1.1). In the five-year period 2012–16, 28 per cent of arms transfers to the region went to Saudi Arabia, 16 per cent to the UAE and 11 per cent to Turkey. Arms imports by these states also increased steeply between 2007–2011 and 2012–2016, by 212 per cent for Saudi Arabia, 63 per cent for the UAE and 42 per cent for Turkey. The region’s main arms importers invested in advanced

systems that can significantly increase the potential of their armed forces, both in offensive operations and for defending against counterattacks. Such systems include long-range combat aircraft, missiles and guided bombs, airborne and space-based long-range intelligence, surveillance and reconnaissance systems and advanced naval platforms. In contrast, Iran's arms imports remained at a low level, due to a partial United Nations arms embargo as well as economic pressures (Fleurant et al. 2017).

Overall trends in imports of small arms and light weapons (SALW) to the Middle East are much more difficult to assess due to the lack of comprehensive and accurate data. Based on government trade data, one estimate showed significant increases in SALW imports by several states in the Middle East from 2012 to 2013. At the time of writing, these are the most recent years for which there is sufficient data to make a broader assessment. The value of reported exports of small arms to the UAE increased from \$71 million in 2012 to \$168 million in 2013, and for Saudi Arabia from \$54 million to \$161 million (Pavesi 2016).

Table 4.1.2 shows that several Middle East states are among the top military spenders in the world. While military expenditure involves more than arms procurement, and military expenditure data for many Middle East countries is of questionable accuracy—and in some cases unavailable, these figures indicate that the region is a significant and growing market for military products.

Table 4.1.2. Military expenditure in the Middle East, 2007–16

US\$ at constant (2015) prices and exchange rates

	<i>Military expenditure (\$ b.)</i>			
	2016 (\$ b.)	2014(\$ b.) ^a	Change 2007–16 (%)	World rank in Military expenditure 2016
Bahrain	1.4	1.5	80	62
Egypt	5.4	5.2	−4.2	40
Iran	12.4	10.0	−7.3	18
Iraq	6.2	7.0	97	30
Israel	17.8	16.6	19	15
Jordan	1.8	1.5	23	60
Kuwait	6.4	5.7	15	29
Lebanon	N/A	2.2	N/A	N/A
Oman	9.1	11.0	59	27
Qatar	N/A	N/A	N/A	N/A
Saudi Arabia	61.4	82.5	20	4
Syria	N/A	N/A	N/A	N/A
Turkey	15.0	15.4	9.7	17
UAE	N/A	23.7	N/A	14
Yemen	N/A	2.2	N/A	N/A

^a 2014 is the most recent year for which information is available for the UAE and Yemen.

Motives for military expenditure and arms imports

Patterns of regional arms imports and military expenditure show a continuing or increased role for military capability in the security thinking of many states in the Middle East, regarding both internal or regime security and international security. These trends underscore the lack of interest in arms control efforts in the region.

However, assessing the motives for arms procurement in the Middle East is problematic due to the high level of secrecy regarding such matters throughout the region. Most countries in the region lack parliamentary oversight mechanisms and decision-making processes are opaque. Threat perceptions—and perceptions of military capability as a key tool for dealing with external and internal threats to the existing political order—may not be the only explanation for increased arms procurement. There is also a significant risk of corruption in arms procurement. In addition, the role of arms as prestige objects and the military's powerful position in (or even dominance of) politics should also be considered (Wezeman 2017a).

Motives for arms exporters

Estimates of the volume of transfers of major arms show that the USA was the main arms supplier to the region in 2012–2016, accounting for 53 per cent of total arms imports by the Middle East. The UK followed with 8.9 per cent of imports and France with 8 per cent. The top five arms exporting EU member states, France, Germany, the United Kingdom, Spain and Italy, combined accounted for 29 per cent of arms exports to the Middle East in 2012–2016. (Fleurant et al. 2017; SIPRI 2017b). Table 4.1.3 shows that the Middle East is an important export market for most of the world's largest arms exporting countries, in particular the USA, the UK Spain, France and Italy, for which arms exports to the Middle East accounted for 38 per cent of its arms exports.

Table 4.1.3. Arms exports to the Middle East as a share of total arms exports of the world's top 11 exporters, 2012–16

USA	56 %
Russia	8 %
China	2 %
France	38 %
Germany	23 %
United Kingdom	56 %
Spain	42 %
Italy	38 %
Ukraine	4 %
Israel	3 %
Netherlands	27 %

Source: SIPRI Arms Transfers Database

Many Central and Western European countries provide information on small arms and light weapons exports in their reports to the United Nations Register of Conventional Arms (UNROCA) and the Arms Trade Treaty (ATT) and in their national reports on arms exports.⁸⁴ This information shows significant exports of SALW from Europe to the Middle East in the period 2009–2016.

From the arms exporters' viewpoint, the high levels of arms exports to the Middle East were partly driven by the perceived need to bolster the military capabilities of the recipient states in order to maintain regional security. In particular, the perceived threats to the stability of the region from Iran, terrorism in general and the Islamic State group in particular are regularly mentioned by the main supplier countries, most notably the USA. These foreign policy or security rationales vary between states. For example, Germany has been more willing to export weapons to Israel than other EU member states and less willing to supply states that Israel views as threatening to its security (Holtom et al. 2011). This diversity is also apparent in the cases described in section 4.2.

Assessing the importance of the foreign policy and security motives of the EU member states' arms exports is problematic, as they are generally not presented in a systematic and comprehensive manner. In this regard the practice of the Dutch Government, in publishing descriptions of the main considerations behind granting licences for major exports of military goods, the UK practice of describing such considerations in case studies in its annual reports on arms exports and the US practice of describing such considerations for certain types of arms exports is helpful to the overall debate on arms exports.⁸⁵

The anticipated gains for the exporting states' arms industries, economies and labour markets are likely to have been particularly important as a motive for arms exports by European suppliers in 2009–2016, as the European economic crisis significantly affected the demand for arms in Europe during this period. This forced the European arms industry to further intensify its sales efforts in other regions where demand remained high or was increasing (Wezeman 2017; Wezeman 2016; Mölling 2015). At the same time, the existing competition from the USA and Russia and increasingly from arms supplying countries in Asia, such as China and South Korea, as well as from arms industries in the Middle East, such as Turkey and the UAE, put further pressure on European arms suppliers to aggressively pursue arms exports.

⁸⁴ These reports are available at <<https://www.unroca.org>>, <<http://thearmstradetreaty.org/index.php/en/2017-01-18-12-27-42/reports>>; and <<https://www.sipri.org/databases/national-reports>>.

⁸⁵ See e.g. the Dutch and UK annual reports on arms exports, <<https://www.sipri.org/databases/national-reports>>; and the reporting on the website of the US Defense Security Cooperation Agency, <<http://www.dsca.mil/major-arms-sales>>.

Violence in Egypt and developments in arms exports: 2011–12

In January 2011 mass protests against the regime of Egypt's President Hosni Mubarak spread throughout Egypt. Egyptian internal security forces responded with force to repress the uprising, using tear gas, water cannon, firearms, rubber bullets and lethal ammunition, while protecting themselves using armoured vehicles which in some instances were used to drive into protesters. Estimates indicate that the violence resulted in over 840 people being killed and over 6000 injured. The military were deployed on the streets, but generally seen as on the side of the people—at times even providing protection to protesters (Amnesty International 2011). The violence ebbed after Mubarak resigned and a temporary military regime announced that national elections would be held later in 2011. However, violence flared up on several occasions. For example, in October 2011 armed police and soldiers used force against a demonstration by Coptic Egyptians. More than 20 demonstrators were killed, some of whom were driven over by armoured vehicles of German origin (Human Rights Watch 2011b; Traufetter 2013).

The origins of the weapon categories used by the Egyptian armed forces and security forces in the violence of 2011 were diverse. Although not all the arms involved were necessarily supplied to the Egyptian government forces, known arms deliveries and arms export licences in the period 2005–10 provide an indication of the origins of weapons supplied to Egypt. For example, exports of SALW and ammunition to Egypt were reported from Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Canada, Finland, Germany, France, Italy, Serbia, Slovakia, Spain, Switzerland and the USA. Armoured vehicles or related items came from Belgium, Bulgaria, France, Italy, Germany, the Netherlands, Poland, Slovakia and the USA (Amnesty International 2011; SIPRI ATDB 2017). However, during the period 2007–2011 the major suppliers of arms to Egypt were the USA, Russia and China. That said, their exports included many items not directly used in the violence in 2011, such as air defence systems and ships (Bromley and Wezeman 2012).

In response to the violence in 2011 France, Germany, Belgium the Czech Republic, the Netherlands, Sweden and the UK took steps to restrict arms exports to Egypt (Amnesty International 2011, Bromley and Wezeman 2012; Duquet 2014). Such restrictions were selective. For example, in the case of the UK, only the export of selected items was restricted, while for example licences for naval equipment were not revoked (Duquet 2014). EU member states' arms exports to Egypt and the other states affected by the Arab Spring were discussed at COARM meetings in 2011 and states shared information about their exports and denials to the region (Bromley 2012). However, no specific EU-wide measures were adopted until 2013 (see below). At least in some cases these restrictions appear to have been short-lived. For example, the Egyptian security forces were allowed to order armoured vehicles from France in October 2011. Germany approved the export of components for armoured vehicles in 2012, including of a type used against demonstrators in 2011 (Duquet 2014). The Czech Republic exported pistols to the Egyptian police

after 2012 (Amnesty International 2013). Several EU member states exported small arms or small arms ammunition to Egypt in 2011–2013, although it is not always clear to what extent these went to government entities (Small Arms Survey 2015).

Official government data on EU member states' arms export licences for Egypt do not show that the 2011 events had a limiting effect on the combined arms exports from EU member states. The number of reported denials in 2011 was lower than in previous years. However, the number increased significantly in 2012. This may have been a sign that some EU member states had become more restrictive towards Egypt. In 2012 EU member states issued €7.2 million worth of licenses for the export of 'Smooth-bore weapons with a calibre of less than 20 mm' to Egypt, €3.3 million of which was issued by Czech Republic. In the same year, EU member states also denied 10 licenses for the export of the same category of military equipment to Egypt. However, the total value of licences granted gradually increased between 2009 and 2012 (see table 4.1.4).

Table 4.1.4. EU member states' arms exports licences for Egypt, 2009–15

	2009	2010	2011	2012	2013	2014	2015
Number of licences granted	525	544	305	403	340	290	332
Value of licences granted (€ m.)	293	211	303	363	490	615	1 948
Number of denials	10	6	7	23	15	11	15

Source: EU Annual Reports on arms exports.

Violence in Egypt and developments in arms exports, 2013–17

In June 2012 the military government handed power to a democratically elected government led by President Muhamed Morsi. However, after large-scale protests against his government in June and July 2013 the military deposed Morsi and established a government under General Abdel Fatah al-Sisi. This in turn led to pro-Morsi protests in August, during which hundreds of people were killed, many during operations by the Egyptian security forces. Excessive and sometimes deadly force continued to be used by the Egyptian Government from 2013 to 2016, including forceful repression and mass arrests of protesters and government opponents (Amnesty International 2016).

In response to the military coup and the violence in August 2013, several EU member states, such as Germany, Italy, the Netherlands and the UK, had restricted their arms export policies towards Egypt by mid-August (Duquet 2014). Germany, Italy, the Netherlands, Austria and Sweden argued for more severe sanctions against Egypt (Jacqmin 2016). However, the EU member states could not agree on more severe sanctions, such as the full embargo on Egypt that several states had advocated. Instead the EU's Foreign Affairs Council declaration of 21 August 2013 stated that the actions of the Egyptian security forces were disproportionate and announced that the EU member

states had agreed to suspend licences for exports to Egypt of any equipment that might be used for internal repression, reassess export licences for military equipment and review their security assistance to Egypt.

In contrast to most other restrictions on arms exports to specific states agreed within the EU, the agreement on restricting exports to Egypt was not legally binding but a political commitment (Wezeman and Kelly 2014). The implementation of the Council conclusions is the responsibility of each individual EU member state (European Parliament 2016). The European Council was reportedly reluctant to impose more stringent sanctions, such as a legally binding arms embargo, that might have antagonized the Egyptian leadership, diminished the EU's influence over a country of key importance to Middle East stability, and limited EU arms suppliers' access to a lucrative market (Boogaerts, Portela and Drieskens 2016).

The Council did not impose time limits on the restrictions and as they were never revoked, they are still valid in 2017 (Wezeman and Kelly 2017). In 2016 it was reported that the original agreement remains in place largely because certain member states are concerned that pursuing discussions about officially ending the agreement in the EU Foreign Affairs Council might potentially lead to the imposition of a more restrictive agreement (Jacqmin 2016).

The Council did not define 'suspension' or 'equipment, which might be used for internal repression'. The latter might be assumed to include the types or categories of arms and military equipment used by the Egyptian Government forces during the deadly violence, such as small arms and armoured vehicles. However it could also include other items that are not covered by the EU definition of 'arms and military equipment' as described in the EU Common Military List, such as those included in the definition of 'equipment which can be used for internal repression' issued in relation to EU sanctions on for example Iran and Belarus. This list includes anti-riot equipment such as batons, vehicles equipped with water cannon, prisoner transport vehicles and razor barbed wire (Jacqmin 2016; Wezeman and Kelly 2014; SIPRI Arms embargoes database 2017). Reportedly some EU member states have used this list as a guideline in the Egyptian case (Rettman 2013). Questions have been asked about how tools for communication surveillance and control should be considered under the restrictions on exports to Egypt (Jacqmin 2016). Despite the EU member states' agreement to reassess exports of military equipment to Egypt, European arms exports to the country have increased since 2013.

Twelve EU member states have been identified as exporting or licensing the export of arms to Egypt since August 2013: Bulgaria, Cyprus, the Czech Republic, France, Germany, Hungary, Italy, Poland, Romania, Slovakia, Spain and the UK (Jacqmin 2016; Amnesty International 2016; and SIPRI arms transfers database 2017). Official government data on EU member states' arms export licences for Egypt show a steep increase in the value of licences for arms exports to Egypt from 2013 to 2015 and a decrease in the number of licence denials in 2013 and 2014 compared to 2012 (see table 4.1.4).

In terms of financial value, the bulk of these exports involved major weapons acquired as part of a significant increase in Egyptian arms procurement. Egyptian arms imports in 2012–16 increased by 69 per cent compared to 2007–11 (SIPRI 2017b). For example, Egypt ordered four corvettes from France with Dutch sensors and command and control systems in 2014, as well as one frigate and 24 combat aircraft from France in 2015, two submarines from Germany in 2015 and military transport aircraft from Spain (SIPRI ATDB).

These items have no immediate utility in the kind of deadly force used by Egyptian Government forces against protesters in 2013, which may have been part of the justification for the licencing of the exports. For example, in its explanation for issuing a licence for the export of radar and command and control systems for Egyptian navy ships in 2015 the Dutch Government argued that it was unlikely that such equipment would be used in internal repression (Tweede Kamer 2015). It is not clear to what extent the European Council Declaration on reassessing arms exports to Egypt was intended as a sign of strong disapproval of the Egyptian military taking over government and holding on to it in the long term, a consideration that underlies US restrictions on arms supplies to Egypt (see below).

However, items that would be of more obvious direct utility for use in internal repression were also exported by EU member states. France supplied Sherpa light armoured vehicles in 2013 and 2014 (SIPRI Arms transfers database 2017). The same type had been delivered in 2011 and 2012 and was used by Egyptian forces during the violence in August 2013 (Amnesty International 2013). Deliveries by the Czech Republic of 50 000 pistols for the Egyptian police ordered in early 2013 were interrupted following the August 2013 violence. However, they resumed in late 2013. It is reported that Germany, Poland and Austria did not allow the weapons to be transported through their territory. A second order for 29 000 additional pistols for the Egyptian police was signed in 2014 (Small Arms Survey 2015). Bulgaria, Italy and the UK also reported exports of small arms to Egypt in 2015 (Jacqmin 2016). Public justification for these licensing decisions could not be found within the time frame of preparing this report.

The ousting of Morsi by the military and the ensuing violence in August 2013 resulted in a review of US policy, in particular as the Foreign Assistance Act of 1961 prohibits the provision of military assistance to a country whose elected head of government has been deposed by a military coup. In order to demonstrate its disapproval of the Egyptian military taking power, the USA decided in August 2013 to withhold delivery to Egypt of certain major weapons on order, such as combat aircraft, combat helicopters and tanks, pending credible progress towards democracy. This was a significant signal as the USA was by far the largest arms supplier to Egypt and the weapons in question were part of the large-scale US military aid to Egypt worth \$1.3 billion a year. The suspension was lifted in March 2015 after violent attacks by IS-affiliated groups increased in Egypt. However, the USA announced that

future military assistance to Egypt would be reformulated to support Egyptian counterterrorism, border security, Sinai security and maritime security operations (Sharp 2017). These restrictions on US arms exports to Egypt may have pressured Egypt to seek alternatives arms suppliers. Before 2014 France and Russia had been minor arms supplier to Egypt compared to the USA. Since 2014 Egypt has signed large arms deals with both countries, which has drastically increased their role as arms suppliers to Egypt (SIPRI ATDB 2017).

Developments in arms exports to Libya, 2003–10

The violence that began in Libya in 2011 was preceded by a period in which relations between the country and the rest of the world had been normalized. UN and EU arms embargoes on Libya were lifted in 2003 and 2004, respectively. Libya subsequently launched a series of military procurement programmes (Holtom et al. 2010; Lutterbeck 2009). Supported by their national governments, many arms manufacturers in the EU launched significant marketing efforts in Libya. For example, an arms fair in Tripoli in 2010 attracted over 70 companies from at least 19 states, including 11 EU member states (Bromley 2012).⁸⁶ EU member states exported weapons and issued licences for further exports, such as armoured vehicle modernization by the UK and combat aircraft and helicopters from France. (Holtom et al. 2010; Bingham 2011) Italy licensed the export of 7500 pistols, 1900 semi-automatic rifles and 1800 shotguns to Libya (Rettman 2011). In 2009 and 2010 companies in EU member states supplied a range of arms and cyber-surveillance systems to Libya.

Some of the arms exported by EU member states were used during the crackdown on anti-Gaddafi protests and the ensuing armed conflict. For example, in 2010 an Italian company signed a deal to overhaul 60 self-propelled howitzers of a type later used by Gaddafi's forces during the conflict in Libya (Kingston 2010; UK Ministry of Defence 2011). In February 2011 footage emerged of UK-manufactured riot control vehicles being used against protesters at a time when Libyan security forces were involved in serious violations of human rights (Amnesty International UK 2011; Human Rights Watch 2011a). In 2009 Belgium licensed the export of rifles to the Libyan Khamis Brigade, which was accused of committing serious violations of IHL during the uprisings (Spleeters 2011, Dziadosz 2011; Human Rights Watch 2011a). In 2007 Spain granted an export licence for the export of 1050 cluster bombs for mortars to Libya. In 2011, these bombs were used by Gaddafi's forces in attacks on residential neighbourhoods (Chivers 2011). The Eagle Internet Protocol Network surveillance system supplied by the French company Amesys was used by Libya's domestic intelligence agencies to monitor the phone, email and chat conversations of government opponents in Libya and abroad on a 'massive scale' (Aikins 2012).

⁸⁶ The EU member states were: Austria, Belgium, the Czech Republic, France, Germany, Greece, Italy, Poland, Slovakia, Spain and the UK.

The Libya case also revealed potential inconsistencies and differences in the licensing practices of different EU member states, with indications that certain member states were issuing licences for exports of military equipment that others were denying, out of concern for their compatibility with the criteria of the EU Common Position. For example, in 2007 EU member states issued €10.2 million worth of licences for the export of ‘Ground vehicles and components’ to Libya, €5.9 million of which were issued by the UK. In the same year, EU member states also denied two licences for the export of the same category of military equipment to Libya. In 2006 EU member states issued €1.6 million worth of licences for the export of ‘bombs, torpedoes, rockets, missiles, other explosive devices and charges’ to Libya, all of which were issued by the UK. In the same year, EU member states also denied seven licences for the export of the same category of military equipment to Libya, citing concerns relating to criterion 2 (human rights) and criterion 3 (risk of internal armed conflict).

Violence in Libya and developments in arms exports, 2011–16

Within two weeks of the start of the uprising in Libya in February 2011 the UN Security Council unanimously denounced the gross and systematic violation of human rights by the Libyan Government and imposed sanctions, including an arms embargo. An EU arms embargo was imposed on 28 February 2011 adding restrictions on the transfer of equipment which might be used for internal repression (Wezeman and Kelly 2012).

During the 2011 armed conflict between Gaddafi’s forces and the Libyan rebels, EU member states—together with the United States and a number of Gulf States—played a leading role in supplying military equipment to the opposition forces. This led to intense debates with the UN Security Council about whether the supplies were a violation of the UN arms embargo. The second UN resolution on Libya, adopted in March 2011, stressed the need for states to enforce the arms embargo, but also authorized member states that notified and acted in cooperation with the UN Secretary-General to take all necessary measures to protect civilians under threat of attack in Libya, ‘notwithstanding’ the arms embargo imposed by the first resolution of February. The UK and the USA argued that use of the word ‘notwithstanding’ opened the way for supplies of military equipment to rebel forces. Russia and China disagreed, arguing that all supplies of military equipment to Libya were in violation of the UN arms embargo (Wezeman and Kelly 2012).

In June 2011, despite earlier stating that any transfers to opposition forces would represent a violation of the UN arms embargo, France admitted to having ‘provided self-defensive weapons to the civilian population’, arguing that this was in line with the combined text of the two UN resolutions (United Nations 2012). Italy, the UK and the USA reported that they had supplied non-lethal equipment such as body armour. There were also unconfirmed reports that Italy and Poland had supplied arms to the Libyan rebels (Adamowski 2011; Hooper 2011). The EU did not amend its embargo after the adoption of

Resolution 1973. It could therefore be argued that the EU member states that supplied arms to the rebels did so in breach of the EU embargo. These apparent breaches did not lead to open discussion in the EU and open sources do not explain why not (Wezeman and Kelly 2012).

On 16 September 2011 the UN Security Council amended its arms embargo on Libya to allow arms transfers to the National Transitional Council, which was recognized by the UN General Assembly as the new Libyan Government. Since then, the country has been wracked by conflicts between militias, which looted weapons from stockpiles and received additional arms from abroad (UN 2012; UN 2017a). These weapons include some originally produced in European Union member states, such as rifles supplied from Belgium before 2011, which were subsequently seen in the hands of militia forces (Jenzen-Jones 2015). Small arms ammunition exported from Switzerland to Qatar in 2009 was re-exported to rebels in Libya in contravention of the end-use agreement between Switzerland and Qatar (UN 2012).

Violence in Syria and developments in arms exports, 2003–16

Before 2011 Syria had been mainly dependent on arms imports from Russia and to a much lesser extent Iran, Belarus and North Korea (Wezeman 2013). EU member states' arms transfers to Syria were minimal in the years preceding the Arab Spring. Between 2007 and 2011 the value of EU member states' licences for arms exports to Syria was only €4.5 million. However, companies in the EU were involved in the supply of cyber-surveillance systems to Syria, which only became public knowledge after the uprisings began. For example, in 2011 it was reported that the Italian company Area SpA had begun to install a monitoring centre in Syria (Silver 2011).⁸⁷ Although the Italian Government appears to have been aware that the deal was taking place, the system was not subject to export controls at the time. Nonetheless, in November 2011 Area SpA announced that it would not complete the work (Silver 2011).

In the years preceding the Arab Spring a number of EU member states—particularly Germany, the Netherlands and the UK—licensed the export of a range of dual-use chemicals to Syria. The extent to which these licences should have been granted given the risk that the chemicals could be diverted and used in Syria's chemical weapons programme was the subject of media and parliamentary debate in all three countries in 2013 and 2014 (Anthony 2014). The information that became publicly available was not sufficient to establish whether any of the chemicals transferred to Syria contributed to Syria's chemical weapon arsenal. However, as Anthony (2014) noted, 'diversion from peaceful uses cannot be discounted, and a degree of risk was certainly present'.

⁸⁷ Monitoring centres are used by LEAs and intelligence agencies to collect, store and analyse different forms of communications data from various surveillance sources.

The conflict in Syria started as part of the Arab Spring in 2011 but rapidly developed into a civil war. The EU acted swiftly to impose sanctions on Syria on 9 May 2011, which included an arms embargo. In December 2011, the EU embargo on Syria was updated to include a ban on the ‘sale, supply, transfer or export of equipment or software intended primarily for use in the monitoring or interception by the Syrian regime, or on its behalf, of the Internet and of telephone communications on mobile or fixed networks’, as well as the provision of associated services (European Union 2012b).

The EU arms embargo was renewed in 2012 and again in February 2013 for a further three months. However, even by 2012 France and the UK had already made calls to amend the embargo to enable support to be provided to armed opposition groups. In March 2013 these two countries called for the EU embargo to be amended to allow arms supplies to what was at that time the main armed opposition group, the Syrian National Coalition. They argued that this would send a strong signal to the Syrian regime; and allow lethal supplies if this became a necessary and proportionate response to extreme humanitarian suffering. The overwhelming majority of EU member states reportedly opposed hollowing out the embargo in this way. Austria openly criticized the proposal, arguing among other things that: (a) EU support for arms supplies to one party in a conflict would set a dangerous precedent; (b) lifting the embargo would undermine a political solution to the conflict; (c) supplying more arms would feed an arms race; and (d) that there was a risk that weapons would end up in the hands of groups that were pursuing neither democratization nor regional peace. However, France and the UK did not give in and the embargo was allowed to expire in June 2013. This was the first time that the EU had lifted an arms embargo relating to a continuing and extremely violent conflict (Wezeman 2014). The French Government has reported that it has supplied arms or military equipment to Syrian armed groups (*Le Monde* 2014). The UK has reported the supply of non-lethal products and military training, as part of a programme led by the USA to train and equip Syrian armed groups (UK House of Commons 2014).

As in the case of Libya, European-produced weaponry has also been found in the hands of anti-government forces as a result of re-exports by Gulf States in contravention of end-user agreements. For example, in 2012 hand grenades exported from Switzerland to the UAE in 2003–2004 were found in the hands non-state armed groups in Syria (SonntagsZeitung 2012). A number of EU member states have been accused of failing to take steps when such re-exports have been revealed. A 2016 investigation found that Bosnia, Bulgaria, Croatia, the Czech Republic, Montenegro, Slovakia, Serbia and Romania had approved a total off €1.2bn in arms sales to Saudi Arabia, Jordan, the United Arab Emirates and Turkey since 2012. It was suspected that these weapons were intended for rebel forces in Syria and Yemen (Angelovski, Patrucic and Marzouk 2016).

Post-Arab Spring changes to EU member states' arms export policies

EU member states' decisions to permit arms exports to states in the Middle East in the years preceding the Arab Spring have been the subject of sustained criticism by parliamentarians, NGOs and the media in several countries. They questioned whether arms export licensing risk assessments had been rigorous enough and demanded inter alia increased transparency in arms export licensing and improved standards of end-use controls.

In the UK the Joint Committee on Arms Export Controls argued that the UK government had 'misjudged the risk that arms approved for export to certain authoritarian countries in North Africa and the Middle East might be used for internal repression' (UK House of Commons 2011a).

A number of policy reports argued that the decision making on arms export licences in the years preceding the Arab Spring stemmed from 'too narrow an interpretation of the EU Common Position criteria and limited assessment of how recipient states might use equipment provided in the event of civil unrest' (Bromley 2012). They also argued that the lack of a harmonized approach to risk assessments and—with the exception of Libya—the failure to implement and maintain more restrictive policies on the region in the wake of the Arab Spring uprisings undermined the credibility of the EU's Common Foreign and Security Policy (Ducquet 2014). At the more theoretical level, it has been argued that the record of EU member states on arms exports to the Middle East—in particular the licensing of large volumes of exports that raise questions in terms of their compatibility with the criteria of the EU Common Position—highlights the weak foundations of claims that the EU is a 'normative power' (Hansen and Marsh 2015).

In response to the controversies surrounding arms transfers to states in the Middle East and North Africa prior to 2011, several EU member states have made changes to certain aspects of their arms export controls. They have created powers to suspend export licences, increased public transparency and parliamentary accountability, expanded controls on cyber-surveillance systems, created stronger end-use controls and strengthened controls on exports to non-democratic states.

Creating powers to suspend export licences

In 2011 the United Kingdom announced that it was amending its export control regulations in order to allow export licensing to be 'suspended' for exports to states 'experiencing a sharp deterioration in security or stability' (UK House of Commons 2011b). The new system means that licences that are pending approval can be 'paused' for a defined period (UK Department for Business, Innovation and Skills 2012). According to the UK government, the suspension mechanism 'will not be invoked automatically or lightly, but triggered for example when conflict or crisis conditions change the risk suddenly, or make conducting a proper risk assessment difficult'. Other EU member states were able to suspend licences for certain affected destinations

without creating new powers. For example, in February 2011 France suspended the issuance of arms export licences for transfers to Bahrain and Libya; and in March 2011 Germany suspended the issuance of arms exports licences to Libya, Tunisia and Bahrain (ANSAméd 2011; and Welt Online 2011).

Increased public transparency and parliamentary oversight

The debates surrounding arms exports to states affected by the Arab Spring uprisings led to increased pressure from NGOs and parliamentarians in a number of EU member states for further improvements in transparency on arms export licensing processes and outcomes. In 2012, after parliamentary pressure, the Dutch Government increased transparency by agreeing to inform parliament about export licences granted for complete military systems worth more than €2 million to states that are not members of NATO or the EU. (Netherlands Second Chamber 2012). In 2014, Germany announced that parliament would start to receive notifications about arms export approvals issued by the Federal Security Council (German Parliament 2014).

Expanding controls on cyber-surveillance systems

Revelations concerning the supply of surveillance systems to the states affected by the Arab Spring led to an attempt to expand dual-use export controls to capture these items. In 2012, Italy used article 8 of the Dual-use Regulation to impose controls on the export of ‘public LAN database centralised monitoring systems’ to Syria (European Union 2012a). This was done in order to make any future export of the type of monitoring centre that AreaSpA had supplied to Syria subject to export controls (see above). In late 2011 and early 2012, the EU arms embargoes on Iran and Syria were updated to include prohibitions on the sale of surveillance technologies. In addition to capturing all types of cyber-surveillance systems, the expansion in the coverage of these two embargoes created restrictions on the supply of telecommunications networks and related services to Iran and Syria (Stecklow 2012). In 2012 and 2013 certain categories of surveillance technologies—specifically, mobile telecommunications interception or jamming equipment, Internet protocol network surveillance systems and intrusion software—were added to the Wassenaar Arrangement’s dual-use control list.⁸⁸ In December 2014, these items were added to the EU’s dual-use list.

Stronger end-use controls

Individual EU member states have also developed new policy instruments to improve end-use controls. End-use controls are the steps taken by states to

⁸⁸ Mobile telecommunications interception equipment—also known as ‘IMSI Catchers’—are used to remotely track, identify, intercept and record mobile phones. Internet Protocol (IP) network surveillance systems are used to intercept, collect and, in some cases, analyse data as it passes through an IP network. Intrusion software can be inserted into computers and mobile phones without detection and used to remotely monitor and, in certain cases, control them. For more information, see Bromley et al. 2016.

impose restrictions on how, where and by whom exported arms and dual-use goods are used after delivery. They generally involve inserting language into the End-User Certificates (EUCs) or commercial contracts attached to a transfer committing the importing state or company to abide by certain restrictions. States carry out pre-shipment risk assessments to determine the likelihood that end-use controls will be violated and, in some cases, post-shipment monitoring to ensure that controls are respected.

In 2012 Switzerland announced that its end-use controls would be strengthened to prevent unauthorized re-exports—similar to those involving transfers to armed groups in Libya and Syria. This meant inserting a clause into EUCs that would allow the Swiss authorities to carry out on-site inspections and ensuring that EUCs are signed by a senior government representative and, in certain cases, endorsed by a diplomatic note (Swiss State Secretariat 2012). In 2016, Germany introduced an expanded set of end-use controls. The initiative is currently at the pilot phase and will be reviewed after two years. Under the controls, Germany has created the power to require that an end-user undertake to destroy the weapons that are being replaced by the newly acquired ones or to destroy the newly procured arms once they have been decommissioned. The end-user can also be required to accept in-country inspections to ensure that end-use controls are being respected (Bundesanzeiger 2016).

Stronger controls on exports to non-democratic states

In Sweden discussions about arms exports to the Middle East have led directly to a long-running discussion about whether Sweden's arms export controls should be amended to include a formal ban on exports to 'non democratic' states. In May 2011 the Swedish Parliament asked the Swedish Government to make proposals on how to 'sharpen controls on exports to non-democratic states.' (Swedish Parliament 2011). The initial request was largely driven by reports about the use of Western-supplied military equipment in the violent response by states in the Middle East to the Arab Spring uprisings. The issue was given added political significance by the fierce public debate in 2012 about whether to continue a memorandum of understanding on military industrial cooperation with Saudi Arabia (SOU 2015).

In June 2012 the government responded to parliament's request by appointing a parliamentary committee to review Sweden's arms export controls. The remit of the committee was expanded by the government beyond the parliament's initial request to review not only the possibility of tightening controls on non-democratic states, but also a range of other elements of Sweden's arms export controls. The committee's report, published in June 2015, made detailed recommendations on how Swedish arms export controls could be improved, in particular by introducing a 'democracy criterion' which would make 'the democratic status of the recipient country . . . a key condition in the assessment of applications for licences' (SOU 2015). A draft bill containing this recommendation was proposed by the government in June

2017 and is expected to come into force in April 2018 (Swedish Government 2017). The bill will amend Sweden's export control guidelines to including language stating that 'grave weaknesses' in the democratic status of a recipient state should be a hindrance to the granting of licences for arms exports to that destination. The bill would also require the Swedish government to increase the amount of information it includes in its annual report on arms exports.

Conclusions

Despite efforts to harmonize their arms export policies in accordance with the EU Common Position member states have long had different views on exports to the Middle East. The Arab Spring of 2011 pushed member states' interpretation of the criteria of the EU Common Position – as well as the level of harmonization in states' arms export policies vis-à-vis the Middle East – further into the spotlight. In particular, the Arab Spring exposed the lack of convergence in member states' export controls, and demonstrated that several states are more willing to supply different types of equipment than others. A number of EU member states have made significant adjustments to different aspects of their arms and dual-use export controls as a result of the Arab Spring uprisings, and a number of changes have also been made at the EU level. However, these changes are unlikely to result in any kind of real narrowing in the differences in policy in the near future. This can be seen in the different views of EU member states on arms exports to Egypt as well as in the diverging views about supplying arms to rebel groups in Libya and Syria.

4.2. Arms transfers and the military intervention in Yemen by Arab states

MARK BROMLEY AND PIETER D. WEZEMAN

Introduction

EU member states' policies on arms exports to the Middle East have been put under further scrutiny since a Saudi-led coalition began a military intervention in Yemen in March 2015. In 2015 and 2016 a significant amount of evidence of the involvement of this coalition in violations of IHL in Yemen raised questions about whether EU member states and the USA should continue to licence the export of military equipment to the states involved.

A first round of violent conflict between the Government of Yemen and Houthi rebels flared up in 2009–10. The fighting included attacks by Houthi rebels on targets in Saudi Arabia, which responded with airstrikes. At the same time Iran began to support the Houthi rebels, including by supplying weapons. Large scale fighting erupted again in 2014 when the Houthi rebels allied with forces loyal to former president, Ali Abdullah Saleh, rapidly took

control of large parts of the country. In reaction to the rebel advances and their links to Iran, a coalition of states led by Saudi Arabia and the UAE, and made up of military units from Egypt, Morocco, Qatar, Kuwait, Jordan, Sudan and Bahrain, launched a military intervention in support and at the request of the internationally recognized Government of Yemen in March 2015.

The USA backed the intervention with intelligence, targeting assistance and other military support. The coalition started with airstrikes on targets in Yemen and a naval blockade aimed at cutting the rebels off from their supplies. Coalition ground forces entered Yemen in the following months. In addition, Saudi Arabia and the UAE supplied arms to forces of the Government of Yemen. The Coalition managed to drive the rebels out of significant parts of Yemen but fighting continued in 2017 (UN 2017a; UN 2017b; Shield 2017). Major Western states explicitly agreed that the decision to intervene militarily at the request of the Government of Yemen was in accordance with international law (Nussberger 2017). However, since then there have been mounting concerns about the conduct about the war by the Saudi-led coalition and the extent to which it is line with agreed international standards in the field of IHL. This, in turn, has led to growing debate about the extent to which EU member states' arms supplies to the states involved are in line with the standards agreed under the EU Common Position and national guidelines in this area.

This section examines these developments and explores (a) concerns about the use of force in Yemen and allegations about of violations of IHL, (b) the debate about transfers of arms to states in the Saudi-led coalition by Germany, the Netherlands, Sweden, the United Kingdom and the United States and the internal debate about these exports, and (c) the transfers carried out by these states since these discussions began.

Concerns about the use of force in Yemen

Concerns about the use of force by countries intervening in the conflict in Yemen were already being raised in 2010, when it was argued that the airstrikes by Saudi Arabia against Houthi rebels in Yemen were in contravention of IHL as they appeared to be targeting civilians or civilian objects such as residential homes (Amnesty International 2010).

The military intervention in Yemen in 2015 has received widespread criticism. In particular, the high-profile NGOs Amnesty International and Human Rights Watch and a United Nations appointed panel of experts tasked with monitoring the situation in Yemen have each voiced their concerns about the use of military force based on analyses of information received from sources in Yemen.

The first criticism is focused on the utility of force as an appropriate or effective tool for achieving a solution to the conflict in Yemen. In early 2017 the UN Panel of Experts on Yemen concluded that after nearly two years of fighting an outright military victory by either side is no longer realistic in the short term. It also observed that the parties to the conflict have not

demonstrated a sustained interest in peace talks to reach a political settlement. At the same time it assessed that the coalition air campaign had failed to dent the will of the Houthi-Saleh alliance to continue the conflict (UN 2017b). It has also been argued that the failure of the coalition to achieve the military objectives of the intervention, and the high number of civilian deaths and widespread destruction have made a functioning post-conflict Yemeni state unattainable (Hokayem and Roberts 2016).

Second, the intervention was condemned based on evidence that suggests that all the contestants in the conflict were involved in widespread and systematic violations of IHL, international human rights law and human rights norms because they had been involved in widespread and systematic attacks on civilian targets, failed to appropriately distinguish between civilian and military objects, harmed civilians and civilian objects in a way that was disproportionate to the expected military gain, or in the worst case may have deliberately targeted civilians or civilian objects. Evidence was presented to show how many of the air attacks by the coalition forces had hit homes, markets, hospitals, schools, civilian businesses and mosques, and killed or injured large numbers of civilians (Human Rights Watch 2015, 2016, 2017a; Amnesty International 2015; UN 2016; UN 2017b; MacAskill and Torpey 2016). The coalition was also criticized for using cluster munitions, a weapon type banned by the 101 countries that had ratified the Convention on Cluster Munitions by mid-2017, which did not include any of the coalition members (Cluster Munition Coalition 2017). In addition to the allegations about the direct use of weapons against civilian targets, it was argued that the naval blockade of Yemen by coalition members contributed to the deteriorating humanitarian situation in Yemen (UN 2016). Yemen Government forces, trained and equipped by coalition members, have been accused of being involved of disappearances of people and torture (UN 2017b; HRW 2017b).

Finally, the linkages between the intervention and wider regional stability have been questioned. The conflict in Yemen is the most significant demonstration of the increasing willingness and ability of Arab states to organize a regional military coalition to intervene in a regional conflict. Concerns have been raised as to whether arsenals of increasing sophistication and size will embolden states in the Middle East to use military force as an increasingly important part of their policies towards perceived threats (Wezeman 2016). In this light, it has been argued that Arab military cooperation could lead to situations in which European supplied weapons are used in contradiction with European interests (Noll and Roll 2015). Others have argued that the intervention in the Yemen campaign is unlikely to be a template for future interstate wars in the Gulf region (Hokayem and Roberts 2016).

Arms exports to the Saudi-led coalition

Arms imports by the two leading countries in the coalition, Saudi Arabia and the UAE, increased by 212 per cent and 63 per cent respectively between

2007–11 and 2012–16 (SIPRI ATDB 2017; Fleurant et al. 2017; Wezeman 2017). The lack of military success during Saudi Arabia's military intervention in Yemen has been described as one of the reasons for the large scale military procurement programmes the country embarked on in 2010 (Hokayem and Roberts 2016).

Saudi Arabia became the second largest and the UAE the third largest arms importer in the world in 2012–16. The USA accounted for over 50 per cent of arms imports by both countries. Western European countries, in particular the UK and France, accounted for a large share of the rest of the arms imports by these two countries. Arms imports by most of the other countries that have participated in the coalition also increased in 2012–16 (see table 4.1.1).

The weapons imported in the period 2007–16 by most of the countries in the coalition included the full spectrum of major arms, such as combat aircraft and related bombs and missiles, surveillance aircraft, aerial refuelling aircraft, combat and support ships, a wide variety of armoured vehicles and air and missile defence systems (SIPRI ATDB 2017).

Weapons used in Yemen

Saudi Arabia and the UAE in particular significantly improved their capacity to undertake air, land and sea operations of the kind seen in Yemen. For example, combat aircraft acquired in the past five years were used in airstrikes, supported by newly acquired tanker aircraft and airborne early warning and control aircraft. Recently delivered combat ships were used in the naval blockade. New armoured vehicles were used in the land operations and new missile defence systems defended the coalition forces against the missiles used in counter strikes by the Yemeni rebel groups (Wezeman 2016; Shield 2017).

As part of the intervention in Yemen, Saudi Arabia and the UAE supplied weapons to the Yemeni Government (UN 2017b). These included weapons acquired before the intervention. For example there are indications that Saudi Arabia supplied German manufactured rifles from its arms stockpiles (Gebauer 2015). However, it probably also included weapons acquired by Saudi Arabia and the UAE for the specific purpose of diversion. For example it has been suggested that ammunition, SALW and even major arms such as multiple rocket launchers exported by Central European states since 2011 to Saudi Arabia and the UAE may have been intended for channelling on to allies of the two countries in Yemen. In this regard, concerns have been raised regarding the implementation of criteria seven of the EU Common Position on arms transfers—the risk that the military equipment will be re-exported under undesirable conditions (Marzouk, Angelovski and Patrucic 2016).

Calls for arms export restrictions

The allegations of violations of IHL led in 2015 and 2016 to calls from civil society groups and by politicians in Belgium, Italy, France, the Netherlands

the United Kingdom and the USA for restrictions on arms exports to members of the coalition, in particular to Saudi Arabia (Control Arms 2016; Human Rights Watch 2017a; Amnesty International 2015; Abramson 2017). In February 2016 the European Parliament adopted by a large majority a non-binding resolution calling for an EU arms embargo on Saudi Arabia (European Parliament 2016). There was no ensuing action by the European Council. Four cases of EU member states—Germany, the Netherlands, Sweden and the United Kingdom—and the case of the USA are discussed below to illustrate varying debates and policy outcomes at the national level.

Germany

In Germany a significant political debate about arms exports to the Middle East with a focus on Saudi Arabia predated the intervention in Yemen. In 2010–2013, Germany's arms export policy loosened and arms exports increasingly became a foreign policy tool. This was interpreted as a paradigm shift, dubbed the 'Merkel doctrine' after German Chancellor Angela Merkel. (Brzoska 2013). The export of tanks to Arab states was a central element in this development. Germany had long refused such sales due to concerns about the overall stability of the region and the potential use of these weapons against Israel. However, by 2012 the government was arguing that the stabilizing role of Saudi Arabia in the region in particular and especially in relation to Iran should be considered when deciding on arms exports. This new approach resulted in a licence for the sale of tanks to Qatar and negotiations for the sale of tanks to Saudi Arabia. However, in the German coalition government formed in 2013, the minority partner SPD pushed for a return to a more restrictive arms exports policy (Wezeman et al. 2014).

As a result, the negotiations on the tank sales to Saudi Arabia had already been terminated in early 2015, before the intervention in Yemen (Nassauer 2015). In another major case the delivery of key components for assault rifles produced under licence in Saudi Arabia was already being heavily criticized before 2015 in the light of the human rights situation in Saudi Arabia. The German Government has reportedly not been able to agree on export licences for further components since 2013 (Gebauer 2017). The human rights situation in Saudi Arabia, and the execution of 47 people in January 2016, led the German minister with main responsibility for arms exports at that time to announce that it would be stricter about the export of 'defensive' military goods to Saudi Arabia (Bundesregierung 2016a). The situation in Yemen resulted in further pressure to restrict arms exports to Saudi Arabia. This was based on concerns about the use of German weapons by the coalition forces, but also concerns about Saudi Arabia supplying small arms originally acquired from Germany to Yemeni Government forces without the consent of Germany (Gebauer 2015).

The Netherlands

In response to these concerns, the most far-reaching restrictions on arms exports to Saudi Arabia were announced by the Dutch Government in January 2016. The Netherlands will now issue licences for arms exports to Saudi Arabia only if it is beyond doubt that the weapons cannot be used in the fighting in Yemen (Tweede Kamer 2016). Considering that Saudi Arabia's operations in Yemen involve the full gamut of military capability, this statement appears to imply a de facto arms embargo even though the general nature of the announcement may have left open the possibility of allowing the export of certain military equipment.

However, the immediate effects of these restrictions have been very limited as the volume of Dutch exports of arms and military goods to Saudi Arabia has been small in recent years. On the other hand, the restrictions may have affected the chances of the Dutch naval industry winning some of the planned contracts for the procurement of complete frigates and patrol ships or major components for such ships from Saudi Arabia.

Weapons and military equipment supplied by the Netherlands to other members of the coalition before the military intervention in Yemen have been identified as having been used in Yemen or been deployed to support the intervention (Broek and De Vries 2015). The Dutch Government was particularly restrictive towards Saudi Arabia, but it also argued within the EU for a more restrictive arms export policy towards all the states involved in the Saudi-led military coalition (Minister Buitenlandse Zaken 2017). Furthermore, it stated that it had been particularly strict in assessing licence applications for military goods that could be used in Yemen and that this had resulted in denials of exports of goods to the UAE air and land forces (Tweede Kamer 2016).

Sweden

In Sweden—as in Germany—a significant national debate about arms exports to Saudi Arabia was driven by concerns about the human rights situation in the country, rather than its military action in Yemen. Such discussions peaked in 2012 when plans were revealed for the export to Saudi Arabia of a production line for anti-tank missiles, and in early 2015 when the Swedish Government did not renew a memorandum of understanding with Saudi Arabia on military technical cooperation. The latter decision was taken during a period of increased diplomatic tension between Sweden and Saudi Arabia after Saudi Arabia blocked the Swedish Foreign Minister, Margot Wallström, from speaking about human rights at a meeting of the Arab League (Sveriges Radio 2015).

Swedish arms deliveries to Saudi Arabia had increased significantly by 2014 due to a major deal for two airborne surveillance aircraft signed in 2011. Swedish Government export data shows that arms exports from Sweden to Saudi Arabia decreased in value from SEK 338 million in 2014 to SEK 1.9 million in 2016. Furthermore, in 2013–16 Sweden denied 10 licences

for arms exports to Saudi Arabia, more than to any other destination country (Regeringen 2017). However, exports to some other states in the coalition continued. For example the UAE signed a USD 1.3 billion deal for advanced airborne early warning and control aircraft in late 2015 (SIPRI ATDB 2017).

The United Kingdom

The UK has been the most important European supplier of arms equipment to Saudi Arabia since the 1960s. According to SIPRI, Saudi Arabia accounted for 48 per cent of the UK's exports of major conventional weapons in 2012–16 and the UK accounted for 27 per cent Saudi Arabia's imports (SIPRI arms transfers database 2017). The UK Government has argued that Saudi Arabia is a key strategic security partner and that the export of military equipment is an integral element of that relationship. It stresses that Saudi Arabia and the UK have a close working relationship, which includes codes of conduct on human rights, non-lethal engagement and the appropriate use, and escalation of the use, of force (UK House of Commons 2014).

UK arms exports to Saudi Arabia have long been controversial, because of the country's human rights record and allegations of corruption in connection with the contracts involved. In 2015 and 2016 the UK Government was heavily criticized by NGOs and parliamentarians for continuing to license the export of arms to Saudi Arabia. In December 2015 the law firm Matrix Chambers published a legal opinion commissioned by Saferworld and Amnesty International on the legality of the UK's arms exports to Saudi Arabia. The opinion concluded that 'any authorisation by the UK of the transfer of weapons and related items to Saudi Arabia . . . in circumstances where such weapons are capable of being used in the conflict in Yemen . . . would constitute a breach by the UK of its obligations under domestic, European and international law' (Sands, Clapham and Ní Ghrálaigh 2015). In March 2016 the law firm Leigh Day, representing Campaign Against Arms Trade (CAAT), began formal legal action in the High Court aimed at challenging the UK Government's decision to export arms to Saudi Arabia (CAAT, 2016).

The case was heard in the High Court in February 2017 and centred on the question of whether or not the UK government had acted 'rationally' in determining that licences for the export of military equipment should not be denied in accordance with criterion 2 of the UK's consolidated arms export criteria.⁸⁹ In July 2017 the High Court found in favour of the UK government. One of the government's main arguments during the case had been that it has access to 'more sophisticated sources of information than those available to the sources relied upon by the Claimants' (UK High Court, 2017). This information included the 'considerable insight into the military systems, processes and procedures of Saudi Arabia adopted in Yemen, due to its close

⁸⁹ As in the criteria of the EU Common Position on which they are based, criterion 2 of the UK consolidated criteria state that the UK 'will not grant a licence if there is a clear risk that the items might be used in the commission of a serious violation of International Humanitarian Law'.

and high level contact' (UK High Court, 2017). CAAT has indicated that it plans to launch an appeal against the ruling (CAAT, 2017). UK arms exports to Saudi Arabia and other states involved in the coalition continued in 2015 and 2016 (SIPRI ATDB 2017).

The USA

In 2015 the USA openly stated that certain supplies of guided bombs to Saudi Arabia and the UAE were in direct support of these countries' military efforts against Houthi rebels (Wezeman 2016). However, the concerns about airstrikes in Yemen appear to have had some influence on US arms exports to Saudi Arabia. In 2016 the US Government expressed serious concerns about the conflict in Yemen and how it had been waged, and decided to review its support to the Saudi-led coalition (White House 2016). It was reported in December 2016 that due to concerns about civilian casualties caused by Saudi airstrikes in Yemen, the USA had imposed restrictions on the supply of guidance systems for air-dropped bombs to Saudi Arabia and had stopped the supply of a certain type of bomb that could be considered a cluster munition (Stewart and Strobel 2016). However, at the same time supplies of other weapons continued, such as combat aircraft of a type used in airstrikes in Yemen (Fleurant et al. 2017). No reports have been identified to indicate that the USA had similar concerns about arms supplies to the UAE or other states participating in the intervention. In May 2017 President Donald J. Trump made a major deal out of signing documents that reaffirmed major agreements and announced further plans for the export of a wide variety of arms to Saudi Arabia. The US Government stated that this would bolster Saudi Arabia's military in the face of Iran-related threats (US State Department 2017). These agreements included guided bombs, indicating that the new US Government has abandoned the limited restraints imposed by the previous administration (Lee 2017).

Arms transfers to countries intervening in Yemen conflict in 2015–17

The calls for restrictions on arms exports to Saudi Arabia in particular, but also to other members of the coalition, do not appear to have had a significant effect on actual arms flows to the countries in the coalition. SIPRI arms transfers data and information from national arms export reports show that arms supplies from Western and Central European states and North America to coalition states continued to be negotiated, signed or implemented throughout 2015 and 2016 (SIPRI arms transfers database 2017; EU annual arms export reports; Gutterman and Lane 2017). Table 4.2.1 shows a selection of the major arms that were on order or being delivered to Saudi Arabia and the UAE by EU member states and the USA in 2016.

In addition to the direct supply of complete weapons and military products, states continue to be involved in the supply of components for military goods produced by international consortia, even if these states may be restrictive in licensing direct exports. For example, despite restrictions on the export of

tanks and parts for German rifles to Saudi Arabia, Germany continued to supply components for Typhoon and Tornado combat aircraft directly to Saudi Arabia, and as part of the consortium of countries that have developed these aircraft to the UK where the components are used in aircraft for export to Saudi Arabia (Bundesregierung 2016b).

Table 4.2.1. Exports of major arms to Saudi Arabia and the UAE in 2016 by EU member states and the USA

Saudi Arabia		
Supplier	Weapon designation/description	Comments
Austria	MMV light armoured personnel carrier	Licence production; number unknown
Belgium	MCT and CT-CV Gun turrets for armoured vehicles	On order; number unknown
France	Aravis armoured personnel carriers	191 ordered 2012; deliveries 2015–2016
Germany	Sherpa Armoured Personnel Carriers	100 ordered in 2016
	VAB-VCI Infantry Fighting Vehicle	100 ordered in 2016
	EC-145 Light helicopter	23 ordered 2016
United Kingdom	FPB-40 Patrol craft (naval)	Estimated 33 ordered 2016
	74 Typhoon Combat aircraft	Ordered 2007, deliveries ongoing in 2016
USA	22 Hawk-100 trainer/combat aircraft	Ordered 2015
	22 Hawk-100 trainer/combat aircraft	Ordered 2012, deliveries ongoing in 2016
	(100) Storm Shadow Air to Surface Cruise Missile	Ordered 2013, deliveries ongoing in 2016
	(314) M-1A2S	Ordered 2009, deliveries ongoing 2016
	154 F-15SG	Ordered 2011, deliveries started 2016
	(24) AH-64E combat helicopters	Ordered 2011, deliveries ongoing in 2016
	24 AH-6S combat helicopter	Ordered 2014, deliveries ongoing in 2016
	(5800) JDAM guided bombs	Ordered 2011, deliveries ongoing in 2016
	1000 GBU-39 Guided bombs	Ordered 2011–2016, deliveries ongoing in 2016
	(11220) Paveway guided bombs	Ordered 2011–2015, deliveries ongoing in 2016
6 King Air-350 Ground Surveillance aircraft	Ordered 2012–2016, deliveries ongoing in 2016	
(1859) M-ATV Armoured personnel carriers	Ordered 2012–2015, deliveries ongoing in 2016	
(2176) AGM-114L anti-tank missiles	Ordered 2014, deliveries ongoing in 2016	
(15700) BGM-71 anti-tank missiles	Ordered 2014, deliveries ongoing in 2016	

UAE		
Supplier		
	21 Patriot PAC-3 air and ballistic defence systems	Ordered 2014, deliveries ongoing in 2016
Finland	40 AMV armoured personnel carriers	Delivered 2016
France	2 Baynunah corvette	Delivered 2016
	2 Helios-2 reconnaissance satellites	Ordered 2015
Germany	4 Wisent-2 Armoured Engineering Vehicles	2 delivered 2016
Italy	8 P-1HH Unmanned Air Vehicles	Ordered 2016
Netherlands	2 FOPV-850 corvettes	Ordered 2013
Sweden	4 Erieye Airborne Early Warning and control/Airborne Ground Surveillance systems	Ordered 2015
USA	2 THAAD Anti Ballistic Missile Systems	Delivered 2015–16
	7600 JDAM guided bombs	Ordered 2014–2016
	24 Archangel-BPA Ground attack aircraft	Ordered 2014; deliveries ongoing 2016
	2482 MaxxPro Armoured personnel carriers	Ordered 2014; deliveries ongoing 2016

Source: SIPRI arms transfers database.

Conclusions

Since 2015 excessive use of force by a Saudi-led military coalition intervening in the conflict in Yemen has generated significant debate about the issue of arms transfers to Saudi Arabia and the other states involved. These debates have also added further fuel to discussions about the level of harmonization in EU member states' arms export controls. In particular, the ongoing willingness of the UK to sanction large scale arms sales to Saudi Arabia while other member states operate much tighter restrictions on sales highlight the lack of harmonization in this area.

References

- Abramson, J., 'Arms sales to Saudi Arabia and Bahrain should be rejected', Arms Control Association, *Issue Brief*, vol. 9, no. 3 (May 2017).
- Adamowski, J., 'Poland sold arms to Libyan rebels', Defense News, 22 Aug. 2011
- Aikins M., 'Jamming Tripoli, Inside Moammar Gadhafi's Secret Surveillance Network', Wired, 18 May 2012.
- Amnesty International, 'Yemen: cracking down under pressure', 2010.
- Amnesty International (UK), 'UK arms licensed to Libya', 21 Feb. 2011.
- Amnesty International, 'Egypt: Bloodshed underscores urgent need for all countries to halt arms transfers to country', 20 Aug 2013.
- Amnesty International, 'Bombs fall from the sky day and night, Civilians under fire in Northern Yemen', Oct. 2015.

- Amnesty International, 'EU: Halt arms transfers to Egypt to stop fuelling killings and torture', 25 May 2016.
- Angelovski, I., Patrucic, M. and Marzouk, L., 'Revealed: the £1bn of weapons flowing from Europe to Middle East', *The Guardian*, 27 July 2016.
- ANSamed, 'France: Export of weapons to Libya and Bahrain suspended', 18 Feb. 2011.
- Anthony, I., 'Export of dual-use chemicals to Syria: an assessment of European Union export controls', EU Non-Proliferation Paper no. 35, Jan. 2014.
- Bingham, J., 'British contractors upgrading Qadhafi's tanks on eve of uprising', *Daily Telegraph*, 8 Sep. 2011.
- Boogaerts, A., Portela, C. and Drieskens, E., 'One swallow does not make spring: a critical juncture perspective on the EU sanctions in response to the Arab Spring', *Mediterranean Politics*, 18 Jan. 2016.
- Broek, M. and de Vries, W., 'Dutch arms trade with coalition forces in the Yemen war', *Stop Wapenhandel*, Nov. 2015.
- Bromley, M., 'The review of the EU common position on arms exports: prospects for strengthened controls', SIPRI, Non-proliferation Paper no. 7 (Jan. 2012).
- Bromley, M. and Wezeman, P.D., 'Policies on exports of arms to states affected by the Arab Spring', *SIPRI Yearbook 2012: Armaments, Disarmament and International Security* (Oxford University Press: Oxford, 2012).
- Bromley, M., Steenhoek, K., Halink, S. and Wijkstra, E., 'ICT surveillance systems: Trade policy and the application of human security concerns', *Strategic Trade Review*, Spring 2016.
- Brzoska, M., 'Waffen nach Mali und Saudi Arabien', *Blätter für Deutsche und Internationale Politik*, Feb. 2013.
- Bundesregierung, 'Aufruf zur Verständigung', 6 Jan. 2016a.
- Bundesregierung, 'Antwort der Bunderregierung auf die Kleine Anfrage der Abgeordneten Jan van Aken, Wolfgang Gehrcke, Christine Buchholz, weiterer Abgeordneter und der Fraktion DIE LINKE', *Deutscher Bundestag*, 2 March 2016b.
- Bundesanzeiger, 'Sechste Verordnung zur Änderung der Außenwirtschaftsverordnung Vom 14. März 2016', 18 March 2016.
- CAAT, 'Formal Legal Proceedings Begin against UK Government over Arms Exports to Saudi Arabia', 11 March 2016.
- CAAT, 'Campaigners seek to appeal 'very disappointing' verdict on arms exports to Saudi Arabia', 10 July 2017.
- Chivers, C. J., 'Qaddafi troops fire cluster bombs into civilian areas', *New York Times*, 15 Apr. 2011.
- Cluster Munition Coalition, 'Use of cluster bombs, in Yemen', 2017.
- Control Arms, 'Dealing in double standards: How arms sales to Saudi Arabia are causing human suffering in Yemen', Feb. 2016,

- <<http://controlarms.org/en/wp-content/uploads/sites/2/2016/02/ATT-Monitor-Case-Study-2-Saudi-Arabia-FINAL.pdf>>.
- Duquet, N., 'Business as usual? Assessing the impact of the Arab Spring on European arms export control policies', Flemish Peace Institute, 2014.
- Dziadosz, A., 'Exclusive: documents detail Western arms firm's Libya deal', Reuters, 7 Sep. 2011
- European Union, Council Decision 2011/137/CFSP of 28 February 2011 concerning restrictive measures in view of the situation in Libya, *Official Journal of the European Union*, L 58, 3 Mar. 2011.
- EU, 12th to 18th Annual report according to article 8(2) of Council Common Position 2008/944/CFSP defining common rules governing the control of exports of military technology and equipment.
- European Parliament, Resolution of 25 Feb. 2016 on the humanitarian situation in Yemen (2016/2515(RSP)).
- European Parliament, 'Answer given by Vice-President Mogherini on behalf of the Commission', 9 Aug. 2016.
- European Union, 'Information note: Council Regulation (EC) 428/2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items: Information on measures adopted by Member States in conformity with articles 5, 6, 8, 9, 10, 17 and 22', *Official Journal of the European Union*, 19 Sep. 2012a, C283.
- European Union, Council Decision 2011/782/CFSP of 1 December 2011 concerning restrictive measures against Syria and repealing Decision 2011/273/CFSP, *Official Journal of the European Union*, 2 Dec. 2012b.
- Fleurant, A, Wezeman, P.D., Wezeman, S.T. and Tian, N., 'Trends in International arms transfers, 2016', SIPRI, 2017.
- Gaub, F. and Stanley-Lockman, Z., 'Defence industries in Arab states', *Chaillot Paper* no. 141 (Mar. 2017), European Union Institute for Security Studies.
- Gebauer, M., 'Bundesregierung gibt Lücke bei Waffenexport-Kontrolle zu', *Der Spiegel*, 12 June 2015.
- Gebauer, M., 'Neue deutsche Waffen für Saudi-Arabien', *Der Spiegel*, 14 March 2017.
- German Parliament, 'Rules of Procedure of the Federal Security Council January 27, 1959 as amended on June 4, 2014', 4 June 2014.
- Guttermand, E., Lane A., 'Beyond LAVs: corruption, commercialization and the Canadian defence industry', *Canadian Foreign Policy Journal*, vol. 23, no. 1 (2017).
- Hansen, S. and Marsh, N. (2015) 'Normative power and organised hypocrisy: European Union member states' arms export to Libya', *European Security*, vol. 24, no. 2, pp. 264–86.
- Hokayem, E. and Roberts, D. B., 'The war in Yemen', *Survival*, vol. 58, no. 6 (2016).
- Holtom, P. et al., 'International arms transfers', *SIPRI Yearbook 2011* (Oxford University Press: Oxford, 2011), pp. 271–290.

- Holtom, P. et al., 'International arms transfers', *SIPRI Yearbook 2010* (Oxford University Press: Oxford, 2010)
- Hooper, J., 'Italian government blocks investigation into missing arms cache', *The Guardian*, 19 July 2011.
- Human Rights Watch, 'Libya: evidence suggests Khamis Brigade killed 45 detainees', 29 Aug. 2011a.
- Human Rights Watch, 'Egypt: don't cover up military killing of Copt protesters', 25 Oct. 2011b.
- Human Rights Watch, 'Libya: Security forces fire on protesters in western city', 26 Dec. 2011c.
- Human Rights Watch, 'What military target was in my brother's house? Unlawful coalition air strikes in Yemen', 26 Nov. 2015.
- Human Rights Watch, 'Bombing business, Saudi coalition air strikes on Yemen's civilian economic structures', 10 July 2016.
- Human Rights Watch, 'Yemen: no accountability for war crimes', 12 Jan. 2017a.
- Human Rights Watch, 'Yemen: UAE backs abusive local forces', 22 June 2017b.
- Jacqmin, D., 'Égypte: "embargo" et armes de repression interne' [Egypt: 'embargo' and arms for internal repression], Note d'analyse, GRIP, 26 Oct. 2016.
- Jenzen-Jones, N., 'A rifle's journey from Belgium to Gaza', BBC News, 8 Dec. 2015.
- Kington, T., 'Winning in emerging markets: Finmeccanica puts prices on major pending deals', *Defense News*, 23 Aug. 2010, p. 26.
- Lee, M., 'US to announce \$110 billion Saudi arms sale as Trump visits', *Washington Post*, 19 May 2017.
- Le Monde*, 'François Hollande confirme avoir livré des armes aux rebelles en Syrie', 20 Aug. 2014.
- Lutterbeck, D. 'Arming Libya: transfers of conventional weapons past and present', *Contemporary Security Policy*, vol. 30, no. 3 (2009), pp. 505–28.
- MacAskill, E. and Torpey, P., 'One in three Saudi air raids on Yemen hit civilian sites, data shows', *The Guardian*, 16 Sep. 2016.
- Marzouk, Angelovski, Patrucic, 'Making a killing: The 1.2 billion euro arms pipeline to Middle East', *Balkan Insight*, 27 July 2016
- Minister voor Buitenlandse Handel en Ontwikkelingssamenwerking en de minister van Buitenlandse Zaken, 'Het Nederlandse wapenexportbeleid in 2016', May 2017.
- Mölling, C., 'Der europäische Rüstungssektor', Stiftung Wissenschaft und Politik, June 2015.
- Nussberger, B., 'Military strikes in Yemen in 2015: intervention by invitation and self-defence in the course of Yemen's 'model transitional process'', *Journal on the use of Force and International Law*, 5 Jan. 2017.

- The Netherlands, Second Chamber of the State General, 'Brief van de staatssecretaris van economische zaken, landbouw en innovatie' [Letter from the secretary of state for economic affairs, agriculture and innovation], Arms Export Control Policy no. 192, The Hague, 12 April 2012.
- Nassauer, O., 'Keine Leopard-Panzer für Saudi-Arabien', BITS, 25 Apr. 2015.
- Noll, J. and Roll, S., 'From Yemen war to joint army? Egyptian-Saudi difference over Arab military cooperation', Stiftung Wissenschaft und Politik, SWP comments no. 31 (2015).
- Pavesi, I., 'Trade update 2016, transfers and transparency', Small Arms Survey, June 2016.
- Regeringen, 'Strategisk exportkontroll 2016: krigsmateriel och produkter med dubbla användningsområden', Swedish Government, Skr 2016/17:114, 16 Mar. 2017.
- Rettman, A., 'Italy–Libya arms deal shows weakness of EU code', EUobserver, 3 Mar. 2011.
- Sands, P., Clapham, A. and Ní Ghrálaigh, B., 'The lawfulness of the authorisation by the United Kingdom of weapons and related items for export to Saudi Arabia in the context of Saudi Arabia's military intervention in Yemen', Matrix Chambers, 11 Dec. 2015.
- Sharp, J. M., *Egypt: Background and US Relations* (Congressional Research Service, Washington, DC, 2017).
- Shield, R., 'The Saudi air war in Yemen: a case for coercive success through battlefield denial', *Journal of Strategic Studies*, 7 Apr. 2017.
- Silver, V., 'Italian firm said to exit Syrian monitoring project', Bloomberg, 28 Nov. 2011.
- SIPRI Arms Embargo Database, EU arms embargo on Egypt, 2017.
- SIPRI ATDB, Arms Transfers Database, <<https://www.sipri.org/databases/armstransfers>>, 2017.
- Small Arms Survey, 'Trade update: After the "Arab spring"', Small Arms Survey, 2015.
- SonntagsZeitung, 'Schweizer Granaten im syrischen Konflikt', 1 July 2012.
- Spleeters, D., 'Tracking Belgian weapons in Libya', *New York Times*, 28 Dec. 2011.
- SOU, Statens Offentliga Utredningar, 'SOU 1015:72 Skärpt exportkontroll av krigsmateriel', 26 June 2015.
- Stecklow, S., 'Special report: Chinese firm helps Iran spy on Citizens', Reuters, 22 Mar. 2012.
- Stewart, P. and Strobel, W., 'US to halt some arms sales to Saudi, citing civilian deaths in Yemen campaign', Reuters, 13 Dec. 2016.
- Sveriges Radio, 'Saudiavtalet: Detta Har Hänt', 9 Mar. 2015.
- Swedish Government, 'Lagrådsremiss—Skärpt exportkontroll av krigsmateriel', 29 June 2017.
- Swedish Parliament, 'Strategisk Exportkontroll 2010: Krigsmateriel Och Produkter Med Dubbla Användningsområden Samt Genomförande Av

- Direktiv Om överföring Av Krigsmateriel Utrikesutskottets Betänkande 2010/11:UU3' 19 May 2011.
- Swiss State Secretariat for Economic Affairs, 'Swiss hand grenades in Syria: conclusion of investigation and measures', 21 Sep. 2012.
- Traufetter, G., 'Berlin under fire for tank deal with Cairo', Spiegel Online, 27 May 2013.
- Tweede Kamer der Staten-Generaal, 'Afgifte vergunning voor export militair materieel naar Egypte via Frankrijk', 1 Sep. 2015.
- Tweede Kamer der Staten-Generaal, 'Wapenexportbeleid, verslag van een algemeen overleg', 9 Nov. 2016.
- UK Department for Business, Innovation and Skills, 'Government to strengthen measures on export licensing', 7 Feb. 2012.
- UK High Court, *R (on the application of Campaign Against The Arms Trade) -v- The Secretary of State for International Trade and interveners* (Courts and Tribunals Judiciary, 10 July 2017).
- UK House of Commons, Joint Committee, on Arms Exports Controls, *Scrutiny of Arms Export Controls (2011): UK Strategic Export Controls Annual Report 2009, Quarterly Reports for 2010, Licensing Policy and Review of Export Control Legislation* (Stationary Office: London, March 22, 2011a).
- UK House of Commons, 'FCO review of export policy', Written ministerial statements, 13 Oct. 2011b.
- UK House of Commons, 'United Kingdom Strategic Export Controls: Annual Report 2013', 17 July 2014.
- UK Ministry of Defence, 'RAF and Navy strike targets in Tripoli', 17 May 2011, <<http://www.mod.uk/DefenceInternet/DefenceNews/MilitaryOperations/RafAndNavyStrikeTargetsInTripoli.htm>>.
- United Nations, 'Report of the Panel of Experts on Libya established pursuant to Resolution 1973 (2011)', 17 Feb. 2012, annex to S/2012/163, 20 Mar. 2012.
- United Nations, Security Council, 'Final report of the panel of experts on Yemen established pursuant to Resolution 2140', annex to S/2016/73, 22 Jan. 2016.
- United Nations, Security Council, 'Final report of the Panel of Experts on Libya established pursuant to Resolution 1973 (2011)', annex to S/2017/466, 1 June. 2017a.
- United Nations, Security Council 'Final report of the Panel of Experts on Yemen', annex to S/2017/81, 31 Jan. 2017b.
- US State Department, Office of the Spokesperson, 'Supporting Saudi Arabia's defense needs', 20 May 2017.
- Vranckx, A., Slijper, F. and Isbister, I., 'Lessons from MENA' (Academia Press: Gent, 2011).
- Welt Online, 'EU schickt Erkundungsteam nach Libyen', 6 Mar. 2011.
- Wezeman, P. D., 'Arms transfers to Syria', *SIPRI Yearbook 2013* (Oxford University Press: Oxford, 2013).

- Wezeman, P. D., 'Restricting arms supplies to Syria', *SIPRI Yearbook 2014* (Oxford University Press: Oxford, 2014).
- Wezeman P. D., 'Arms transfers to the Middle East and North Africa, and the military intervention in Yemen', *SIPRI Yearbook 2016* (Oxford University Press: Oxford, 2016).
- Wezeman, P. D., 'Military spending and arms transfers to the Middle East and North Africa', *SIPRI Yearbook 2017* (Oxford University Press: Oxford, forthcoming 2017).
- Wezeman, P. D. and Kelly, N., 'Multilateral arms embargoes' *SIPRI Yearbook 2012* (Oxford University Press: Oxford, 2012).
- Wezeman, P. D. and Kelly, N., 'Multilateral arms embargoes', *SIPRI Yearbook 2017* (Oxford University Press: Oxford, forthcoming 2017).
- Wezeman, S. T., Béraud-Sudreau and Wezeman, P. D., 'Developments in arms transfers, 2013', *SIPRI Yearbook 2014* (Oxford University Press: Oxford: 2014).
- White House, 'Statement by NSC Spokesperson Ned Price on Yemen', 8 Oct. 2016.