



Non-State Actors and the Proliferation of Weapons of Mass Destruction

Resolution 1540:
A Spanish Contribution



MINISTRY OF DEFENCE

Spanish Institute
for Strategic Studies

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Presentation

Miguel Ángel Ballesteros
General Director Spanish Institute for Strategic Studies.

It was already indicated in the European Security Strategy of 2003 that the biggest threat that the European Union faces is the combination of terrorism with weapons of mass destruction. Since then, the strategic framework of international security has undergone significant changes. To Al Qaeda must be added the so-called Islamic State, which has shown a higher risk because of their use of extreme violence, even using chemical weapons in Iraq.

On the other hand, according to the investigations of the terrorist attacks in Paris in November 2015, the possibility that terrorist agents have access to radioactive sources or can produce an attack on a nuclear plant cannot be dismissed. Furthermore, there is also the risk that terrorists could induce a health crisis with the aim of causing destabilization and chaos in society.

This new strategic framework, where threats are characterized for being unpredictably and indiscriminate, requires further efforts to properly implement and improve the UNSC Resolution 1540, which was adopted in 2004.

During the biennium 2015-2016, Spain -as a nonpermanent member of the United Nations Security Council- was entrusted with the leadership of the 1540 Committee, responsible of the promotion of the full implementation by all States of resolution 1540 (2004). During the Spanish presidency, it is taking place the review process of the Resolution 1540, which will ends in

November 2016 and whose results will be presented in December at the United Nations Security Council.

Given the importance of the issue and to contribution to this process, the Spanish Ministry of Foreign Affairs proposed to the Spanish Institute for Strategic Studies the realization of this publication in order to gather opinions and suggestions made by experts from various fields and to face up new challenges which may arise from the implementation of Resolution 1540.

The Spanish Institute for Strategic Studies thanks all speakers for their collaboration in the successfully airing of this publication. A work which has been made in the hope that it could bring valuable insights for all those who work in the field of relations and international stability, while contributing to make known to the public opinion the importance of the resolution.

Prologue

Román Oyarzun Marchesi
Chair of the 1540 Committee.

Ambassador, Permanent Representative of Spain to the United Nations.

The 1540 Committee was established in 2004 by UN Security Council Resolution 1540, which requires all States to refrain from providing any form of support to non-State actors seeking, in general terms, to manufacture weapons of mass destruction (WMD) and their delivery systems. The 1540 Committee is chaired by Spain during the biennium 2015-2016, in which our country has a non-permanent seat on the Security Council.

Resolution 1540 was adopted under Chapter VII of the UN Charter, which permits the use of force, and its Committee has become the cornerstone of the regime to ensure the non-proliferation of WMD, establishing very close links among the different components of the international non-proliferation architecture.

This architecture is composed of a vast network of actors, all of whom play a significant role. To cite just a few examples, they include international organisations such as the International Atomic Energy Agency; conventions such as those outlawing chemical and biological weapons; specific non-proliferation regimes such as the Missile Technology Control regime and the Nuclear Suppliers Group; companies (of fundamental importance due to their role in trading sensitive materials); and the academic world, which contributes scientific knowledge to the discussions on these issues.

Resolution 1540 states that the proliferation of nuclear, chemical and biological weapons and their means of delivery constitutes a threat to

international peace and security. The resolution requires States, *inter alia*, to refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery. While other international legal instruments primarily regulate the activities of States, Resolution 1540 addresses the threat posed by non-State actors and explicitly establishes that States must both refrain from providing them any support to carry out activities related to proliferation, and to prevent them from engaging in such illicit activities.

Since 2004, the 1540 Committee has generated a dynamic of cooperation among States to prevent terrorists from obtaining weapons of mass destruction. A good measure of the progress achieved is that of the 193 United Nations Member States, 176 have submitted their first report on compliance with the obligations established by Resolution 1540.

However, the growing threat of terrorism since the adoption of Resolution 1540 is a worrying development, particularly as regards the possibility that terrorist groups may gain access to WMD. It is a fact that terrorist groups have used chemical weapons in Syria and Iraq, and that Daesh controls a vast territory and has considerable resources that it would be using to develop WMD.

Moreover, science and technology have evolved at a rate difficult to imagine in 2004, and bring about the risk that non-State actors might misuse the developments in commercial, logistical and financial transactions. In 2004, it was difficult to imagine how far unmanned vehicles (*i.e.*, drones that can be used to transport WMD), the sophistication of synthetic biology (to spread virus easily), or the use of the internet (to carry out cyber-attacks) could go.

Unfortunately, in a globalised world, terrorists can easily use the internet to access the know-how to create WMD, obtain funding from sources beyond the control of international financial bodies, or even make use of sophisticated 3D printing technologies to design WMD components.

These new realities are taking place in the so-called "Fourth Industrial Revolution" and, if led by the wrong hands, could wreak havoc in the international community. Here we are mainly thinking about the misuse of dual-use technologies that are difficult to monitor and more so to trace. For example, a cyber-attack against a nuclear facility requires less technical knowledge than the production of an actual weapon of mass destruction and may have devastating effects.

To address this new reality, the 1540 Committee, currently chaired by Spain, is conducting a Comprehensive Review of the resolution adopted in 2004. All UN Member States, relevant international organisations and civil society have been invited to participate in the process. The main outcome of the Review should be the adoption of a new resolution that updates Resolution

1540 and adapts it both to present and future challenges. The new resolution must be one that stands the test of time.

The process of the Comprehensive Review has several goals. The main one is to improve the preventive system that characterises the system created by Resolution 1540, as prevention is much more effective and less costly than the response to such a catastrophic event as the use of WMD by terrorists is. Other goals of the Review are to strengthen assistance to States that require it to better implement Resolution 1540; to achieve more effective coordination with international organisations, initiatives and mechanisms in the field of non-proliferation; and to promote transparency and dialogue with civil society.

The Comprehensive Review also aims at constructing a global architecture of non-proliferation more suitable for the new context, wherein the main threats arise not as much from the accumulation of nuclear arsenals as from the use of WMD by terrorist groups and criminals.

In short, the threats are pressing and we all, States, international organisations and civil society, must equip ourselves with the right tools to address them. There is much at stake, and in its capacity as Chair of the 1540 Committee, Spain is aware of the great responsibility that the conduction of the important process of the Comprehensive Review entails.

Introduction

Vicente Garrido Rebolledo and Fernando Borredá Juste

In the current strategic context, there is a growing perception of the chemical, biological, radiological and nuclear (CBRN) threat posed by non-State actors, one that is gradually pushing aside the traditional menace of direct military confrontation between States. In this respect, the last twenty years have witnessed three major changes related to proliferation: first, the increasing spread or dispersion of technology (especially nuclear) and scientific knowledge in this sphere; second, renewed interest by some States in acquiring weapons of mass destruction (WMD)¹; and finally, the emergence of non-State actors seeking to obtain materials that could be used for the manufacture of such weapons, for example, through clandestine commercial networks. As a result, the CBRN risk can no longer be defined solely by reference to States, in which the scope of attention is limited to what has been termed horizontal nuclear proliferation. The potential access of terrorist groups to such materials and technology adds a new dimension to the problem, making it even more unpredictable.

1 There is no generally-agreed definition of what is meant by weapons of mass destruction (WMD), especially whether their classification should focus exclusively on NBC weapons or also include radiological ones. According to the broad definition offered by the United Nations, WMD are explosive atomic weapons, those composed of radioactive material, deadly chemical or biological weapons, and any weapon developed in the future that has characteristics comparable in destructive effect to those of the atomic bomb or of any of the above-mentioned weapons. However, the concept is controversial.

Resolution 1540 (2004) adopted by the United Nations Security Council (UNSC) on 28 April², was the first international instrument to address the problem comprehensively and in all its complexity. This Resolution stated *"the proliferation of nuclear, chemical and biological weapons and their means of delivery, constitutes a threat to international peace and security"*, and called on States to *"refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery"*.

It also recognised the *"urgent need for all States to take additional effective measures to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery"*, and to this end, urged them, in accordance with their national procedures, to *"adopt and implement appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use of nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the foregoing activities, participate in them as an accomplice, assist or finance them"*.

However, as recognised by UNSCR 1977 (2011)³, the full implementation of Resolution 1540 (2004) is a long-term goal that involves *"the need to enhance coordination of efforts at national, regional, subregional and international levels in order to strengthen a global response to this serious challenge and threat to international peace and security"*. This obligation requires States to implement a coordinated and comprehensive national and interministerial action throughout the administration.

The Security Council also recognised in Resolution 1977 (2011) that the threat of proliferation of WMD continues and reiterated that it was *"gravely concerned by the threat of terrorism and the risk that non-State actors may acquire, develop, traffic in or use nuclear, chemical, and biological weapons and their means of delivery"*. Therefore, it encouraged *"all Member States to implement fully that resolution"* and decided on various measures to strengthen implementation. Among these, two in particular contextualise the present document: to *"conduct a comprehensive review on the status of implementation of resolution 1540"* and, given the need for the increased coordination of international, national, regional and subregional efforts, encouraged *"all States to prepare on a voluntary basis national implementation action plans, with the assistance of the 1540 Committee as appropriate, mapping out their priorities and plans for implementing the key provisions of resolution 1540 (2004), and to submit those plans to the 1540 Committee"*.

2 S/RES/1540 (2004), of 28 April, Available at: [http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1540\(2004\)](http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1540(2004)).

3 S/RES/1977 (2011), of 20 April. Available at: [http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1977\(2011\)](http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1977(2011)).

Spain adopted its *National Action Plan for the full implementation of Resolution 1540 (2004)* of the Security Council, approved by the National Security Council on 24 April 2015. This Plan, involving several ministries⁴, defines the objectives, operational lines of action and competences required to achieve the main goal of full compliance with the obligations established under UNSCR 1540, and takes into account, moreover, the National Security Strategy (2013), the EU CBRN Action Plan (2009) and the Strategy against International Terrorism and Radicalisation (2010).

By Resolution 1977 (2011), the UNSC also decided to extend the mandate of the 1540 Committee, responsible for ensuring the implementation of Resolution 1540, for a further ten years, until 25 April 2021. It also decided that the Committee would “conduct a comprehensive review on the status of implementation of resolution 1540”, that the first such review should be held before December 2016 and that a report on the conclusions of the reviews should be submitted. The review would include “... if necessary, recommendations on adjustments to the mandate”. The final report, of an analytical nature, should be based on the information available to the Committee, and in particular that obtained through its approved matrices, as well as relevant contributions from Member States and related regional and subregional intergovernmental organisations. The ultimate aim of this report is to identify gaps in the implementation of the resolution, focusing on the issues identified and, where appropriate, to include specific recommendations⁵.

Spain is firmly committed to the overall goal of the non-proliferation of WMD and is party to the major treaties in this area. Furthermore, Spain takes part in international fora on non-proliferation and other governmental initiatives to coordinate positions. Spain’s leadership on these issues has been recognised by the international community, which has assigned our country the chair of the three UNSC committees related to the non-proliferation of WMD during the biennium 2015-2016: the first of these is the 1718 Committee, established by UNSC Resolution 1718 of 2006 to monitor the implementation by States of the sanctions on North Korea for its nuclear and ballistic missile programme; the second, the 1737 Committee, was established by UNSC Resolution 1737 of 2006 and, on its conclusion on 16 January 2016, Spain ‘facilitated’ the functions that UNSCR 2231 (2016) assigned to the Council in relation to compliance and verification of Iran’s commitments regarding its nuclear programme. Finally, Spain is currently chairing the 1540 Committee, the purpose of which, as noted above, is to ensure compliance with UNSCR 1540 (2004).

4 The Action Plan can be consulted at: <http://www.un.org/en/sc/1540/national-implementation/pdf/Spain-action-plan.pdf>.

5 United Nations Security Council, 2016 Comprehensive Review of the status of implementation of resolution 1540 (2004), Modalities Paper, 15-07012 (S). Available at: <http://www.un.org/en/sc/1540/comprehensive-review/2016.shtml>.

For Spain, the Chair of the UNSC 1540 Committee is a responsibility of great importance, due to its prominence, outstanding international repercussions and strategic interest for Spain. Moreover, it reflects the consistency of foreign and multilateral security policy with respect to the non-proliferation of WMD, which started ten years ago with Spain's co-sponsorship of this very resolution. Chairing the Committee, together with the responsibility for the Resolution 1540 Comprehensive Review, provide Spain with a privileged opportunity for interaction with other States that share our security interests and, furthermore, contribute to defending the strategic interests of our country in a priority area for national security, as set out in the *National Security Strategy* (2013)⁶. These responsibilities will no doubt give rise to capacity building, promotion of Spanish agencies and their participation in international projects. In addition, relations will be strengthened with other sectors of civil society, including the business world, academia, NGOs and public opinion.

Nevertheless, the effective implementation of Resolution 1540 (2004) is not without difficulties, and many challenges must be faced, due to the nature of the threat itself, which is highly complex and constantly evolving. Multiple factors – scientific, technological, commercial, logistical, communications, economic and financial, among others – must be taken into account. The principal threats identified include the possibility of dual-use of materials and technologies, the transnationality and interconnection of operations, flexibility in the use of trafficking routes, the difficulty of identifying the origin of the actors and their financing, the use of new intangible information technologies and social networks, and the emergence of new proliferation hot spots, other than the traditional superpowers, particularly in volatile areas of the globe, where regional rivalries and less stringent security protocols are commonplace.

In addition, proliferation poses a cross-cutting threat to State actors and structures, whose vulnerability is heightened by new factors such as dependence on new communication technologies in the management of infrastructure (cybersecurity) and the general characteristics of logistics, transport and trade. In view of these considerations, States must take coordinated, comprehensive action, nationwide and throughout the administration (the 'whole-of-government' approach).

Implementation of UNSCR 1540 also requires us to address the challenge of achieving its universality. In this respect, the only requirement currently made (and even this has been questioned) is to deliver a first report on compliance. To date, 17 States have not yet fulfilled this obligation. Many of these countries, classed as "less developed", grant less importance to the

6 Presidencia del Gobierno (Cabinet Office), The Nacional Security Strategy. Sharing a Common Project, Departamento de Seguridad Nacional, 2013, p. 30. Available at: http://www.lamoncloa.gob.es/Documents/estrategiaseguridad_baja_julio.pdf.

threat posed by the proliferation of WMD in general, and to Resolution 1540 (2004) in particular, in relation to other priorities in their national security agendas.

The Spanish Chair of the 1540 Committee and the review process of Resolution 1540 (2004), led by Spain, represents a unique opportunity to reflect on how we may improve the effectiveness of the implementation of the resolution, taking into account the above-mentioned challenges and analysing Spain's own experience in this regard.

The present document, which forms part of the "Strategic communication measures" referred to in the National Action Plan for the implementation of Resolution 1540 (2004), is intended to provide the basis for the review process, with some modest but substantial contributions to the final report. Publication of the analyses and proposals detailed in each of the succeeding chapters, by the different authors who have participated in this paper (under their own responsibility and not necessarily on behalf of the institution to which they are attached), is without doubt an excellent example of the dialogue that already exists on these issues (a dialogue that is to be greatly encouraged), which affect us all.

This multidisciplinary study incorporates the views of diplomats, military, experts from civil society, research centres and other representatives of sectors affected by the implementation of UNSCR 1540 (2004). With particular reference to the situation in Spain, we conduct a strategic analysis focused on certain technical areas addressed in the resolution, highlighting its main strengths, weaknesses, risks and opportunities, and make recommendations for improving its effectiveness so that the goal of full implementation by 2021 may be achieved. To this end, 13 areas are selected for analysis in this paper on "Non-State Actors and the Proliferation of Weapons of Mass Destruction. Resolution 1540: A Spanish Contribution", which is briefly described below.

To introduce this study, the first chapter discusses the importance of a 'whole-of-government' approach to the threat and its consequences, both national and international. The second chapter analyses the technological and nuclear issues involved, in the understanding that at present there is no global system for nuclear security with universal, legally-binding commitments to confront the danger of terrorists obtaining nuclear material. However, there do exist certain specific policy instruments on nuclear security, which form part of the global nuclear security architecture, and these can provide experiences and lessons on how to improve the implementation of UNSCR 1540 (2004).

The third and fourth chapters analyse the relationship between biological threats and non-State actors and, in particular, how biosecurity measures and the establishment of early warning systems can help us combat access by terrorist groups to biological agents and reduce health risks to the population from the accidental or intentional release of such agents.

In the comprehensive review of the implementation of Resolution 1540 (2004), it is essential to take into account the rapid technological advances that have taken place, as well as the phenomenon of globalisation. Therefore, chapter 5 considers the challenges posed to the international community by the development of new, dual-use technologies and their possible use by, especially, non-State actors, together with new weapons and advances in biotechnology, information and communications technology and nanotechnology.

Chapter 6 examines the contribution of international and regional organisations in the European sphere (NATO, EU and OSCE) to Resolution 1540, as well as their contributions to the process of comprehensive review. The seventh chapter then discusses the challenge of achieving universal application of the resolution. This chapter focuses on sub-Saharan Africa, analysing the causes of the resolution's limited acceptance in the region and formulating some proposals regarding instruments which could be used to achieve full implementation by the end of its mandate in 2021.

Chapter 8 provides a strategic review of the implementation of the National Action Plan for Resolution 1540, from the operational perspective of the Law Enforcement agencies, identifying weaknesses, threats, strengths and opportunities in order to promote the optimum application of the Plan.

Chapter 9 considers the role of the Customs Service in monitoring and controlling the export of strategic goods, comparing the possible complementarity of roles between the 1540 Committee and the World Customs Organization and the need for national customs administrations to be included in programmes and national action plans related to the non-proliferation of WMD, in order to establish effective customs control over such goods.

The German initiative known as the "Wiesbaden Process" has made it clear that the business world can and should play an important role in the Comprehensive Review of UNSCR 1540 (2004). Therefore, a strategic approach is needed to raise awareness among companies about the issues related to WMD in general, and provoke a better understanding of the 1540 obligations. Accordingly, chapter 10 uses the SWOT (strengths, weaknesses, opportunities, threats) approach, traditionally employed in business, in a strategic analysis of the issue, identifying weaknesses and opportunities for businesses in the implementation of Resolution 1540, and making some useful recommendations that could be considered in the review process.

Complementing the role of businesses in raising awareness of and support for Resolution 1540 (2004), chapter 11 describes and analyses an equivalent review conducted of the involvement of national Research Centres, based on the experience acquired and on the existing regulatory framework. This review identifies threats, weaknesses, strengths and opportunities relevant

to the development and implementation of Spain's National Action Plan regarding UNSCR 1540 (2004).

Chapter 12 addresses the role of the Spanish Parliament in the national implementation of Resolution 1540 (2004), and discusses proposals for its more active involvement, especially in the adoption and enforcement of appropriate and effective laws to combat the manufacture, acquisition, possession, development, transport, transfer or use of nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as stated in the resolution.

The final chapter in this paper focuses on how the financial aspects of UNSCR 1540 (2004) may be strengthened, with particular regard to the prevention and control of the financing of WMD proliferation, and their relationship with terrorist groups. Some concrete proposals are made, such as codifying the obligation to prevent such financing of terrorism, as an instrument to prevent proliferation.

In conclusion, we thank the Spanish Ministry of Foreign Affairs and Cooperation (and, especially, the Non-Proliferation and Disarmament Office) and the Ministry of Defence (especially, the Spanish Centre for National Defence Studies-Spanish Institute for Strategic Studies, CESEDEN-IEEE), who entrusted us with the coordination of this paper. We thank all the authors who participated in this project, for making this coordination task straightforward and very rewarding.

National Action Plan 1540: The whole-of-government approach and its consequences, both national and international

Fernando Borredá Juste

Introduction

In April 2004, the United Nations Security Council (UNSC) adopted Resolution 1540, to complement the existing network of treaties on the non-proliferation of weapons of mass destruction (WMD)¹, following the discovery of a global black market in nuclear material and technology². Resolution 1540 (2004) identified three specific threats to international peace and security: the proliferation of WMD, terrorism, and networks for trafficking nuclear, chemical or biological weapons, their means of delivery and related materials³. In particular, the resolution warned of the risk of a combination of

1 The Treaty on the Non-Proliferation of Nuclear Weapons; the Convention on the Prohibition of Chemical Weapons; and the Convention on the Prohibition of Bacteriological (Biological) and Toxin Weapons.

2 Yourish, Karen and Delano D'Souza, "Father of Pakistani Bomb Sold Nuclear Secrets". *Arms Control Today*, 1 March 2004. See also: *Nuclear Black Markets: Pakistan, A.Q. Khan and the rise of proliferation networks - A net assessment*, IISS Strategic Dossier, 2 May 2007.

3 For the purposes of this resolution, 'means of delivery' is defined as missiles, rockets and other unmanned systems capable of delivering nuclear, chemical or biological weapons, and that are specially designed for this use. 'Related materials' are taken to be materials, equipment and technology covered by relevant treaties and multilateral agreements or included on national control lists, which could be used for the design, development, production or use of nuclear, chemical or biological weapons and their means of delivery.

all three threats, that is, if non-State actors, particularly terrorists, managed to access WDM, favoured by illicit trafficking networks.

To mitigate this risk, Resolution 1540 (2004) addressed the issue using two approaches. On the one hand, that of security, based on the assumption of obligations to achieve three goals: to cut possible supplies or support from States to non-State actors engaged in proliferation; to criminalise proliferation activities, in particular those for terrorist purposes; and to establish preventive measures to control WDM themselves, as well as materials that could be used in their manufacture.

Moreover, although it was approved under Chapter VII of the UN Charter⁴, the resolution also promotes cooperation among States to prevent illicit trafficking, and recommends assistance for States with difficulty in implementing the provisions. It also suggests that States should cooperate with industry and the public in general to provide information about obligations concerning non-proliferation⁵.

These two approaches span a wide range of activities, not limited to any single government department. For this reason, Resolution 1977 (2011) subsequently recognised that the full implementation of Resolution 1540 is a long-term goal that will require continuous efforts at national, regional and international levels. This range of obligations, as indicated in the resolution ("in all its aspects") requires coordinated, comprehensive national and inter-ministerial action, an approach that has been termed 'whole-of-government' action.

The purpose of the present document is to conduct a strategic analysis of Resolution 1540 from the whole-of-government perspective, and to draw conclusions for improving the implementation of Resolution 1540. To this end, we examine the strengths and vulnerabilities of the resolution and identify how its implementation may be strengthened, thus enhancing State action against the proliferation of WMD. Accordingly, we examine the obligations arising from the resolution and their characteristics, and identify new threats that may appear in the current scenario of proliferation of WMD. In addition, we analyse weaknesses and difficulties in implementing Resolution 1540, identify the opportunities provided by its full implementation and, finally, reflect on the need to establish and implement a National Action Plan.

4 UN Charter, Chapter VII: action with respect to threats to the peace, breaches of the peace, and acts of aggression.

5 Bosh, Olivia, "A legislative evolution, Security Council resolution 1540 revisited" in: Popovski, Vesselin and Trudy Frase Ed., *The Security Council as Global Legislator*, Routledge, London and New York, 2014, pp. 97-124.

The strategic nature of Resolution 1540

One of the key aspects of Resolution 1540 is the strategic nature of the obligations created, which seek to mitigate the risk of proliferation via a series of indirect actions. The obligations can be grouped into three strategic lines of action: cutting off possible supplies from States to Non State actors, criminalising activities aimed to proliferate, and adopting protection measures to prevent the proliferation. The strategic nature of the obligations is reinforced, moreover, by the breadth of actions covered, acting against a wide range of activities essential to proliferate.

In the first of these lines of action, cutting supplies or State support for proliferation by non-State actors, the obligations comprise the denial of “any type of support”, which may include financing, logistics or transport, among other areas. The resolution also requires States to criminalise “any proliferate activity”, such as development, acquisition or transfer, in “any of its forms”, including attempted action, complicity, assistance or funding.

The resolution also requires States, in accordance with their national procedures, to create effective preventive measures to combat illicit trafficking (counter-proliferation), together with anticipatory measures to detect and deter proliferation by non-State actors.

Preventive measures are based on a very basic premise: that illicit trafficking involves the movement of sensitive materials between two points. Therefore, a basic security protocol involves considering the vulnerability that may arise at three key points: the points of origin and destination, and the transaction in between.

To reduce vulnerability at source, Resolution 1540 requires States to undertake measures to account and secure the sensitive (related) materials, in any situation, including production, use, storage and transport.

To reduce vulnerability at the destination, Resolution 1540 requires States to enforce effective border control (customs) measures and law enforcement efforts, not excluding international cooperation in this respect. These measures are mainly composed of detection and counter-proliferation.

To reduce vulnerability during the transaction, the resolution requires the establishment of export controls, affecting both the legal process of issuing export authorisations (export control regulations) and the physical movement of sensitive materials through ports or airports during transfer or re-export. It also requires controls to be established on possible means of support, such as the provision of funds and services (finance, logistics, transport), and on the end users.

It should be noted that the resolution was adopted under Chapter VII, which enables the Security Council to use military force to require the implementation of the resolution. This possibility has caused political concern

in some States, in view of the military action taken in Iraq to destroy the WMD programme of Saddam Hussein⁶. In consequence, a cooperative approach has been adopted to facilitate requests for assistance and to promote interministerial action. As a result, the actions of the 1540 Committee are very largely based on cooperation and dialogue⁷.

The evolving threat: new challenges in the proliferation of weapons of mass destruction

Globalisation has brought about undeniable benefits to society for the development and advancement of science, technology and industry. However, it has also led to new limitations being placed on Resolution 1540.

By its very nature, globalisation has led to a diffusion of scientific and technological knowledge, facilitating the movement of scientists, increasing the number of research centres and dispersing traditional sources of scientific and technological development. This trend has converged with that of ever-increasing exchanges of experts and the difficulty of controlling information technology, thereby increasing the difficulty of identifying the origin of a proliferating activity.

The acquisition of know-how is internationally recognised as a vital aspect of proliferation, due to the increasing difficulty of obtaining goods with which to develop and manufacture WMD, as the result of sanctions and/or arms control regimes. Therefore, proliferators sometimes decide to manufacture these products for themselves. However, to do so, they must first have the necessary knowledge, which can be acquired through study programmes and training projects for students and scientists in countries possessing the technology, as well as at conferences and seminars where they can have the opportunity to interact with other scientists⁸. Furthermore, advances in industrial production and miniaturisation procedures make it easier to break down traditional weapons systems into dual-use devices⁹, thus hampering detection and tracking¹⁰.

6 In relation with the invasion of Iraq, from 20 March to 1 May 2003, under the justification of combating a covert WMD programme.

7 Bosh, Olivia, "A legislative evolution, Security Council resolution 1540 revisited", pp. 110-111.

8 Fluxá, María, "¿Estudiantes iraníes o espías para desarrollar armas de destrucción masiva?" [Iranian students or spies seeking to develop weapons of mass destruction?] *El Mundo*, 17 June 2015.

9 Dual-use materials are goods, software and technology that can be used for both civilian and military purposes, or contribute to the proliferation of WMD.

10 Meier, Oliver & Iris Hunger, "Between Control and Cooperation: Dual-Use, Technology Transfers and the Non-Proliferation of Weapons of Mass Destruction", *Deutsche Stiftung Friedensforschung*, 2014, at: <http://www.bundesstiftung-friedensforschung.de/images/pdf/forschung/berichtmeier.pdf>.

In addition, globalisation has led to multinational companies shifting production to developing countries, where security and export control standards may vary considerably. Therefore, States without WMD or its associated technologies may still serve as points of transfer or transit.

The evolution of science is not homogeneous, nor are the scientific fields isolated. Thus, disciplines such as biology and chemistry are converging and there are an increasing number of grey areas where non-proliferation treaties have no mandate to implement their provisions¹¹. Similarly, other innovative developments in science and technology, such as nanotechnology or the use of big data at ever-greater processing speeds, make it possible to design new toxic substances with less risk, thus contributing to uncertainty about how effectively multilateral treaties and agreements can keep up with science¹².

Moreover, although trade in strategic goods is subject to control at both the national level (to prevent sensitive materials from being exported to undesirable destinations) and internationally (to harmonise export criteria), the current flexibility and interconnection of the intermodal transportation allows traffickers to exploit the advantages of transshipments to evade national and international non-proliferation controls¹³.

It is also important to consider the mutability of trafficking networks, which often adapt and alter their procedures in order to evade international control measures. Current trends in proliferation are based on increasingly complex deception operations to be used to avoid detection and thus circumvent national and international controls. Proliferators have developed purpose-built native programmes based on dual-use technologies, and make use of networks with multiple layers of intermediaries, front companies and financial institutions. In most cases, illegal actions are combined with legitimate

11 Ralf Trapp, Convergence at the Intersection of Chemistry and Biology—Implications for the Regimes Prohibiting Chemical and Biological Weapons, Biochemical Security 2030 Policy Paper Series, No. 6 (July 2014), <https://biochemsec2030dotorg.files.wordpress.com/2013/08/trapp-paper-6-online-version.pdf>. See also: Convergence of Chemistry and Biology: Report of the Scientific Advisory Board's Temporary Working Group (The Hague, The Netherlands: Organization for the Prohibition of Chemical Weapons, June 2014), available at: https://www.opcw.org/fileadmin/OPCW/SAB/en/TWG_Scientific_Advisory_Group_Final_Report.pdf.

12 *Report of the Scientific Advisory Board on Developments in Science and Technology for the Third Special Session of the Conference of the States Parties to Review the Operation of the Chemical Weapons*. Organization for the Prohibition of Chemical Weapons, 29 October 2010. Available at: https://www.opcw.org/fileadmin/OPCW/CSP/RC-3/en/rc3dg01_e_.pdf.

13 Van Heuverswyn, Kathleen and Nils Duquet, "Transit of strategic goods in Europe: A comparative analysis of policy on the transit of strategic goods in Belgium, France, Germany, the Netherlands and the United Kingdom", *Flemish Peace Institute Report*, August 2013.

economic activities, such that manufacturers, financial institutions, insurance companies and transport companies become involuntarily involved¹⁴.

Finally, according to some analysts, WMD are more likely to be used by terrorists than by States. The main concern, then, becomes that of determining how the spread of WMD technologies might increase the capabilities of small groups and even lone-actors, whose motivations and actions are less subject to prediction and control, to acquire and use the technologies of mass destruction, even if disclosure of the requisite know-how takes place unintentionally¹⁵.

Weaknesses in implementation of the resolution

International efforts to combat the proliferation of WMD, including the fight against terrorism, are based on a complex, interacting network of programmes, legal instruments and initiatives. These efforts include treaties and conventions, export controls regimes, the security of nuclear material, biosecurity and chemical safety. The objectives and principles are shared, but mandates, implementation structures and obligations differ widely. This multiplicity of parallel initiatives can produce confusion, dispersion of efforts and possible inconsistencies in implementation.

Another feature of Resolution 1540 is that it leaves it up to the States how they should implement their obligations. In other words, each State adopts the laws and establishes the control measures appropriate to its national procedures. This transfer of responsibility means that different States, with different security protocols, implement the resolution in a more or less rigorous way, resulting in a non-uniform and heterogeneous implementation, at global, regional and national levels.

Furthermore, the resolution does not include any measure for international verification, or penalties for issues related to the inconsistent implementation of obligations or for delays in submitting the national report, unlike other non-proliferation treaties such as the Chemical Weapons Convention, compliance with which is verified by a system of inspections conducted by the Organization for the Prohibition of Chemical Weapons (OPCW), or the Safeguards Agreement, which is verified by the International Atomic Energy Agency (IAEA) in accordance with the Treaty on the Non-Proliferation of Nuclear Weapons.

14 UN Security Council, *Report to the Security Council from the Panel of Experts established Pursuant to Resolution 1874 (2009)*, S/2014/147, 6 March 2014. See also: General Intelligence and Security Service (AIVD), "Proliferation of weapons of mass destruction. Risks for companies and scientific institutions", July 2003, available at: <https://fas.org/irp/world/netherlands/wmdrisks.pdf>.

15 Caves, John P. Jr., & W. Seth Carus, "The Future of Weapons of Mass Destruction: Their Nature and Role in 2030", *Center for the Study of Weapons of Mass Destruction Occasional Paper*, No. 10, June 2014.

In addition, proliferation has cross-cutting effects on different State actors and structures, whose vulnerability is influenced by newly-arising factors such as dependence on new communication technologies in infrastructure management (cybersecurity) or the global characteristics of logistics, transport or trade, which can hamper the monitoring and control of economic transactions¹⁶.

In general, government institutions tend to respond slowly, weighed down by bureaucracy, and are less well equipped to identify the risks posed by advances in science and technology with respect to the proliferation of WMD. This situation is aggravated by the fact that Resolution 1540 addresses a wide range of technical and scientific fields.

Various authors have emphasised the need to adopt an approach that goes beyond the whole-of-government approach, extending it to achieve collaboration among national governments, international and regional organisations and less traditional actors such as the private sector. Civil society must also be significantly involved, in an approach that has been termed whole-of-society¹⁷.

However, although there are no precise data in this respect, and despite the fact that UNSCR 1540 is designed to protect civil society, there appears to persist a general lack of awareness among civil society, the industry and the scientific community regarding this resolution and the potential risks of proliferation.

Opportunities for an integrated, comprehensive and coordinated approach

The proliferation of WMD, with the support of illicit trade, is a complex issue spanning many fields – scientific, technical, security and legislative – and affecting a variety of State structures. In parallel, Resolution 1540 addresses a wide range of responsibilities in diverse areas, ranging from customs control to dialogue with civil society. Moreover, the global nature of the phenomenon and of society today means that no government can solve the question alone; international coordination is required, both with other States and with global, regional and subregional organisations in the framework of international commitments to combat proliferation.

16 Sassen, Saskia, "Losing Control? The State and the New Geography of Power", GLOBAL DIALOGUE, Volume 1, Number 1, Summer 1999. Available at: <http://www.worlddialogue.org/content.php?id=23>.

17 Finlay, Brian, "Meeting the Objectives of UN Security Council Resolution 1540: The Role of Civil Society", Stimson, December 2012. Available at: http://www.stimson.org/images/uploads/research-pdfs/finlay_2.pdf. See also, "Strengthening WMD Security: A "Whole of Society" Approach", policy dialogue brief Critical thinking from Stanley Foundation Conferences, http://www.stanleyfoundation.org/publications/pdb/SPC_WMD122011.pdf.

This multiplicity of areas and responsibilities, at the same time, provides an opportunity to improve mechanisms of interministerial coordination and to strengthen capacities in different areas featuring common goals, such as detecting other types of illicit trafficking, controlling illegal financial transactions or promoting interactions with industry and academia on security issues.

It is therefore essential to formulate a strategic approach that takes into account the priorities of different government departments and to design strategies for action that are suited to their corresponding needs and capacities. In addition, the standpoint of civil society must be taken into account and measures to address this dimension of the threat of WMD must be integrated and coordinated.

On the basis of these considerations, a strategic document must be drafted, setting out either a strategy to combat the proliferation of WMD, as proposed by the European Union and others¹⁸, or otherwise a National Plan for the full implementation of Resolution 1540, containing a battery of measures to combat the proliferation of WMD.

The adoption of a National Action Plan could also create opportunities for improvement in other government areas, which would benefit from the full implementation of the 1540 Resolution. Thus, in Spain, and on the basis of the seven main goals of the National Action Plan for the full implementation of Resolution 1540, approved by the National Security Council¹⁹, the following additional benefits can be observed:

- Complete development and updating of the regulatory framework: this includes the creation of legislation, both regarding the obligations already included in the international legal framework against proliferation and to reinforce the national system against the proliferation of illicit weapons and to combat illegal trafficking and financing for terrorist purposes.
- Physical protection of critical facilities: enhancing the protection of vital facilities not only means improving security against the potential diversion of materials and against trafficking, but also increasing physical protection against direct attacks on the physical integrity of the installation.
- Controlling transfers of sensitive and dual-use material, as well as strategic assets, including intangible transfers. There is known to be a clear link between illicit trafficking and transnational organised crime. Criminal organisations are attracted to the lucrative profits of illegitimate

18 Council of the European Union, Document 15656/0, “*EU strategy against proliferation of Weapons of Mass Destruction*”, 10 December 2003. Also in the USA: *National Strategy to Combat Weapons of Mass Destruction*, December 2002, and in the UK: *National Counter Proliferation Strategy*, 23 March 2012.

19 Approved by the Spanish National Security Council (CSN) on 24 April 2015. Available at: <http://www.un.org/en/sc/1540/national-implementation/pdf/Spain-action-plan.pdf>.

trade in goods of any kind, including weapons, sensitive materials and drugs, both regionally and worldwide. Experience in the control of transfers of strategic material, such as checklists for sensitive materials, can be extrapolated to control other special materials, such as drugs precursors or explosives.

- The protection of sea, land and air transport, together with effective border control, is of vital importance to the global economy of modern societies, in particular due to the increased presence of multimodal transport²⁰.
- Intervention and response mechanisms. Resolution 1540 does not set out obligations or recommendations for intervention and response should any incident occur. However, State capabilities may still be improved in this area, as the response to the intentional use of WMD, as part of a terrorist attack, bears many similarities to the necessary response to an accidental catastrophic event.
- International cooperation and capacity building. In addition to cooperation through the traditional international non-proliferation organisations mentioned above (OPCW and IAEA), cooperation can be strengthened with international organisations in the fields of transport and trade, such as the International Maritime Organization, the International Air Transport Association and the World Customs Organization, as well as the International Financial Action Group, which works to combat the financing of illicit activities.
- Measures for strategic communication. Finally, any strategy of non-proliferation must also involve private industry, an area whose collaboration, voluntary or otherwise, is essential to proliferating activities. Thus, companies may act as manufacturers, innovators, carriers or providers of services such as insurance or finance, in particular, and it must be borne in mind that in today's globalised world, logistics and supply chains are shared by both legal and illegal forms of commerce. Similarly, a heightened awareness among scientific, academic and financial institutions would impede or prevent the transfer of WMD knowledge and skills to wrongdoers. Accordingly, social institutions must accept greater responsibility for WMD security-related issues.

Conclusions

As we have seen, the main strength of Resolution 1540 is the strategic nature and the breadth of its obligations, together with the collaborative approach that it promotes. These characteristics make the resolution a solid, well-

²⁰ International multimodal transport is the transfer of goods from one country to another using more than one mode of transport (road, rail, air, sea or river) and without any load break. Spanish Chamber of Commerce, Industry, Services and Navigation Export Plan. Available at: <http://www.plancameral.org/web/portal-internacional/informacion-comercio-exterior>.

designed instrument. Accordingly, from the structural standpoint, no major improvements are required. However, new patterns of proliferation, arising from the evolution of science and technology, together with the adaptability of proliferators and the transfer of new industrial centres to countries with lower safety standards, all present new threats to the effectiveness of Resolution 1540.

In particular, we have ascertained that the main weaknesses in its implementation reside in the multiplicity and parallelism of initiatives and non-proliferation regimes, which facilitate confusion, the dispersion of efforts and possible inconsistencies. In addition, State-level responsibility in determining how the resolution is applied can produce irregularities in its implementation, which are reflected at global, regional and national levels. Furthermore, the problem of heterogeneous implementation cannot readily be overcome, due to the absence of an international verification regime for Resolution 1540 that would establish mechanisms to promote compliance. Another problem is that proliferation has cross-cutting effects on different actors and State structures, whose vulnerability is compounded by the current reliance on ICT. As a result, the whole-of-government approach is starting to become outdated, and should give way to a whole-of-society focus in which the private sector and civil society also play a major role.

On the other hand, the multiplicity of areas and responsibilities addressed by the resolution constitutes an opportunity for us to improve mechanisms of interministerial coordination and to strengthen national capacities in areas with common goals and objectives, such as the detection of other forms of illicit trafficking, the control of illegal financial transactions and interaction with industry and academia on security issues. If this is to be achieved, there must be an integrated, comprehensive and coordinated approach, the end product of which will be a strategic document, ideally a Strategy to combat the proliferation of WMD or, failing that, a National Action Plan for the full implementation of Resolution 1540, setting out detailed measures for combating the proliferation of WMD.

We have also identified numerous opportunities by which a National Action Plan for the implementation of Resolution 1540 could enhance State action in other areas of national security, based on the current Spanish National Action Plan, approved by the National Security Council in April 2015.

In summary, the creation and implementation of a National Action Plan for the full implementation of Resolution 1540 is not only an essential State mechanism for promoting the full implementation of the resolution in response to the new challenges posed by the proliferation of WMD, but it may also provide a means of facilitating the uniform implementation of the resolution worldwide, in the absence of an international mechanism in this respect, as well as benefitting other areas of national and international security.

Resolution 1540: Summits and other international initiatives on nuclear security

Fernando Borredá Juste and Juan Blázquez Martínez

Introduction

The threat of the use of weapons of mass destruction (WMD) by non-State actors has led to the UN Security Council passing various resolutions in this respect. In particular, Resolution 1540 (2004), aims to mitigate the risk of non-State actors obtaining WMD by means of illicit trafficking networks that might facilitate weapons or the materials needed to manufacture them.

The threat addressed by Resolution 1540 is produced in four technological fields: nuclear, biological, chemical and means of delivery. The threat is an evolving one, as agents and technologies change, and therefore it is appropriate to review and update Resolution 1540 at this stage, halfway through its period of validity. Accordingly, and as stipulated in Resolution 1977 (2011) this comprehensive review is taking place in 2016.

The purpose of the present document is to conduct a strategic analysis of the current global architecture of nuclear security in order to draw conclusions that may be useful to the review process of Resolution 1540 and to improve its implementation and effectiveness.

Currently, there is no global nuclear security regime in force that contains binding rules. However, there are certain instruments that constitute a general architecture of nuclear security and which can provide experiences and lessons on how to improve the implementation of Resolution 1540.

Among other questions, the following must be considered: what aspects of the current global nuclear security architecture could be reflected in the review process, and how should international organisations adapt to new realities? Since some of the nuclear security initiatives that have been taken, such as the Nuclear Security Summit and the Global Partnership, have political support at the highest level, what strategic issues could be highlighted for inclusion in the review process?

Investigations into the recent attacks in Belgium show that the risk of nuclear terrorism is real, and that its consequences are devastating¹.

The best known reference for WMD is the atomic bomb dropped on Hiroshima in 1945, which caused around 200,000 civilian casualties. Another reference is the 2011 tsunami in Japan, which caused 15,893 deaths and provoked a nuclear accident in the Fukushima Daichi power station. The latter case parallels what might occur if a 'dirty bomb', or radiological dispersion device, were employed. There was only one death, but the social disruption was enormous. The economic consequences were also very considerable, and the costs of decontamination and compensation to victims are estimated to reach 250 billion dollars, or about 2% of Japan's GDP².

With respect to the broader outcomes of a nuclear catastrophe³, many studies have been made of the consequences of the nuclear winter which would follow a massive exchange of nuclear bombs. It is estimated that there would be up to three billion human casualties, and because of the opacity to sunlight caused by the dust raised by each explosion, the environmental damage would be incalculable. Although the so-called 'nuclear autumn', corresponding to a regional conflict between Pakistan and India, is considered more likely and less harmful, the human victims would still number two billion worldwide⁴.

The above examples demonstrate that the nuclear threat has certain special characteristics:

- It is the greatest conceivable threat. Civilisation itself is at risk.
- Mitigating the consequences is very expensive
- It is difficult or impossible for non-State actors to control.

1 Milan Schreuer and Rubin Alissa, "Video Found in Belgium of Nuclear Official May Point to Bigger Plot", The New York Times, 18 February 2016. Available at: <http://www.nytimes.com/2016/02/19/world/europe/belgium-Nuclear-official-video-paris-attacks.html>.

2 Star, Steven, "Costs and Consequences of the Fukushima Daiichi Disaster", *Environmental Health and Policy Institute*, Physicians for Social responsibility, Available at: <http://www.psr.org/environment-and-health/environmental-health-policy-institute/responses/costs-and-consequences-of-fukushima.html>.

3 Sagan, Carl and Turco Richard, *A Path Where No Man Thought: Nuclear Winter and the End of the Arms Race*. Random House. 1990.

4 Helfand, Ira, "Nuclear famine: two billion people at risk?" Physicians for Social Responsibility, 2012. Available at: <http://www.ippnw.org/pdf/nuclear-famine-two-billion-at-risk-2013.pdf>.

Therefore, the international community must make every effort to create an architecture of nuclear security, through international initiatives and the efforts of international organisations, such as:

- The United Nations Organization
- Nuclear security summits
- The International Atomic Energy Organization (IAEA)
- Interpol
- The Global Initiative to Combat Nuclear Terrorism (GICNT)
- The Global Partnership against the spread of weapons and materials of mass destruction (GP).

The United Nations Organization (UN)

The UN is the international organisation par excellence, and little can be done without its support. It facilitates cooperation on issues such as international law, peace and international security, economic and social development, humanitarian affairs and human rights.

From the standpoint of international security, the UN has limited authority, as its internal structure privileges the powers that were victorious in World War II, which can exercise the right of veto in the Security Council, compared to all other States. In consequence, its resolutions are not always followed. Nevertheless, the UN, through the provisions contained in Chapter VII of its Charter, is empowered to legitimise measures such as sanctions and economic blockades in order to defend international security.

In terms of peacekeeping, diplomatic solutions are preferred to war. However, as regards security, the existence of non-State actors, who may ignore UN Security Council resolutions, must be taken into account. Can the UN respond adequately to 'asymmetric' threats? The revision of Resolution 1540 will make this instrument more effective only if it acknowledges that the world today is quite different from the one that emerged from World War II.

One of the main weaknesses of the present system is that there is no global nuclear security regime in force that contains binding rules to mitigate the nuclear risk. However, some instruments are particularly relevant to nuclear security in the UN context.

- International conventions and protocols against terrorism, particularly nuclear terrorism, such as the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) and the Convention for the Protection of Nuclear Material (CPPNM), including Amendment 2005 on protection against nuclear terrorism⁵.

⁵ The Convention for the Protection of Nuclear Material was adopted in 1980 and came into force in 1987. An Amendment passed in 2005 extended physical protection to measures to protect against nuclear terrorism. Spain ratified this Amendment in 2007. By Febru-

- UN Security Council resolutions, particularly Resolution 1540 (2004) and Resolution 1887 (2009)⁶.
- Resolutions adopted by the UN General Assembly on measures to prevent terrorists from acquiring WMD and radioactive sources⁷.

The existence of these instruments indicates there is some awareness of the problem of nuclear security. However, a great failing at present is the lack of universal implementation. Although they are legally binding, UN Security Council resolutions are not comprehensively and universally implemented, due to reasons of political legitimacy⁸. Implementation of the conventions is limited because they have not entered into force or because they only commit the States party to them. Therefore, other international initiatives have been developed, seeking to be more dynamic than the UN ones and to overcome their perceived weaknesses. One such initiative is the system of nuclear security summits.

The system of nuclear security summits

The system of nuclear security summits (NSS) is the outcome of an initiative by the United States. NSS are held every two years. The first took place in Washington in 2010 and laid the foundations of the system. At this summit, the participating States undertook to improve nuclear security, to communicate the progress made in this field and to commit themselves to new targets, for review at the next summit⁹.

The next summit was held in Seoul in 2012. It is significant that North Korea has not signed the Treaty on the Non-Proliferation of Nuclear Weapons, and that the Fukushima accident happened a year before this Summit. Among the resolutions passed¹⁰:

- The existence of a nuclear threat by non-State actors, and the need to combat it, were recognised.
- States were assigned the primary responsibility for doing so, and this should be made manifest in their legislation.

ary 2015, 84 of the 148 States had accepted or ratified the Amendment. However, it has not entered into force as the approval of two thirds of the UN Member States is needed for this.

6 UN Security Council, S/RES/1887, 24 September 2009.

7 UN General Assembly, "Measures to prevent terrorists from acquiring weapons of mass destruction", A/RES/57/83, 9 January 2003 and "Preventing the acquisition by terrorists of radioactive sources", A/RES/67/51, 3 December 2012.

8 Bianchi, Andrea, "Assessing the Effectiveness of the UN Security Council's Anti-terrorism Measures: The Quest for Legitimacy and Cohesion", *Oxford Journals, European Journal of International Law* Volume 17, Issue 5, pp. 881-919.

9 Nuclear Security Summit, *Communiqué of the 2010 Washington Nuclear Security Summit and Working Plan of NSS 2010*. Available at: <http://www.nss2016.org/past-summits/2010/>.

10 Nuclear Security Summit, *Seoul Communiqué 2012 Seoul Nuclear Security Summit*, Available at: <http://www.nss2016.org/past-summits/2012/>.

- A new pillar, nuclear security, was added to those already required of nuclear energy, namely peaceful use, disarmament and non-proliferation.
- The IAEA was assigned a major role in combating the nuclear threat. The resolution emphasised the need to strengthen this Agency's role in ensuring physical security, an area which had, hitherto, received far fewer resources than that of documentary security (*Safety*).

The next Summit took place in The Hague in 2014. This event coincided with the tenth anniversary of Resolution 1540. Among other significant outcomes, the Chair of the 1540 Committee proposed recommendations in support of the NSS¹¹, and a Joint Declaration was made, committing the signatories to strengthen Resolution 1540¹². In addition, note was taken of the emergence of new, non-State actors, such as the Islamic State, highlighting the need to adapt the resolution to changing times.

The main recommendations of the NSS are summarised in the following ten points:

- Create a global nuclear security architecture, taking into account the UN resolutions, both those of the General Assembly and of the Security Council. This architecture should also consider the Convention on Nuclear Security and the Convention on the Physical Protection of Nuclear Materials (PPNM), in particular the 2005 PPNM Protocol, and the International Convention for the Suppression of Acts of Nuclear Terrorism. The architecture should recognise the usefulness of international initiatives such as GICNT and GP.
- Strengthen the role of the IAEA. Urge States to contribute to a special fund for enhancing nuclear security.
- Transform highly enriched uranium (HEU), which is used to obtain nuclear weapons, into low enriched uranium (LEU), for use in nuclear reactors to generate electricity, thus reducing inventories of proliferating materials.
- Enhance the management of radioactive sources. There have been cases of theft of radioactive sources, and many are known to be "orphaned", i.e. abandoned with no responsible management. This material, in the wrong hands, could be used to create dirty bombs.
- Improve the security/safety ratio. 'Safety' means protecting persons from radiation, while 'security' refers to protecting radioactive sources from persons. In general, many more resources are allocated to safety

11 Statement by the Chair of the UN Security Council at its 7169th Session, on 7 May 2014, considering the issue of "Non-proliferation of weapons of mass destruction", on the tenth anniversary of the adoption of UNSC Resolution 1540 (2004).

12 Nuclear Security Summit, *Joint Statement on Promoting Full and Universal Implementation of United Nations Security Resolution 1540*. 2014 Nuclear Security Summit at The Hague. Available at: <http://www.nss2016.org/2014/giftbaskets>.

than to security. States are urged to include security criteria in future designs of nuclear-related facilities.

- The role of Interpol in combating illicit trafficking of nuclear materials, and in assuring security during the transport of such materials, is recognised. The transport of radioactive waste to centralised deposits will become increasingly common, and therefore in addition to safety measures, security aspects will also have to be considered.
- Development of nuclear forensic techniques. These techniques are similar to traditional forensic ones, but are applied to nuclear fuel. They are used to identify the origin of the uranium or plutonium that has been used in a nuclear attack. Their application is national in scope, as there is no facility to analyse uranium from other countries. The results obtained are then entered into a database to characterise the national stock of nuclear fuel.
- To promote the culture of nuclear security. This point links directly with Resolution 1540, but does not specify how such a culture is to be promoted and at what cost.
- To ensure, within each State, cyber aspects corresponding to information on nuclear material. This question is of increasing importance, because proper control will enable us to identify which nuclear materials are the most vulnerable to illicit trafficking.
- To promote international cooperation. In this respect, international organisations play a crucial role. It should be remembered that not all States possess the same level of technology, and that the lower the level, the greater their vulnerability. For this reason, countries are recommended to cooperate in areas such as radiation detection by the Customs Service and in forensic techniques, and procedures for mitigating the consequences of any attack.

One of the weaknesses of the current NSS concerns its sustainability, in particular ensuring that participation continues to be at the highest level, as has been the case since the Washington Summit. Therefore, it is envisaged that the Washington Summit 2016 will be the last of the NSS, and will mark the beginning of a period of transformation to consolidate achievements and to transfer the understanding acquired to a global architecture of nuclear security.

To achieve concrete benefits from the work done in the NSS, Action Plans will be developed within five organisations or initiatives that play a significant role in the architecture of nuclear security: UN, IAEA, Interpol, IGTN and GP.

Taking into account the basic recommendations of the NSS, it will then be necessary to identify which international organisations are best suited to carry them out, and how this might affect the review of Resolution 1540.

The International Atomic Energy Agency

This international organisation, which forms part of the UN, has the technical capability and the resources to lead the project by which an effective nuclear security architecture will be constructed. One of the most important functions of the IAEA is its work to safeguard nuclear material, inspecting nuclear reactors throughout the world. In recent years, the Agency has been very active, for example in performing inspections of centrifuges in Iran, part of this country's programme to produce highly enriched uranium.

However, by the constraints of its mandate, the IAEA has many more resources dedicated to safety than security. Modifying this mandate would require the approval of its General Conference. Otherwise, if appropriate, the UN Security Council might incorporate into the IAEA mandate elements that would allow more effort to be devoted to questions of security. For example, a revised Resolution 1540 could recommend the reinforcement of activities dedicated to this issue.

From the strategic standpoint, the existence of asymmetrical threat is actually a great opportunity for the IAEA, as this Agency is one of the best-equipped bodies, technically, to address such a threat. The IAEA has published a series of technical documents on nuclear security, and also offers courses and organises meetings at which participating States can usefully exchange ideas.

Perhaps a weak point of this collection is that it does not include an economic interface, as States' implementation of these nuclear security guidelines is likely to be very uneven. Resolution 1540 could recommend that the IAEA should publish a document setting out the basic minimum requirements to ensure nuclear security, accessible to all States.

This institution plays a commendable role in the divulgation of nuclear forensic techniques and in the classification of radioactive sources. In this respect, see particularly its Series 2 documents, "Nuclear Forensics Support".

CTBTO, a complementary agency to the IAEA, is responsible for monitoring signatory States' compliance with the rules of the Treaty on the Non-Proliferation of Nuclear Weapons. This agency has reported that, between 1945 and 1996, around 2,000 nuclear bombs were detonated; of these, over 1,000 corresponded to the United States, more than 700 to the former Soviet Union, more than 200 to France and 45 each to the UK and China. Later, in 1988, India and Pakistan also detonated devices, as did the Democratic Republic of Korea, in 2006, 2009, 2013 and 2016.

If there were a new nuclear test at any point on the planet, the CTBTO would almost certainly detect it. However, this monitoring system is not suitable for detecting dirty bombs, an event, moreover, that is much more likely to occur.

Interpol

The existence of illicit trafficking in nuclear material is well proven, and the number of incidents reported to the IAEA incidents and traffic of nuclear materials database (ITDB), involving the loss or theft of material, has increased steadily since the late 1990s. Incidents reported to the ITDB show that problems persist regarding illicit trafficking of radioactive and nuclear material, together with thefts, losses and other unauthorised activities.

As at 31 December 2014, the ITDB contained a total of 2,734 confirmed cases reported by the participating States. Of the 27,341 confirmed incidents, 442 involved unauthorised possession and related criminal activities, 714 involved theft or loss and 1,526 involved other unauthorised activities and events. In the remaining 86 cases, the information presented was not sufficient to determine the category of incident¹³.

Interpol has a specialised unit in this area, called the Radiological and Nuclear Terrorism Prevention Unit, which provides instruction and information on the issue to the 190 States of the organisation. The training given is biased more towards radiological than nuclear hazards, because a dirty bomb is much more likely to be experienced. In addition, “tabletop” exercises are organised, i.e. discussions at which participants attempt to reach creative solutions to a case study.

However, Interpol needs nuclear forensic techniques in its investigations; therefore, Resolution 1540 could help it by encouraging States to develop these techniques. It should be remembered that, in this context, the ultimate aim of Interpol is to bring illicit traffickers of nuclear material to justice, and to this end forensic evidence is one of its major assets.

The Global Initiative to Combat Nuclear Terrorism

The difficulties that international organisations face in reacting quickly to the challenges of asymmetric threat can be offset by means of dynamic initiatives, which some countries have introduced. Such is the case of the Global Initiative to Combat Nuclear Terrorism (GICNT), sponsored by the United States and Russia, which has since been joined by many other States¹⁴. Although, strictly speaking, it is not an international organisation, its activities are explicitly recognised by the NSS. These activities are divided into three main areas: detection, nuclear forensics and mitigation.

13 International Atomic Energy Agency, “IAEA INCIDENT AND TRAFFICKING DATABASE (ITDB) Incidents of Nuclear and other radioactive material out of regulatory control”, 2015 *Fact Sheet*. Available at: <http://www-ns.iaea.org/security/itdb.asp>.

14 To date, 86 States have subscribed to the Declaration of Principles, participate actively and contribute to the mission of the Initiative. Available at: <http://www.gicnt.org/partners.html>.

Detection is a very important aspect of Customs Service activities to combat illicit trafficking in nuclear materials. GICNT extends the concept of detecting ionising radiation to the concept of "Detection architecture", which, apart from the actual detection, addresses questions such as awareness-raising, training, table-top exercises, evaluation and sustainability. Moreover, guidance documents are published as a summary of its activities. In the GICNT exercises, meetings are organised between representatives of various States and teams are formed to resolve (or provide practical solutions to) hypothetical but plausible problems. The teams are interdisciplinary, but have a leader and their performance is evaluated by observers.

The approach taken to mitigation is quite conventional, but awareness of this issue requires there to be teams prepared for this purpose, for example with specialised police, appropriate emergency hospitals and scientists with expertise in land recovery.

The area of nuclear forensics is perhaps the weakest aspect of GICNT. It is not easy to convince suppliers of uranium to share their databases without reward. Although the scientific discipline of nuclear forensics could usefully learn from IAEA publications, its practical application requires specialised laboratories. During the Cold War, such laboratories were highly operational, but many researchers have since retired and replacements have been hard to find. The revision and correct implementation of Resolution 1540 could help overcome these weaknesses, recognising the work done by the GICNT and encouraging States to preserve their nuclear forensics capabilities.

Global partnership against the spread of weapons and materials of mass destruction

The Global Partnership (GP) came into being at the G8 summit in Kananaskis (Canada), in 2002. It was assigned a budget of 20 billion dollars for ten years of operation. Gradually, more States have joined GP, and now it has 24 partners with a budget of 21 billion dollars. At the Deauville summit, in 2011, the initiative was extended beyond 2012, when it was originally scheduled to expire¹⁵.

The following areas are addressed by the GP: radiation and nuclear security; biosecurity; recruiting scientists; and facilitating the implementation of Resolution 1540, in particular as regards providing equipment, expertise and training. Moreover, on request, GP partners could provide assistance to other countries that wish to enhance their counterterrorism and non-proliferation capabilities, in order to comply with their obligations under Resolution 1540, but currently lack the ability to do so¹⁶.

15 US Department of State, "G8 Global Partnership - Assessment and Options for Future Programming" <http://www.state.gov/t/isn/184761.htm>.

16 *G8 Declaration Renewed Commitment For Freedom And Democracy*, G8 Summit of Deauville - May 26-27, 2011. Para. 78.

The mode of operation is to sponsor projects on these issues, and to provide technical assistance and coordination to the participants; hence, the interest in recruiting scientists. More specifically, the following aims are addressed:

- Improve the accounting and physical protection of nuclear materials.
- Emphasise security with respect to CBRN.
- Destroy approximately 20,000 tonnes of chemical weapons.
- Decommission nuclear submarines, and safely store reactor fuel elements.
- Prevent illicit trafficking of nuclear and radiological materials.
- Improve customs capabilities to detect nuclear and radiological materials.
- Recruit scientists to maintain WMD prevention capabilities.
- Develop methods for the peaceful use of materials employed in WMD.

It can be observed that the GP is very much in line with Resolution 1540, and has sufficient funds to meet its objectives. It has understood better than other initiatives that projects to maintain scientific knowledge in these areas must be organised. In the revised Resolution 1540, perhaps States should be recommended to use these funds and improve coordination among themselves, as many of the goals overlap.

Conclusions

The current NSS system is undergoing a period of transformation to consolidate its achievements and to transfer its experiences in order to create an overall architecture of nuclear security. The Comprehensive Review of Resolution 1540 could make good use of this situation to promote action by international organisations and initiatives to strengthen the global architecture of nuclear security. The following specific recommendations are made for the review.

- Improve the security/safety ratio in international organisations; to this end, the UN Security Council could invite these organisations to incorporate elements of Resolution 1540 into their work programmes and to report back to it on the level of implementation achieved.
- Recommend the IAEA to publish a series of nuclear security guidelines adapted to States with limited resources.
- Promote the role of the IAEA as a reference organisation for security.
- Promote inter-State cooperation in the acquisition and use of nuclear forensic techniques.
- Promote inter-State cooperation to improve the management of radioactive sources, via international organisations.
- Recommend the States to provide research centres with the means to update nuclear forensic techniques.
- Explicitly recognise the work of the GICNT and GP.
- Promote the full implementation of Resolution 1887 (2009).

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- Promote the universality and full implementation of the ICSANT.
- Promote universal adherence to the CPPNM (or, as appropriate, its ratification), with particular regard to its 2005 Amendment.
- Promote the issue of nuclear security within the UN General Assembly.

In summary, the revision of Resolution 1540 provides a unique opportunity to strengthen the global architecture of nuclear security, providing a framework for international organisations to adapt to new realities and addressing strategic aspects derived from high-level international initiatives on nuclear security.

The biological threat, non-State actors and biosecurity

Rafael Pérez Mellado

Introduction

The international community, resolved to completely exclude the possibility of bacteriological agents and toxins being used as weapons, adopted the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (BTWC), which was signed in London, Moscow and Washington on 10 April 1972. Spain ratified the Convention on 1 June 1979.

In the same vein, the UN Security Council, concerned about the threat of terrorism and the risk that non-State actors might acquire, develop or use nuclear, chemical and biological weapons, or traffic them, adopted Resolution 1540 on 28 April, 2004. Thus, UNSC Resolution 1540 urges all States to take effective measures to prevent WMD terrorism, including biological terrorism.

Every sovereign State has the responsibility to maintain its national security with respect to biological agents, in what is known as biosecurity. The main goal of biosecurity is to strengthen security in all areas related to biological materials, agents and facilities and associated activities, assuring the custody, storage and transportation of such materials and agents. Effective biosecurity would reduce illicit trafficking underpinning an appropriate response to biological incidents, whether natural, intentional or accidental.

Outbreaks of zoonotic viral disease such as avian flu, severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome coronavirus (MERS-CoV)^{1, 2, 3, 4}, which all have similar symptoms, together with the recent epidemic of Ebola virus in West Africa^{5, 6}, have significantly increased concerns about the potential use of biological agents as weapons of mass destruction. The level of terror produced by an epidemic or a pandemic is an added element favouring terrorists' decision to use biological weapons.

Among WMD, biological weapons are the only ones for which no verification regime has been agreed to by all States Parties of the BTWC. Nor is there an international authority to ensure proper compliance with the BTWC at the national level. The absence of a verification protocol to the BTWC means that biological weapons are the easiest to acquire and to be used by non-State actors and by States that support terrorist organisations.

These deficiencies at the international level make sovereign States even more responsible for designing and establishing measures at the national level to appropriately implement UNSC Resolution 1540. Specifically, in the European Union, each Member State has committed itself to take measures to completely exclude the possibility of biological agents being used as weapons.

The purpose of the present document is to illustrate the need for a biosecurity regime to be established as an instrument to facilitate compliance at the national level with UNSC Resolution 1540. The National Security Strategy of Spain, approved by the Council of Ministers decision adopted on 31 May 2013, includes the design and implementation of a National Biosecurity Plan among its major objectives.

Absence of verification and its negative implications

Non-verification of the BTWC considerably weakens its potential for implementation, and highlights the following shortcomings:

1 Zaki, Ali Mohamed; Van Boheemen, Sander; Bestebroer Theo M.; Osterhaus, Albert D.M.E.; Fouchier, Ron A.M.. "Isolation of a novel coronavirus from a man with pneumonia in Saudi Arabia" *New England Journal of Medicine* 367 (2014), p. 1814.

2 Centers for Disease Control and Prevention (CDC). "MERS Frequently Asked Questions and Answers" Atlanta, Georgia. EE.UU. CDC. (2013).

3 Saey, Tina Hesman. "Scientists race to understand deadly new virus: SARS-like infection causes severe illness, but may not spread quickly". *Science News*. 183 (6). (2013). p. 5.

4 Doucleff, Michaelleen. "Scientists Go Deep On Genes Of SARS-Like Virus" Associated Press. 2012.

5 World Health Organization. "Ebola virus disease". Available at: <http://www.who.int/mediacentre/factsheets/fs103/en/>.

6 Hans-Dieter, Klenk, Feldmann, Heinz. "Ebola and Marburg viruses, molecular and cellular biology". Wymondham, Norfolk: Horizon Bioscience. (2004). ISBN 0954523237.

The biological threat, non-State actors and biosecurity

- Lack of an international organisation to systematically monitor compliance.
- Lack of systematic evaluation of needs and provision for assistance.
- Lack of a proper mechanism to investigate alleged use.
- The BTWC was conceived to control State programmes to obtain biological weapons and use them in armed conflict; it is only marginally relevant to bioterrorism.

The very nature of biological agents is another factor that may hinder verification under the BTWC.

- Biological agents are numerous.
- They are widely present in nature.
- Some are readily accessible.
- Detection is often difficult or time consuming.
- In some cases, their management does not need a high degree of specialisation.
- They have a broad spectrum of action (humans, animals, plants).
- They can have devastating effects on human or animal health or agriculture.
- Their direct effects can cause great economic loss and grave damage to the societal wellbeing.

Another factor of great importance is the extraordinary scientific and technological development that has taken place (and is continuing) in the field of biotechnology. This development is of such a magnitude and is evolving at such a rapid rate that its verification is an extremely complex task. Recent advances in synthetic biology make it possible to design genetic systems in which genes can be edited (adding, interrupting or changing specific gene sequences), to perform gene regulation in different species and even to synthesise new organisms or to synthesise *de novo* and/or modify existing pathogens. This technology is now being widely applied in life sciences research, and verification of any malicious use cannot easily be ensured.

UN Security Council Resolution 1540 obliges States, in the absence of an international authority in this respect, to safeguard, monitor and verify the possible use of biological weapons, whether by States or by non-State actors.

Characteristics of the biological threat

In the context of a biological threat, the actions of non-State actors are generally a manifestation of terrorism. A bioterrorist attack may cause a biological outbreak of unpredictable consequences, which qualifies and bioterrorism is an issue of real concern to national security.

The first line of defence against biological attack is always adequate *prevention*. Analysis of the results obtained from an appropriate *prevention*

study will identify the elements that should form part of an appropriate *protection* design to minimise the effects of a terrorist attack. Moreover, an appropriate *reaction* programme must be created to counteract the effects of any such attack.

With respect to a potential terrorist attack, two main factors should be analysed and evaluated:

- The type of potential perpetrators of a terrorist attack. The best possible knowledge is needed of the different types of terrorist organisations that are established in a country and/or have easy access to it.
- The type of weapon or injurious agent that might be used. The main factors that can influence the selection of such an agent are *ease of access*, *ease of use*, *cost* (economic, infrastructure, etc.) and the *extent of damage caused* in relation to the objective pursued.

The existence and identity of terrorist groups that could perpetrate such an attack should be determined, taking into account:

- Their ideology or motivation (political, religious, etc.).
- Their goals and demands and how these might influence the selection of the type of biological agent to be employed, for example, considering the degree of harm that they could cause.
- The operational practices of known terrorist groups, the means at their disposal, the degree of sophistication of their organisation, its evolution over time, its operational and planning capabilities and the potential targets for its attacks.
- The possible existence of dormant terrorists or of newly recruited members.

As regards the agent used for the attack, biological agents fit the selection factors very well:

- Accessibility: infectious agents are present in nature.
- Ease of use: in many cases, their growth (culture) does not require highly sophisticated scientific knowledge (at the level of high school education and/or laboratory staff skills).
- Cost: in many cases, the cost is relatively low.
- Magnitude of damage caused: potentially great, causing incapacitation or death of living beings, pending on the agent used.

In view of the possible devastating features of a bioterrorist attack, it is advisable to consider that such an attack is very likely to occur and, on that basis, to evaluate and design measures for effective prevention. An important aspect of preventing a biological attack is the need to make a realistic assessment of the potential for harm presented by different biological agents or toxins, their possible targets (human beings, animals, plants) and the societal vulnerability to this source of harm (human or animal health, damage to agriculture, additional effects, etc.).

Terrorists will seek to hurt whatever society most wishes to protect or wherever its sensitivity is greatest. Targets may be institutional services or infrastructure, which if taken out of service would paralyse society as a whole. Moreover, targets could be direct or indirect (in the latter case, for example, striking against the economy or attempting to impose decisions of a political nature). Assessing the social impact of a terrorist attack, even when a main target is identified, requires that consideration shall be given to additional effects that may be caused, in a domino sequence, following the initial onslaught. This fact must always be taken into account in performing a vulnerability study, using an appropriate societal model, to evaluate the magnitude of the impact of an attack.

Measures to counter a biological attack

UNSC Resolution 1540 calls upon States to establish appropriate measures to avoid and prevent the proliferation of biological agents by non-State actors. Measures to counter a biological or toxin attack must be designed in accordance with the results of the risk assessment and with the aim of preventing such an attack; and, should one occur, to ensure the best possible protection from its effects at all levels of the societal model.

Measures to minimise the effect of a possible terrorist attack with biological agents or toxins should be aimed not only at making it difficult for targets of the attack to be struck, but also at ensuring that the necessary resources to minimise the effect of the attack are available in sufficient quantity.

Measures to remedy the harm caused, to restore the situation to its condition prior to the attack and, even, to improve this situation (resilience), should be in place for specific application to each and every one of the potential effects caused by the attack, at all levels of the societal model.

A national biosecurity regime

For better national implementation of UNSC Resolution 1540, a national biosecurity regime should be designed, with the overall objective of protecting persons, property and facilities as well as the environment and society as a whole, from unlawful acts involving the use of biological weapons or agents, with unacceptable and possibly irreparable biological consequences. In other words, the goal is to minimise abnormal biological outbreaks, whether accidental or intentional. To do so, protection should be assured against the thievery or sabotage of significant biological agents and materials from the facilities where they are stored, and against all illicit activities associated with such agents and materials (biosecurity), ensuring that the protective measures set to work should be rapid, effective and comprehensive.

The State should clearly define and assign responsibilities to the competent authorities within its national territory and in other territories under its jurisdiction and control. Furthermore, all necessary steps should be taken to ensure that all relevant aspects of the legislation are kept up to date. The same is true for government or local agencies with responsibility for customs and border control, national intelligence and security agencies, national or local agencies with responsibilities in the field of human and animal health, environmental issues, scientific research, etc. All of these efforts should be integrated and coordinated within a National Biosecurity Plan, with the participation of specialised committees to ensure good coordination among all competent authorities.

The State should establish and maintain an effective legislative framework, regulating biosecurity at the national level for facilities and associated activities, taking into account the following considerations:

- The risk of illicit acts with biological agents that may have unacceptable biological consequences.
- The need to unequivocally define the biological agents, facilities and associated activities to be addressed by a biosecurity regime, and to define, in terms of quantity or quality, the potential danger of the natural, accidental or intentional release of these agents.
- If they do not exist, the need to create appropriate agencies, assign them the necessary responsibilities and powers, including an independent regulatory body if required.
- The need to establish the responsibilities of organisations which transport biological agents within the national territory, together with those of the facilities that form part of this process and of the relevant employees. In all cases, effective biosecurity measures should be designed and implemented.
- The need to establish a process of biosecurity clearance for the above cases.
- The need to establish a system of inspections of compliance with all relevant legislation.
- The need to establish penalties for violations of that legislation.
- The need to maintain an appropriate interface between biosafety and biosecurity.

As a further necessity, a National Biosecurity Commission or Authority should be created, to address the above issues in detail, to draft a code of conduct for scientists working in this area and for the management of the facilities where the scientist work. Consideration should also be given to areas such as the necessary elements of physical protection, both outside and within these facilities, and the transport of pathogens within the national territory⁷.

⁷ Pérez Mellado, Rafael. *Recomendaciones para mejorar medidas de biocustodia*, Madrid. Ministerio de Asuntos Exteriores y Cooperación, 2014.

Biosecurity culture

Implementation of the above-described measures obviously requires rules or legislation, a programme to monitor compliance and perhaps the introduction of appropriate sanctions in case of default or illicit action.

However, following media coverage, accidental events are known to have occurred in laboratories working with dangerous pathogens, despite their scrupulous and vigilant compliance with biosafety and biosecurity measures. For instance, the US Department of Defence suspended the operations of nine laboratories following the detection of the bacteria that causes anthrax (*Bacillus anthracis*)⁸ outside the biological containment area in 2015. In the past, anthrax was developed as a biological weapon by five States (UK, Japan, USA, Russia and Iraq)⁹. In 2014, samples of the same bacterium, supposedly sterilised but in fact active, were sent from the type 3 biological containment laboratory at the US Centers for Disease Control and Prevention in Atlanta to three other laboratories on the same site¹⁰. In addition, imperfectly sterilised samples of *Bacillus anthracis* were sent from the USA to 52 laboratories in the USA, Canada, Australia and South Korea.

The above-mentioned accidents cannot be attributed to a lack of biological containment measures or to the absence of rules for working safely with pathogens, or of appropriate biosecurity measures in the laboratories in question. Neither can they be attributed to the non-existence of legislation or of protocols for operating procedures. There was no lack of training or knowledge or resources. What was in fact absent, beyond doubt, was an effective culture of biosecurity.

In most biological research laboratories in developed countries, the task of monitoring compliance with biosafety and biosecurity measures is usually delegated to an individual or to a small group of persons (i.e., the officer or the unit responsible), and so the researchers are spared the tedium of having to supervise these precautions and can use their time to maximise their output, dedicating themselves to the main task the research itself.

Although this procedure is useful from a functional standpoint, it invariably leads researchers to prioritise the efficiency of their primary function, in order to achieve the best reward offered by the system, namely the highest possible number of publications in high impact factor journals. Consequently, less attention is paid to strict compliance with biosecurity measures and to

8 Koch, Robert. "Untersuchungen über Bakterien: V. Die Ätiologie der Milzbrand-Krankheit, begründet auf die Entwicklungsgeschichte des *Bacillus anthracis*". *Beiträge zur Biologie der Pflanzen* 2(2) (1876) p. 277–310. ["Investigations into bacteria: V. The aetiology of anthrax, based on the ontogenesis of *Bacillus anthracis*"].

9 Zilinskas, Raymond A. "Iraq's Biological Warfare Program: The Past as Future?" Chapter 8 in: Lederberg, Joshua (editor), *Biological Weapons: Limiting the Threat* (1999), The MIT Press, 1999. pp. 137–158.

10 CDC."Report on the Potential Exposure to Anthrax", Atlanta, Georgia, USA. CDC, 2014.

ensuring the same level of compliance by others (which would require more time to be dedicated in the laboratory, with no tangible effect on output).

At the heart of the question is the conviction that the researcher, and by extension, the facility in which he/she works, whether public or private, does not lack knowledge, but rather, perhaps, the ever-present perception that a failure, a simple oversight in performing the functions assigned, could provoke a biological disaster of unpredictable consequences. Should such a disaster occur, the first to be affected (infected) would most probably be the person who did not follow the rules. This infection could then spread to other workers in the same facility. In other words, biosecurity measures exist not only to prevent the release of dangerous biological material from the facility. They exist (or should exist) to ensure, first, that no such release occurs within the facility itself.

The culture of biosecurity must be acquired by all involved, both those working within an installation and those with management responsibilities. Everyone must be vigilant not only regarding their own performance, but also that of everybody else; thus, the advice given to a worker that he/she is not following the correct procedure, should be cause for gratitude, not for rejection. Achieving and applying this level of awareness should be encouraged by means of appropriate regulations or legislation, if only because the State has a major interest in reducing economic losses due to accidents.

Discussion and conclusions

The absence of a verification regime from the BTWC can be viewed as making biological weapons more accessible to terrorist organisations and proliferators. UNSC Resolution 1540 must fill the gap left by this absence. Due to the natural availability of many biological agents and the fact that in some cases highly specialised skills are not needed for handling them, they could foreseeably be used in a terrorist attack. The whole point of terrorism is to induce terror in the population. Therefore, the biological agent chosen not necessarily need to be extremely virulent. If the infection produced 'only' incapacitation, this might be sufficient for terrorist purposes, hence a great number of pathogens must be taken into consideration in planning to prevent potential attacks. Indeed, the simple presumption of an attack or a false announcement by the terrorist organisation might be sufficient to induce panic in the population.

The custody of pathogens within authorised facilities deserves special consideration. Here, the priority is to minimise the possibility of accidental escape or of terrorists' accessing these pathogens. The complexity and the cross-cutting nature of the measures needed to prevent and/or counteract potential bioterrorist attacks, for the best possible implementation, at the

national level, of UNSC Resolution 1540, make it virtually essential to design and implement a national biosecurity regime. Therefore, it is highly desirable that Resolution 1540 should specifically recommend the establishment of a national biosecurity plan and the creation of an agency to ensure its implementation and to monitor compliance, nationwide, as a fundamental aspect of ensuring the implementation of the resolution itself.

This agency would also have to monitor developments in science and technology, which in the wrong hands could enable biological agents to be modified for the purposes of terrorism.

The creation of a culture of biosafety in general, and of biosecurity in particular, among all involved, throughout the country, preventing access by terrorists to biological agents and avoiding accidents in the workplace of a biological nature and accidental outbreaks, should be considered a question of national interest and a necessary contribution to achieving the objectives of UNSC Resolution 1540.

National network of biological-alert laboratories

Carmen Cañavate Cañavate

Introduction

The intentional dissemination of *Bacillus anthracis* spores, via letters and parcels posted to various media offices and those of two US senators, within a month of the terrorist attacks of 11 September 2001, spurred international awareness of the impact on society and on public health of a terrorist attack using biological weapons, and of the need to adopt measures to counter any such attack.

In the above-mentioned biological attack, 22 persons fell ill and five died. In addition, a very high number of people were exposed to infection and required lengthy antibiotic prophylaxis¹. Although the number of clinical cases was very small, the impact on society was significant, as fear of the unknown generated great anxiety among the population.

These incidents highlighted the inadequate preparation and/or resources available to law enforcement agencies and to emergency services to fight effectively against an attack with biological agents, as well as the relative scarcity of reference laboratories with the necessary levels of biosafety and biosecurity to detect and identify these agents.

1 Jernigan, D. B., Raghunathan, P. L., Bell, B. P., Brechner, R., Bresnitz, E. A., Butler, J. C., The National Anthrax Epidemiologic Investigation Team. (2002). Investigation of Bioterrorism-Related Anthrax, United States, 2001: Epidemiologic Findings. *Emerging Infectious Diseases*, 8(10), 1019–1028. <http://doi.org/10.3201/eid0810.020353>.

The problem is compounded by the increased risk of appearance of emerging and re-emerging diseases, and the ease of their dispersion from anywhere in the world. These hazards are further heightened by many factors, including globalisation, demographic change, climate change and the increase of antimicrobial resistance. Accordingly, there is a pressing need to improve responsiveness at the national level, to counter extraordinary outbreaks of disease, whether natural, accidental or intentional.

To address this situation, the International Health Regulations were revised in 2005. The changes, which came into force in 2007, established the essential capabilities required by all countries in order to respond effectively to any incident that might constitute a public health emergency of international concern². These capabilities include a nationwide system for epidemiological surveillance and early diagnosis of any biological agent suspected of causing an outbreak of unusual disease, appropriate protocols for incident reporting and information exchange, and systems for the rapid delivery of aid materials and services.

However, recent outbreaks of infectious diseases have shown that not all countries have the same capacity to respond to these situations. For this reason, the Global Agenda for Health Security was launched in February 2014. The purpose of this association of about 50 countries, international organisations and non-governmental stakeholders is to enhance the global capacity, and that of individual nations, to prevent, detect and respond to threats of human and animal infectious diseases, whatever their origin³.

One of the main recommendations included in UNSC Resolution 1540 is that effective measures should be adopted and enforced to control the use and proliferation of biological weapons⁴. For this purpose, mechanisms must be developed for coordinated intervention and response to biological attacks by non-State actors. The resolution, furthermore, specifies the requirements for a fast and efficient national mechanism for detecting a biological attack.

Biological attack: preparation and response

The previous chapter referred to the need to establish a national system of biosecurity, as the first element in a programme to prevent biological attacks by non-State actors⁵.

2 International Health Regulations (2005). World Health Organization, 2008. Available at: <http://www.who.int/ihr/publications/9789241596664/en/> (Accessed 23 March 2015).

3 For more information on the Global Health Security Agenda, see: <https://ghsagenda.org/> (Accessed 23 March 2015).

4 UNSC Resolution 1540 (2004). Available at: [http://www.un.org/es/comun/docs/?symbol=S/RES/1540%20\(2004\)](http://www.un.org/es/comun/docs/?symbol=S/RES/1540%20(2004)) (Accessed 23 March 2015).

5 Pérez Mellado, R. La amenaza biológica, actores no estatales y biocustodia [*The biological threat, non-State actors and biosecurity*].

National network of biological-alert laboratories

As such an attack may occur, there must be measures to ensure a rapid and effective response, above all to limit the spread of the disease caused by the biological agent. In this respect, early detection, diagnosis and identification of the agent are essential.

Accordingly, the State must create systems and structures to optimise responsiveness to any real or suspected bioterrorist attack. This preparation should include a network of specialised biological-alert laboratories, preferably of the very highest level, to provide a fast and effective confirmation diagnosis of pathogens that cause disease among humans, animals or plants. Rapid, accurate identification of the agent involved will facilitate appropriate treatment for those affected, limit the propagation of the organism and prevent the occurrence of new cases. Structures for this purpose must be incorporated into the organisation and functioning of government agencies.

Functions of the network of biological-alert laboratories

In the field of biosafety and biosecurity, the network must be vigilant and effective in all areas related to the detection and identification of hazardous biological agents, whether released accidentally or intentionally, that could become a threat to health (of humans, animals or plants), the environment and food safety. Its functions should include:

- Detecting alerts or threats by biological agents.
- Developing protocols for the communication of biological threats, sampling and secure transport of samples (this would mainly be done by specialist teams within law enforcement agencies), as well as for rapid diagnostic response of the laboratories in the network.
- Designing and implementing novel techniques to detect and identify biological agents, as well as optimising existing techniques.
- Ensuring that all biosafety and biosecurity measures for handling high-risk pathogens in the laboratory are implemented.
- Ensuring the provision of lifelong training for personnel in the laboratory network, for the optimal performance of their functions.

Organisational and management structure

For best performance, the laboratory network must have a governance team to coordinate network activities and to ensure effective decision making. This team should include representatives from all the ministries and authorities involved in the response to a biological threat. The team would be empowered to establish the plans and protocols considered necessary to provide the most appropriate response to each situation.

The governance authority should be advised by a technical and scientific committee, whose members would include advisors from the participating

laboratories, law enforcement agencies, alert coordination and health emergency units and scientific experts, to ensure the maximum possible efficiency of the network and its effective adaptation to developments and advances in science and technology.

Day-to-day management of network functions should be carried out by a technical-administrative unit to facilitate and ensure the functioning and coordination of all network activities, concerning in particular those of the institutions that would be involved in the response to a biological attack. This unit would also coordinate the information and communications arising from these activities.

Network response to a biological attack

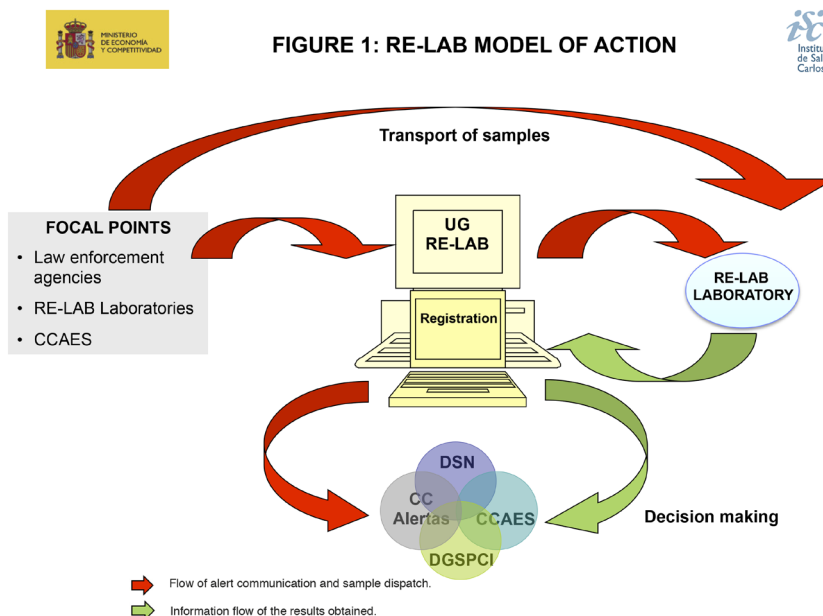
The impact of a biological attack would be similar to that of an epidemic or a natural outbreak of a rare infectious disease, and therefore the areas of intervention are essentially the same. The basic requirements are for adequate epidemiological surveillance and for the application of response strategies identical to those used to control natural outbreaks of disease. This is also true with respect to the response to outbreaks of animal disease, whether resulting from natural causes or from the accidental or intentional release of pathogens. In both cases, the mechanisms of detection, reporting and control are very similar.

This network of rapid-diagnosis laboratories should, moreover, interact with other networks created to provide a nationwide response to outbreaks of infectious disease, such as epidemiological surveillance systems or veterinary health alert networks. The network should function 24/7 and lines of communication with law enforcement agencies must remain open uninterruptedly.

If the alert is raised of a possible biological threat, the technical and administrative unit should make an assessment and coordinate the actions to be carried out by the intervention units responsible for obtaining samples and by the laboratory responsible for investigating them. The laboratory will assign maximum priority to processing the samples and identifying the agent involved. Finally, the technical and administrative unit will communicate the laboratory results to the appropriate decision-making bodies.

Value added by the network of biological alert laboratories

This type of network is particularly useful when an attack with biological agents may occur within a country or in territory under its jurisdiction and control. Its main added value is that it facilitates coordination with healthcare authorities and law enforcement agencies to provide a rapid and effective response to hazards of a biological nature.



UG RE-LAB: Network management unit; DSN: Dept. of National Security; CCAES: Alerts and Emergency Healthcare Coordination Centre; DGSPCI: Directorate General for Public Health, Quality and Innovation; CC Alertas: Alerts coordination centre.

The development of common protocols for taking environmental samples and training specialised units within law enforcement agencies in the implementation of these protocols would reinforce the personal safety of those involved in the coordinated response, and moreover ensure that the samples arrive at the laboratory in optimum conditions for analysis, thus enhancing the reliability of the results obtained.

The speed of the response made and, above all, a rapid and accurate diagnostic confirmation, will allow false alarms of threats to public health to be deactivated with the least possible delay. This is of vital importance, as a false alarm can inflict the same degree of terror in the population as a real one.

The inclusion in the network of reference laboratories, whose mission is the ongoing improvement of diagnostic techniques for high-risk biological agents and the implementation of new detection techniques for emerging pathogens, will strengthen the functioning of the network and the technical competence of its laboratories. The value added in this case would be the ease with which inventories of biological agents could be managed. Furthermore, these laboratories would maintain, update and confirm the efficiency of the biosafety and biosecurity measures applied, and ensure their subsequent transfer to other laboratories throughout the country.

In view of the above considerations, Spain has created a structure of this type in charge of coordination and response to a terrorist threat involving biological agents. Thus, under Order PRE/305/2009 of 10 February 2009, the Network of Biological Alert Laboratories (RE-LAB, Spanish initials) was established as a scientific and technical infrastructure, composed of a series of specialised laboratories, to provide operational support to the National Security System to counteract the risks posed by dangerous biological agents⁶. This network arose from a study by a group of experts coordinated by the Ministry of Defence after the 2001 attacks in the USA. Design of the network began in 2003, well before UNSC Resolution 1540 was adopted.

The network has provided excellent support to the Spanish government in situations of risk from dangerous biological agents. Furthermore, it has spurred acceptance of UNSC Resolution 1540 in our country⁷.

Conclusions and recommendations

The implementation of (and support for) a network of biological-alert laboratories, capable of the fast, accurate diagnosis of high-risk biological agents, will strengthen the national implementation of UNSC Resolution 1540.

The enhanced diagnostic procedure, should a biological incident occur, provides better and earlier control of unusual outbreaks of infectious disease. Moreover, it is essential for efficiently combating any manifestation of bioterrorism. Therefore, it would be advisable for the introduction and employment of such rapid-diagnosis networks to be recommended in the text of Resolution 1540.

Rapid-diagnosis networks also facilitate compliance with international commitments, such as the International Health Regulations, on the prevention and control of the propagation of infectious diseases.

It is therefore highly desirable that all countries should equip themselves with such an early warning system, to enable a rapid response to any of the circumstances described in the above sections, to diagnose highly pathogenic biological agents using validated protocols, and to minimise the impact of any unusual outbreak of infectious disease, whether natural, accidental or deliberate.

6 Order No. PRE/305/2009, of 10 February, which created the RE-LAB Network of Biological Alert Laboratories. Official Spanish Gazette, No. 42. Wednesday 18 February 2009, pp. 17156-17159.

7 Order No. PRE/2565/2015, of 26 November, amending Order No. PRE/305/2009, of 10 February, which created the RE-LAB Network of Biological Alert Laboratories. Official Spanish Gazette, No. 289. Thursday 3 December 2015, pp. 114249-114252.

The proliferation of weapons of mass destruction: future challenges

M^a del Mar Hidalgo García

Introduction

Resolution 1540, adopted by the UN Security Council in 2004, declared that all States should adopt additional measures to prevent the proliferation of chemical, biological, radiological and nuclear (CBRN) weapons and their means of delivery. This requirement was aimed in particular at preventing non-State actors from acquiring, developing, transferring and employing such weapons, in the view that this possibility was a threat to global peace and security.

This resolution was developed in a historical context marked by the collapse of US hegemonic power, resulting in a much less clear-cut security environment, in which threats were becoming unpredictable and indiscriminate, as was made apparent in the 11 September attacks. The balance of power that had prevailed during the years of the Cold War was displaced by a period of increased uncertainty, provoked by the rise of Islamist terrorism, the emergence of new geopolitical centres such as China and India, and the relentless advance towards a globalised, interconnected world.

Twelve years have passed since the resolution was adopted, and despite the great progress made in this regard, the proliferation of CBRN weapons continues to pose a major threat to global security. Moreover, in addition to the impacts of technological advance and global interconnectedness, the situation has been aggravated by geopolitical factors and by recent events in the Middle East and North Africa.

For this reason, and as a contribution to the Comprehensive Review of the implementation of Resolution 1540 (2004), a prospective study should be made of the new technological scenario that is emerging in relation to the proliferation of CBRN weapons, commonly described as “weapons of mass destruction” (WMD) and their possible employment for terrorist purposes.

Weapons of mass destruction: an umbrella term that is becoming inadequate

The implementation of Resolution 1540 (2004) is framed in the context of the proliferation and possible use by non-State actors of CBRN weapons. These are commonly referred to as WMD. However, this term, although internationally accepted, is imprecise and tends to be used indiscriminately whenever the speaker wishes to emphasise the magnitude of a threat. This absence of clarity often causes confusion in public opinion. For example, climate change¹, hunger² and the homemade bombs used in the attacks against the Boston Marathon³, have all been described as WMD.

The excessive use of this expression reflects the gap between its original meaning and the current understanding. The ability to perform an action resulting in massive destruction has evolved in recent years, driven by technological advances and by the global networking facilitated in cyberspace. This reality has led to the emergence of new threats capable of causing a global destabilisation that could have negative consequences of the same magnitude as the explosion of an atomic bomb. Cyber attacks, the deliberate contamination of the environment or new forms of terrorism such as agro-terrorism, open up the spectrum of threats of tremendous social and economic import. Clearly, therefore, the ability to achieve “destruction” is not exclusive to CBRN weapons.

On the other hand, one of the main allures for terrorist groups in the use of CBRN weapons is their destabilising power, more than the number of potential victims. Terrorists seek to provoke widespread panic, the collapse of health services and economic decline, among other goals. The simple declaration that they have the ability to carry out an attack with this type of weapon is sufficient to achieve a society’s destabilisation.

Globalisation and technological advances are phenomena that have taken place rapidly and unstoppably since the 1990s. Despite the great social and economic opportunities that are appearing in the world, which is now more

1 https://www.washingtonpost.com/world/asia_pacific/kerry-calls-climate-change-a-weapon-of-mass-destruction-derides-skeptics/2014/02/16/1283b168-971a-11e3-ae45-458927ccedb6_story.html. Accessed 25 February 2016.

2 Jean Ziegler, «*Mass Destruction-The Geopolitics of hunger* –». 2012.

3 <http://www.ibtimes.com/boston-marathon-bombing-trial-verdict-dzhokhar-tsarnaev-found-guilty-using-weapons-1872433>. Accessed 25 February 2016.

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technologically advanced and interconnected, numerous challenges are also emerging, highlighting the vulnerability of the population and posing great danger to international security. Accordingly, the concept of WMD must also evolve, to reflect these changes.

One example of this new paradigm of global security is that of the “Global Commons”, i.e., areas in which no country has jurisdiction, where products and information vital to the welfare of the population may circulate, and where any disruption or alteration would have serious consequences for global stability. Cyberspace, outer space and the environment all belong to this new category of common, global and essential areas, where global governance should be strengthened. And it is in this context of rapid, continuous and unpredictable change where we must situate the new challenges related to the proliferation of CBRN weapons and their use by State and non-State agents.

As part of the Comprehensive Review of the implementation of Resolution 1540 (2004), we should consider how to address these new challenges: whether to continue limiting the term WMD exclusively to CBRN weapons or expand its scope to incorporate new global threats and new forms of terrorism. Some experts are already talking about “weapons of mass effects” to indicate that the greatest challenges will come from the destabilising capacity of terrorist groups through the disruption of a basic service or an attack on a critical infrastructure, rather than by causing a large number of victims⁴.

The evolution of nuclear weapons

The destabilisation of the Middle East has led to a new geopolitical situation, with serious implications for global security. In addition, the nuclear tests conducted by North Korea show that this country has a nuclear capability that is of great concern to neighbouring countries, especially South Korea.

In view of these considerations, it seems apparent that nuclear weapons, far from being eliminated, will be further developed as a deterrent. The future trend will be towards nuclear weapons that are more sophisticated, smaller, portable and easier to conceal⁵. Today, some States that have nuclear weapons are known to be modernising their arsenal, claiming this to be maintenance rather new development (which is prohibited under the

4 Bowman H. Miller Ph.D. “From WMD to WME: An Ever-Expanding Threat Spectrum”. *Journal of Strategic Security*, Vol. 8. No. 3, Fall 2015.

5 Caves, J and Carus, S. “The future of weapons of mass destruction: their Nature and Role in 2030” Center for the Study of Weapons of Mass Destruction”. Available at: http://ndupress.ndu.edu/Portals/68/Documents/occasional/cswmd/CSWMD_Occasional_Paper-10.pdf.

NPT). As a prime example, the USA is currently modernising its arsenal by modifying elements of the nuclear warheads⁶.

In view of this risk of increased nuclear proliferation, the international community is mobilising to achieve the complete elimination of WMD, arguing that their use contradicts the principles of international humanitarian law. However, the only concrete outcome of this consideration has been the design of nuclear weapons aimed at reducing the fallout and residual radiation produced after an explosion, in order to minimise collateral damage. These new “clean” nuclear bombs use less fissile material, but produce the same destructive effects and with a lower incidence of residual radiation, which allows them to be used in nearby territories.

While the international community is slowly moving towards disarmament and the total prohibition of nuclear weapons, there is a risk that non-State actors will gain access to their arsenals, and commit a nuclear attack with catastrophic consequences, in a scenario that was described at the 2016 Nuclear Security Summit⁷.

In addition to the possibility, terrifying but of low probability, that terrorists might gain access to an insufficiently protected nuclear arsenal and detonate a nuclear bomb, there are various other means of performing nuclear and radiological terrorism, including the development of improvised devices, placing radioactive sources in public places or conducting an attack on nuclear facilities. This is a very diffuse and unpredictable threat, and so States must collaborate and commit themselves to ensuring the adequate protection of nuclear facilities and radioactive sources, not only from a physical standpoint, but also with respect to cybersecurity⁸.

With regard to nuclear devices, the main barrier to non-State actors acquiring a nuclear weapon is the difficulty of obtaining fissile material such as U²³⁵ or Pu²³⁹. However, technological advances can enable them to hurdle this technological barrier, with the development and commercialisation of new fissile materials, such as the thorium fuel used in nuclear reactors, which could generate the fissile isotope U²³³. In addition, new enrichment technologies, such as laser isotope separation, are a more accessible means for terrorist groups to obtain enriched uranium, faster and more cheaply than by using a system of centrifuges⁹.

6 <http://www.nytimes.com/2016/01/12/science/as-us-modernizes-nuclear-weapons-smaller-leaves-some-uneasy.html>.

7 <https://www.whitehouse.gov/the-press-office/2016/04/01/nuclear-security-summit-2016-communication%C3%A9>.

8 In Spain, the Interior Ministry intends to reinforce security at seven nuclear power plants, deploying 200 civil guards with this exclusive task. In the future, too, surveillance will be increased at the Centralised Temporary Storage (ATC) facility for highly radioactive waste that is being constructed at Villar de Cañas (Cuenca province).

9 *Ibid*, note 4.

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Regarding the possibility of using radiological material to commit a terrorist attack, the main uncertainty lies in how, not in the materials that would be used. Reinforcing the control of radioactive sources and facilities is the most efficient means of countering this type of threat.

Rapid and unpredictable advances in biological and chemical weapons

With regard to biological weapons, the malicious use of biological material is expected to pose a growing threat, due to technological advances, greater knowledge of genomics and proteomics and the rise of sciences such as bioengineering. The *World Threat Assessment of the US Intelligence Community* report, published in February 2016, says that genome editing had become a global threat, since the harmful biological agents may be developed in countries where regulatory and ethical standards fall well short of those in Western countries¹⁰.

Non-State actors may seek to destabilise society by creating new and dangerous pathogens or by modifying known ones to make them more resistant to extreme environmental conditions or to anti-pathogenic drugs. Moreover, nanotechnology may facilitate dispersion, overcoming the difficulties that currently limit the use of biological material by terrorist groups.

The area of synthetic biology represents one of the major challenges concerning proliferation. The ability to create biological systems that are not found in nature, or to modify existing ones, together with the increased flow of information now available, exponentially multiplies the risk of a biological crisis being provoked¹¹. In addition, inexperience and the absence of appropriate codes of conduct can lead to these technologies being used by unskilled research staff outside official facilities (the “do-it-yourself” (DIY) option), making them more readily available to terrorist groups. However, despite the easy access to online information to develop pathogens, there remain significant barriers to the successful development of a biological weapon, mainly economic and regarding the necessary infrastructure¹².

Greater difficulties will also be encountered in determining the natural or intentional origin of an outbreak, since new diseases are likely to emerge as a result of climate change.

10 http://www.dni.gov/files/documents/SASC_Unclassified_2016_ATA_SFR_FINAL.pdf.

11 Cique A. «Documento de Opinión del IEEE: “Retos y desafíos de la Biología Sintética”». http://www.ieee.es/Galerias/fichero/docs_marco/2015/DIEEEM35-2015_Biologia_Sintetica_AlbertoCiqueMoya.pdf.

12 <http://www.nonproliferation.org/bioweapons-for-dummies-evaluating-the-threat-of-rogue-biohacking-2/>.

In the case of advances related to the development of chemical weapons, the possibilities, although still large, are more limited than in the case of biological weapons. The main challenges to be faced arise from gaps in the Convention on the Prohibition of Chemical Weapons, which permit the development and use of new compounds and drugs under the blanket term “riot control agents”. The use of non-lethal incapacitating compounds against the population, or the contamination of essential resources such as water, are new forms of terrorism that can provoke situations of destabilisation. To counter these dangers, health quality controls should be strengthened and measures prepared for the immediate recovery of the area from an event of this kind.

The continuous evolution of chemical and biological threats hinders the establishment of effective defensive measures, both in time and in their form. The use of new modes of dispersal, such as new means of delivery or the use of biomimicry, adds further difficulties to determining the origin of a threat or attack¹³.

The difficulty in assigning responsibility for an attack with CBRN weapons

Technological advances are creating opportunities for new, depersonalised forms of committing attacks or of provoking destabilisation. This point is of particular concern in the biological context, because the effects may not be immediate, and so a threat may spread indiscriminately.

The use of robotics, drones or artificial intelligence will continue to expand, posing new challenges to the international community, its legal framework (related to international humanitarian law¹⁴) and the fight against proliferation and disarmament.

The development of drones for military purposes is increasing, in view of their offensive capabilities in asymmetric conflicts, their tactical surveillance capabilities and their effectiveness in intelligence missions. Moreover, their modular structure enables them to carry not only conventional weapons but also, perhaps, nuclear weapons or devices for the dispersion of chemical or biological weapons. The latter aspect is of great concern to the international community because the ability to carry such weapons is aggravated by the fact that it is very difficult to detect drones when they are small or medium

13 http://tecnologia.elpais.com/tecnologia/2015/07/28/actualidad/1438092574_039870.html.

14 Mary Ellen O’Connell, 21st Century Arms Control Challenges: Drones, Cyber Weapons, Killer Robots, and WMDs, 13 Wash. U. GlobalStud. L. Rev. 515 (2014). http://openscholarship.wustl.edu/law_globalstudies/vol13/iss3/11.

sized, and/or flying at low altitude¹⁵. For this reason, drones constitute a very attractive option for terrorist purposes. Weapons control and export control regimes should be strengthened, taking into account this new technological challenge¹⁶.

Access to information and the transfer of intangible technology

The great economic and social opportunities opening up in today's technologically advanced and interconnected world are accompanied, on the other hand, by major challenges to the population and to international security. The ease of obtaining information via the internet, whether openly or opaquely through the Deep Web, increases the likelihood of non-State agents being able to develop CBRN weapons. This ease of obtaining information and products is creating the idea within society that everything is possible and accessible. Given the anonymity provided by the Deep Web, it is not difficult to imagine that it contains manuals showing even untrained people how to create chemical and biological weapons, as well as 'dirty bombs'. This confusion between information and knowledge is fostering a DIY form of terrorism.

In response to this situation, States must legislate to prevent the transfer of intangible technology facilitating the proliferation of CBRN weapons. Moreover, international cooperation should be strengthened in areas such as jurisdiction and mutual assistance in criminal proceedings¹⁷. However, legislation in the field of cyberspace is no easy task, and adapting international agreements on technology transfer or on trade control with respect to dual-use materials is also a complex matter, as was evidenced in the 2013 revision of the Wassenaar Arrangement¹⁸. If regulation is too strict, this may compromise normal activities and practices in cybersecurity, because some commonly used tools may be classed as illegal, an outcome that would, counterproductively, hamper criminal acts from being prevented or criminals from being apprehended.

Resolution 1540 does not explicitly mention the transfer of intangible technology. However, different forms of transfer of this technology (whether data or technical assistance), by electronic means, by telephone or by

15 Weidlich, C. et al. "Unmanned Aerial Vehicles. A challenge to a WMD/DVs Free Zone in the Middle East". Policy Brief for the Middle East Conference on a WMD/DVs Free Zone, No. 8, August 2012.

16 Report: "Study on armed unmanned aerial vehicles". United Nations. Available at: <http://www.un.org/disarmament/publications/more/drones-study/drones-study.pdf>.

17 Marina Abdul Majid, Azizan Baharuddin, Lee Wei Chang. Preventing intangible technology transfer (ITT) on the Internet and telecommunications for bioterrorism through Malaysia's Strategic Trade Act 2010 (STA 2010). Computer Law & Security Review: The International Journal of Technology Law and Practice (2016). doi: 10.1016/j.clsr.2016.01.008.

18 <http://www.ieee.es/contenido/noticias/2016/03/DIEEEA16-2016.html>.

access to online storage, are included. Nevertheless, there remain two major challenges to controlling the trade in dual-use materials. The first is a technical issue inherent to the difficulty of controlling the transit of information. The second is that not only may material goods be transmitted, but also the ability to produce them, which is a higher level of threat.

To address these challenges, controls on the export of dual-use material need to be strengthened, and national and regional policies developed to improve their effectiveness. In this respect, the EU Commission has published a report entitled "The review of export control policy: ensuring security and competitiveness in a changing world"¹⁹.

Another important aspect of the transfer of intangible technology is the cross-border movement of students and experts, which is obviously beyond the scope of export controls²⁰. For this reason, in addition to promoting a code of conduct in the university, academic and scientific world, controls should be introduced to track students and researchers, for example, through a system of visas²¹.

One particularly worrying question, which affects the transfer not only of CBRN weapons but also of conventional ones, is the rise of 3D printing. These printers open the way to limitless possibilities for technology transfer, potentially compromising the effectiveness of international agreements on control of the arms trade and that of sensitive material.

In the field of chemistry, 3D printers offer the possibility of combining various reagents to synthesise a chemical compound²². Advances in this application are very interesting for the pharmaceutical industry because they could enable a drug to be supplied in different geographic areas at a lower cost. However, they might also make it possible to synthesise compounds capable of being used as chemical weapons. In the biological context, the possibilities offered by 3D 'bioprinters' are almost endless, and, moreover, facilitate DIY terrorism²³. In the case of nuclear proliferation, fissile material cannot be

19 "The review of export control policy: ensuring security and competitiveness in a changing world". COM (2014) 244 final. Available at: [http://www.europarl.europa.eu/meetdocs/2014_2019/documents/com/com_com\(2014\)0244_/com_com\(2014\)0244_en.pdf](http://www.europarl.europa.eu/meetdocs/2014_2019/documents/com/com_com(2014)0244_/com_com(2014)0244_en.pdf).

20 For example, in the case EU, Regulation (EC) No 428/2009 setting up a Community regime for the control of exports, transfers, brokering and the transit of dual-use products, does not include the transfer of intangible technology if it takes place via the trans-national movement of persons.

21 Vicente Garrido Rebolledo, "Intangible transfer of technology and visa screening in the European Union". Non-proliferation Paper, No. 13. March 2012, 15 pp. Available at: http://www.sipri.org/research/disarmament/eu-consortium/publications/EUNPC_no%2013.pdf.

22 http://www.chemistryviews.org/details/ezone/5736441/Whats_New_in_3D_Printing.html.

23 An important question in this regard is the existence of a group of biohackers, who term themselves "BioCurious". The members of this organisation are scientists, who define

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produced with a 3D printer, but in the future, and as the technique of 3D metal printing develops²⁴, centrifuges or nuclear warheads for missiles could be created.

New technological weapons

Their indiscriminate effects on the population and the breach of the principle of proportionality have raised awareness among the international community of the need to ban the use and development of CBRN weapons. However, technological advances have opened the way to new and more sophisticated weapons, capable of harming humans in ways other than those caused by previous generations of weapons. Thus, new challenges arise, and at present there is a lack of specific regulation in this respect, taking into account, on the one hand, the ability of new types of weapons to cause massive and indiscriminate effects on the population and, on the other, the currently low level of defence against them.

Such weapons, although technologically advanced, may fall into the hands of non-State groups, due to the ready availability of information on the internet or access to training outside their countries of origin. These weapons include lasers, microwave devices and electromagnetic pulse generators. In the more distant future, antimatter bombs might be produced, with a destructive capacity exceeding that of nuclear weapons. Obviously, these possibilities do not yet exist, but proactive measures should be taken to control the development of this type of highly destructive weapons²⁵.

Conclusions

In the five years remaining to the deadline for implementation of Resolution 1540 (2004), the world must face new challenges arising from globalisation and technological advances. The present structure of international security and of trade controls, which to date has been an effective means of implementing Resolution 1540, needs to be updated to address and, ideally, to anticipate these coming changes. Moreover, complementary mechanisms should be devised to provide the necessary flexibility to adapt to rapid technological progress.

it as the world's first "hacker space" in the field of biology. Its philosophy is based on the premise that advances in the field of biology should be accessible to everyone. For more information, see: <http://biocurious.org/>.

24 Galamas, F. 3D Printing_ WMD Proliferation and Terrorism Risks. Available at: http://www.academia.edu/11289295/3D_Printing_WMD_Proliferation_and_Terrorism_Risks.

25 Ortega J. «Armas de tecnología avanzada». Cuaderno de Estrategia N°. 153: «Proliferación de ADM y de tecnología avanzada», 2011.

In today's digital age, physical international borders are no longer a barrier to trade, and therefore export controls must be strengthened continuously to include the transfer of intangible technology, either by means of already-existing instruments or through the design of new ones such as encryption processes. These new controls should be equipped with mechanisms that are more flexible and with shorter review periods, for maximum effectiveness against the rapid technological advances associated with the widespread use of information and communication technologies (ICT).

As a chemical and/or biological attack is fundamentally unpredictable in time and form, the international community and individual States must establish preventive measures with which to comprehensively and effectively address biological, medical or chemical crises, even before we know whether they are intentional or not. The concept of reacting to the use of a chemical or biological weapon will have to evolve to focus on that of reacting to a biological, medical or chemical crisis. Only thus can effective action be taken to prevent disruption and, if it occurs, to achieve rapid subsequent recovery. This change in conceptual view will facilitate international coordination through organisations such as WHO and comprehensive policy implementation by each State.

Preventing the proliferation of CBRN weapons from non-State actors or from economically weak countries, by maintaining monopolies in the fields of technology and innovation, has not proven to be an effective measure, and will be much less so in the future. The ease of access to information by terrorist agents, together with relatively accessible technological advances, such as drones, 3D printers and new ICT, pose a major challenge to the effective implementation of Resolution 1540 (2004).

The use of drones can be a very attractive option for a terrorist attack with CBRN weapons, because of their precision and the difficulty of establishing authorship. With 3D printers, the proliferation of WMD will be more difficult to control because the problem will escape the bounds of physical access of materials, and extend to the field of information relevant to their production, thus producing a quantitative and qualitative leap to a new dimension, that of the transfer of intangible technology, which is inherently very difficult to control. Weapons control regimes and export controls should be strengthened, taking into account this new technological challenge.

In the biological field, striking a balance between scientific progress and its malicious use will be one of the great challenges to be faced. The scientific community must be made more aware of the risks arising from the unbridled disclosure and transfer of sensitive information. Thus, safeguarding the information held at research centres and universities is among the priority actions to be taken in the future.

To prevent State agencies from making illicit use of information to create weapons, whether conventional, nuclear, chemical or biological, there must

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be greater coordination among experts in areas such as non-proliferation, cybersecurity and intelligence.

Technology and information related to the proliferation of WMD are now more accessible to non-State actors. These agents can now acquire the capacity to produce, albeit crudely, CBRN weapons without the need for large, costly infrastructure. This accessibility to information has promoted the emergence of DIY terrorism in the fields of biology and chemistry. Inexperience and the lack of suitable facilities, together with inadequate security measures, can lead to the existence of serious national and international risk, especially in the field of biotechnology.

Achieving a balance between privacy and security will become an increasingly complex task; if it is not performed correctly, legal barriers might be created that unintentionally benefit the illicit purposes of terrorist groups.

In addition to international collaboration regarding the physical control of transport and trade in materials related to the proliferation of CBRN weapons, there must be collaboration in new areas, despite the foreseeable reluctance of some States, such as cyberspace and the intelligence services.

UNSC Resolution 1540 and the regional organisations: NATO, EU and OSCE

Antonio Barrera Comendador

Introduction

UN Security Council Resolution 1540 (2004), adopted under Chapter VII of the UN Charter, established measures, to be implemented via national mechanisms, to prevent the proliferation of weapons of mass destruction (WMD) by non-State agents, a risk that had been “prophesised” decades previously by Robert Oppenheimer regarding the nuclear bomb. This resolution plays a complementary role within the complex and extensive network of international treaties, conventions and initiatives currently applicable to the field of non-proliferation.

However, the proliferation of WMD by non-State actors is a global cross-border threat, and moreover one that is present in certain Global Commons, such as the oceans and cyberspace, and therefore a purely national approach cannot completely resolve the problem. The solution lies in coordinating and sharing national action, and this is only possible through supranational organisations such as NATO, EU and OSCE (in the European context) and through the response and action mechanisms they provide within their areas of competence and geographic areas of influence and interest.

In addition, given that proliferation and terrorism are viewed as threats by these three organisations, the opportunity arises to seek a synergy among them, favouring the aims of UNSCR 1540. This synergy would promote greater political awareness, boost implementation of the resolution and

strengthen national capacities among the countries committed to regional cooperation.

In view of these considerations, this chapter analyses the potential of international and regional organisations¹, and their role in relation to UNSC Resolution 1540 and its 2016 Comprehensive Review. To this end, we examine in particular the three major international organisations in the European environment, NATO, EU and OSCE, and their contribution to achieving the objectives of UNSCR 1540, in a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis.

Threats and risks

The proliferation of WMD, their means of delivery and related materials, is a common issue of concern of the three organisations, one that is compounded by the possibility of non-State actors accessing, trafficking and using them.

For the three organisations, this question is one of increasing importance, as reflected in the statements in this respect arising from the last four NATO Summits (from Bucharest 2008 to Wales 2014), the semi-annual reports issued by the EU², and the OSCE Principles Governing Non-Proliferation³. During this recent time, the security situation in the Middle East has deteriorated and there has been instability in Libya, conflict in Ukraine and a proliferation of jihadist terrorism in Iraq, Syria and the Sahel. In these geographic areas, the security situation of stocks of chemical, biological, radiological and nuclear (CBRN) materials remains unclear, but programmes to develop WMD, especially chemical ones, are known to have been conducted, and nuclear and radiological material is also present, from projects for the peaceful use of nuclear energy.

However, although the threat perceived is similar for each of these organisations, the risk is assessed differently according to the geographic areas of particular interest in each case. Thus, NATO tends to focus on its eastern and southern flanks (Eastern Europe and the Mediterranean), while the EU attaches greater importance to Africa and the OSCE concentrates on its “internal borders”, particularly those of the former republics of the Soviet Union. However, there are geographic areas of common interest, mainly corresponding to those contiguous with Europe.

There exists a danger that the coexistence of this threat with others that are especially preoccupying in Europe – such as terrorist attacks against

1 UNSCR 1673, of 27 April 2006 and UNSCR 1977 of 2011.

2 Semi-annual report by the European Union on the implementation of the EU strategy against the proliferation of weapons of mass destruction.

3 Adopted in 1994 by the participant States at the Conference on Security and Co-operation in Europe (CSCE), aware of this threat.

tourist resorts using conventional weapons, hybrid wars, refugee crises and mass migration – might push into the background concerns about the risks addressed by UNSCR 1540.

UNSCR 1540 imposes a series of obligations on UN Member States: to prevent non-State actors from obtaining support to obtain WMD; to assist States that request assistance in this respect; to strengthen legislation in this respect; and to control materials, financial flows, trade, transport, physical security and end users. Communication, debate and discussion help ensure the universal, effective application of the resolution.

To properly analyse the contribution made by NATO, EU and OSCE to the implementation of UNSCR 1540, the above-mentioned obligations must be measured against the fundamental goals and responsibilities of each organisation. However, as they have diverse characteristics and aims, we will first address each one separately, and then analyse the question of cooperation among them.

NATO

The contribution made by NATO should be considered in view of the stated missions of the Alliance: collective defence, crisis management and cooperative security⁴. The latter concept includes measures for assistance and information sharing and for creating or strengthening capacities within non-NATO countries in areas such as physical protection, border control and the fight against terrorism.

In addition, within the framework of cooperative security, NATO has great potential for partnerships and initiatives, such as the Mediterranean Dialogue, the Istanbul Cooperation Initiative and Security Sector Reform missions, which provide elements for capacity building in areas where terrorism is most present. An example of the latter is Operation Inherent Resolve, in Iraq⁵, in which Spanish troops contributed to the training of 1,000 Iraqi soldiers.

Within its partnership structure, and in particular through the Euro-Atlantic Partnership Committee (EAPC), NATO has another mechanism by which it contributes indirectly to UNSCR 1540, namely the EAPC Trust Funds. These funds have helped finance the disposal of radioactive material (Ukraine), the packing and centralisation of chemical materials and the destruction of rocket fuel. In addition, they have financed training activities for the protection and management of weapons stockpiles.

In the framework of UNSCR 1540, moreover, significant outreach and assistance activities have been carried out in civil society in countries in

⁴ NATO Strategic Concept 2010.

⁵ A military operation by the Coalition to fight against Daesh by assembling, deploying and maintaining a force to support and train Iraqi military units.

Eastern Europe (Ukraine, Moldova and Georgia) and North Africa (including Jordan and Iraq), spearheaded by the Science for Peace and Security programme, which finances and promotes activities related to CBRN and the fight against terrorism. This programme is intended to foster cooperation not only among nations but also with other international organisations, which would include UN, EU and OSCE.

NATO not only has space to promote compliance with UNSC resolution 1540 in the framework of cooperative security, but also within the main mission of collective defence. The latter respect also covers another NATO contribution, albeit an indirect one, as it is not specifically addressed in the UNSC resolution, namely counter-terrorism operations. Clearly, the purpose of these operations is broader than that of the resolution itself. An example of this is the Article V operation, Active Endeavour, which has been carried out in the Mediterranean and its approaches, for over 11 years, ensuring the control and monitoring of maritime traffic and highlighting the importance of information exchange. Active Endeavour has been characterised as follows: “[...] in which, in different forms and with varying levels of involvement, over 50 countries participate, under the NET-WORK concept, based on creating a collaborative environment, supported by a series of networks, in which civil and military users exchange information of interest”⁶.

However, despite the potential offered and the capabilities available to support UNSCR 1540, NATO considers the proliferation of non-State actors to be part of a more general threat and one of even greater concern, namely the proliferation of countries. For this reason, within NATO the question of UNSCR 1540 has been considered by each of the agencies that must address issues of proliferation in general, including the Committee on Proliferation (part of the Atlantic Council), the Weapons of Mass Destruction Non-Proliferation Centre (WMDC), the Partnerships and Cooperative Security Committee (PCSC), the Euro-Atlantic Partnership Committee (EAPC)⁷ and the Civil Emergency Planning Committee (CEPC).

It should also be taken into account that in order to combat terrorism, the approach taken must be comprehensive, and not exclusively military. However, NATO has a more limited scope of action in other fields – legal, economic, educational, political, etc. – which would be more appropriately undertaken by other regional organisations. This limitation means that NATO, alone, is not the most suitable organisation for the prevention of WMD proliferation by non-State actors.

This consideration leads us to discuss the principle of non-duplication; there is a current of opinion within NATO that the fight against the proliferation

6 http://www.emad.mde.es/MOPS/040_ACTIVE_ENDEAVOUR/. Accessed 17 February 2016.

7 Responsible for coordinating the creation and funding of the Trust Funds which partly finance activities related to nonproliferation.

of WMD among non-State actors should be led by EU and OSCE. If this view prevailed, it would lead to the direct, comprehensive involvement of NATO in the implementation of UNSCR 1540 being scaled back. However, NATO recognises and promotes complementarity with the EU in the view that both organisations should jointly work to reinforce stability and security⁸.

Another relevant point is that, at present, the development and coordination of synergies by the 1540 Committee is planned and managed via the annual Programme of Work. This periodicity does not fit easily with NATO's longer planning cycle, and this mismatch hampers coordination and synchronisation.

In terms of opportunities, and with reference to its 2009 Strategic Policy for preventing the proliferation of WMD, NATO wishes to promote the contribution of strategic enablers, in areas such as intelligence and information sharing, international outreach and cooperation among NATO agencies and committees.

Intelligence and information sharing are essential in the fight against transnational threats such as terrorism or illegal trafficking in WMD. In NATO, the WMDC regularly analyses these threats and keeps Member States constantly informed.

Evidently, NATO has the experience and the military capabilities required to make a substantial contribution in the field of WMD security. Moreover, it provides support for the implementation of UNSCR 1540 when a specific request is received. However, the resolution does not include the military factor among the resources available to it for implementation.

The forthcoming Warsaw Summit will debate concerns about NATO's eastern and southern flanks, as well as the balance between deterrence and dialogue⁹. Missions within Operation "Active Endeavour" may be extended to include actions to combat the proliferation of WMD, and there may be moves to work more closely with the African Union.

European Union

Consistent with its Strategy against Proliferation of WMD (2003), the EU has been committed to UNSCR 1540 (2004) since its adoption. As proof of this, the EU presented its initial report in that same year and, to date, remains the only regional organisation to have submitted a report. Furthermore, to increase the effectiveness of its implementation, in 2008 a Council Conclusions document

⁸ Statement issued at the NATO Summit held in Wales in 2014.

⁹ "The NATO Secretary General Jens Stoltenberg said that the Warsaw Summit agenda will be driven by two major themes, balance and adaptation. The Alliance will need to ensure a right balance between addressing challenges coming from the East and from the South." http://www.nato.int/cps/en/natohq/news_128139.htm. Accessed 24 February 2016.

on new lines for action by the European Union in combating the proliferation of WMD and their delivery systems was approved. This document proposed reinforcing work in areas such as risk identification and prevention, acting against the funding of proliferation, imposing sanctions and heightening cooperation with international and regional organisations¹⁰.

The EU is currently developing a new Global Strategy for Foreign and Security Policy, to succeed the 2003 and 2008 Strategies. Among other questions, the new edition is expected to address issues relating to the proliferation of WMD, in view of the acute level of risk now observed.

The EU contribution to UNSCR 1540 is based on three fundamental pillars, which represent its fundamental values in this area: the Comprehensive Approach¹¹, multilateralism and appropriate response to the opportunities offered in thematic and geographic areas of policy.

One or more of these pillars are applicable to many of the decisions to be taken regarding UNSCR 1540. The EU is an organisation that blends a multitude of policies, obtained from diverse fields, and this allows it to adapt and respond to any challenge from a multidimensional perspective (under the Comprehensive Approach) and to promote the development of a stronger international society based on the rule of law and with appropriate institutions (under multilateralism).

Within the framework of its Strategy against Proliferation of WMD, the EU contribution to UNSCR 1540 is made explicit in Council Decision 2013/391/CFSP, currently under review. This Decision outlines various projects aimed, in general, at capacity building and enhancing technical assistance to third parties, as well as promoting awareness and international cooperation.

Like NATO, the EU's greatest potential lies in its ability to establish partnerships on a global scale. Its extensive network of influence, its potential for forming relationships, the different perspectives and tools with which it can address complex scenarios, and its global presence in varied fields (the Comprehensive Approach), especially in Africa, where the majority of the 17 countries yet to implement UNSCR 1540 are located, make the EU a uniquely well qualified organisation to address the multifaceted risks and threats posed by CBRN proliferation.

In the multilateral framework, and derived from the EU's intention to intensify its effort to fight the proliferation of WMD (as illustrated in the EU document adopting new lines for action to combat the proliferation of WMD and their delivery systems), the EU has developed or strengthened the following

10 For more details on this document, see: <http://register.consilium.europa.eu/doc/srv?l=EN&f=ST%2017172%202008%20INIT>. Accessed 16 March 2016.

11 The use of different tools (political, diplomatic, defence, trade, economic, cultural, development aid, humanitarian, etc.), from different perspectives, in order to achieve a specific goal.

mechanisms, which in turn contribute to the implementation of Resolution 1540:

- The creation in 2010 of a network of CBRN Centres of Excellence as a mechanism to create synergies for coordinating regional and national implementation, and in particular, to promote the development of policies and structures in all areas of CBRN issues¹².
- Funding for projects related to UNSCR 1540.
- Joint Investment Programme (JIP)¹³, to fund research projects addressing CBRN-related issues.

The CBRN Centres of Excellence (CoE) are present in eight regions: Eastern and Central Africa, North Africa and Sahel, the African Atlantic Façade, the Middle East, South East and Eastern Europe, Central Asia, South East Asia and the Gulf Cooperation Council Countries. An individualised CoE study has been made for each country in the region, together with a regional analysis in the field of CBRN under the comprehensive approach, and the outcome of these studies is expected to be very valuable in terms of achieving the objectives of Resolution 1540¹⁴.

Other issues, rather more circumstantial, should also be considered, such as EU participation in crisis prevention and management, including migration issues, or the missions and operations undertaken in accordance with the Common Security and Defence Policy. These factors represent important opportunities and areas where support is given, albeit indirectly, to implementation of the resolution and to outreach initiatives. Furthermore, assistance may be provided to enable States to comply with its provisions.

These opportunities in the areas of security and defence constitute the third fundamental pillar of the EU. However, many are not directly supportive of UNSCR 1540, as the approach adopted is a military one. Through these operations and missions, the EU contributes to strengthening the military and security capabilities of other States in the fight against terrorism; this is the case of missions such as EUTM-MALI, EUTM-SOMALIA and EUMAM-RCA (Central African Republic), to which Spain has contributed personnel and other resources. These missions can be considered as contributions to

12 According to the report for Jan-June 2015 on the implementation of the EU strategy against the proliferation of WMD (2015/C 296/01), 47 regional projects have been undertaken since 2011, worth approximately 60 million euros. Available at: http://eur-lex.europa.eu/legal-content/ES/TXT/?uri=uriserv:OJ.C_.2015.296.01.0001.01.SPA. Accessed 16 March 2016.

13 This programme is part of the context of the European Framework Cooperation (EFC) established between the European Commission, the European Space Agency and the European Defence Agency to maximise synergies between civilian research, space-related work and defence projects.

14 Information on EU CBRN Centres of Excellence available at: <http://www.cbrn-coe.eu/4.html>. Accessed 11 February 2016.

the reform of the security sector, made under the EU Common Security and Defence Policy.

However, as these are military deployments, they cannot be considered as direct contributions to Resolution 1540, which does not include military action among its enforcement mechanisms. In consequence, Resolution 1540 is not mentioned in the mandates of deployments for tasks related to warnings, prevention, information, cooperation with civil authorities, training or surveillance (including border controls). If it were mentioned, this would undoubtedly have a multiplier effect on the efforts made in different countries and regions where EU deployments take place.

Another point of interest is the fact that 22 of the EU Member States also belong to NATO, a factor that should encourage us to seek greater complementarity between the two organisations.

For the EU, as for NATO, intelligence and information sharing are crucial to warning of and preventing WMD proliferation by non-State actors. Contributions to this end are made by the Intelligence and Situation Centre (EU INTCEN) and agencies such as Europol. However, such exchanges of information are at present restricted to the Member States¹⁵, although the scope might be extended to organisations guaranteeing information security, which would include NATO.

Finally, in relation to future opportunities, the EU is expected to make active contributions, both politically and financially, in the following lines of action:

- Financial support and political dialogue to promote the development of Resolution 1540 implementation reports by the countries that have not yet done so.
- Increased EU visibility in support of the implementation and universality of the resolution, especially in EU areas of interest and presence, above all in its Eastern and Southern neighbourhoods.
- Enhancing cooperation with other regional organisations, such as the African Union, the OSCE and the Arab League.
- Promoting synergies with the network of CBRN Centres of Excellence.

OSCE

For the OSCE, the proliferation of WMD is a cross-cutting threat, and moreover it constitutes a multiplier factor in conjunction with other transnational threats; thus, it can only be countered through mechanisms of cooperation. Accordingly, at a very early date (1994), the participating States of the Conference on Security and Cooperation in Europe (CSCE), aware of this very

¹⁵ Information on the EU Counter-Terrorism Strategy can be found at: <http://eur-lex.europa.eu/legal-content/ES/TXT/?uri=URISERV%3A133275>. Accessed 20 February 2016.

threat, adopted the “Principles Governing Non-Proliferation”. These have since been revised, and still serve as the basis for major decisions.

To this end, and in relation to the aims of UNSCR 1540, the OSCE States included issues related to non-proliferation in the framework of its Forum for Security Cooperation (FSC), one of its decision-taking agencies, which deals primarily with issues of a political-military nature. To perform its tasks, the FSC is advised by the Conflict Prevention Centre, staffed with OSCE experts in this field.

In 2009, and in parallel with the decision on Transnational Threats¹⁶, the FSC adopted a new decision¹⁷ to support participant States in complying with UNSCR 1540, which constitutes the fundamental basis of the projects undertaken in this Forum.

Under this regulatory framework, and taking into account developments on the subject in the context of the UN, the OSCE updated its Principles Governing Non-Proliferation¹⁸, stipulating the powers it was entitled to exercise in support of UNSCR 1540¹⁹. The main aims of these Principles are summarised as follows:

- To strengthen the leadership role and the global measures adopted by the 1540 Committee, and to facilitate the support of OSCE Member States for the implementation of Resolution 1540 and related resolutions, providing continuous and effective assistance to participating States, on request.
- To continue to promote the exchange of experiences concerning the progress made and lessons learned, and to develop effective practices for the implementation of Resolution 1540.
- To maintain and, where appropriate, expand the network of OSCE contact points for Resolution 1540, as an integral part of the 1540 Committee network.

The OSCE’s main areas of application in this respect are those of assistance for UNSCR 1540 and communication of its activities. However, it is as a forum for coordination and cooperation among nations and regional organisations

16 Decision MC.DEC/2/09, on “Further OSCE efforts to address transnational threats and challenges to security and stability” dated 2 December 2009, adopted at the Athens Ministerial Council meeting. Available at: <http://www.osce.org/cio/40713?download=true>. Accessed 16 March 2016.

17 Decision MC/16/09, on “Issues relevant to the Forum for Security Cooperation” dated 2 December 2009, adopted at the Athens Ministerial Council meeting. Available at: <http://www.osce.org/cio/40698?download=true>.

18 Decision of the Forum for Security Cooperation (FSC) 7/13 on “Update of the OSCE principles governing non-proliferation” dated 4 December 2013. Available at: <http://www.osce.org/es/fsc/109696?download=true>. Accessed 16 March 2016.

19 Decision of the Forum for Security Cooperation (FSC) 4/15 on “OSCE’s role in support of United Nations Security Council Resolution 1540 (2004)” dated 22 July 2015. Available at: <http://www.osce.org/es/fsc/175751?download=true>. Accessed 16 March 2016.

that the OSCE plays an especially important role, that of enabling the participation of States with very different characteristics, such that the level of regulatory development in some States can serve as a model for others.

The organisation's assistance to participating States is, in general, of a multidisciplinary nature and usually results in the publication of a National Action Plan, as stipulated by UNSCR 1540. These Action Plans contain the following key elements:

- Legal presence on the territory, of persons and transactions.
- Authority to apply the plan.
- Procedure.
- Responsibilities of the Government.
- Responsibilities of the parties.

To date, the following participating States have benefited from this policy of assistance: Armenia, Belarus, Bosnia Herzegovina, Kyrgyzstan, Moldova, Montenegro, Serbia, Tajikistan, Turkmenistan, the former Yugoslav Republic of Macedonia and Uzbekistan. To this end, individualised projects have been designed for OSCE-State collaboration, taking into account factors relating to the geopolitical situation, population, trade relations, levels of economic, legal and social development, etc. This process facilitates the full implementation of the final result, and is similar to the process described for the EU CBRN Centres of Excellence.

Funding the above projects does require extra-budgetary contributions, a fact that could be seen as a weakness, since the implementation of assistance projects depends on the States' disposition and contributions, rather than purely on an analysis of factors such as feasibility, the risk to security or management capacity. This lack of assurance could lead to financial instability in the course of project implementation. EU Member States, together with the United States and Canada, have called for these projects to be included in the unified organisation budget, but this position is frontally opposed by the Russian Federation, which is currently blocking any such reform²⁰.

Many meetings, conferences or seminars have been organised by the OSCE to raise awareness of the threat, with speakers from national and international organisations, including the UN, the International Atomic Energy Organization, Interpol and the Wassenaar Arrangement. However, the events causing the greatest impact are the meetings organised in situ, aimed at political decision makers. In the same way as for regulatory assistance, these meetings are prepared in accordance with the needs of the host State, so that risk factors can be properly analysed and evaluated.

The opportunity presented by the 2016 Comprehensive Review of UNSCR 1540 is of great importance to the OSCE, and proof of this is that the Informal

20 All OSCE decisions are taken by consensus.

Group of Friends of UNSCR 1540, which Spain has co-chaired since 2015, is preparing the Organisation's contribution to the Review process, in which regional organisations, each according to their capabilities, are expected to play a more prominent role.

Cooperation among international organisations

Cooperation with the 1540 Committee

NATO and the EU are not present on the list of programmes and offers of assistance published on the website of the 1540 Committee²¹, despite their extensive programmes and outreach activities for the implementation of UNSCR 1540, as described above.

Nevertheless, in its 2015 report the 1540 Committee itself acknowledges the financial contributions made by the EU and its collaboration with other regional organisations such as the African Union²². This is also true with respect to the OSCE, which has collaborated on projects with the UN Office for Disarmament Affairs (UNODA)²³, assuming an intermediary role on request for assistance from a State, assessing needs, developing the project and obtaining the necessary instruments for implementation (human resources, finance, legal coverage, monitoring, etc.).

These circumstances highlight the complementary role of NATO in implementing UNSCR1540, allowing greater prominence to other international organisations such as the EU and the OSCE.

In order to maintain the necessary coordination, prepare the annual programme and carry out tasks of assistance, advice and administration, the 1540 Committee is supported by UNODA and the Group of Experts. The latter Group has expanded in line with the growing number of States implementing the resolution (currently, the Group has nine experts²⁴). More experts would be needed if the contributions and activities of international and regional organisations also had to be coordinated.

21 The list of assistance programmes and offers can be consulted at: <http://www.un.org/en/sc/1540/assistance/offers-of-assistance/assistance-programmes.shtml>. Accessed 10 February 2016.

22 Report on the implementation of Resolution 1540 (2004) for 2015, pp. 21 and 32.

23 In 2011, OSCE and UNODA concluded a Memorandum of Understanding for the "Joint Implementation of Projects on Non-Proliferation of Weapons of Mass Destruction and their Means of Delivery, in response to OSCE participating States' requests". Available at: http://www.un.org/disarmament/HomePage/docs/2011/UN-OSCE_Announcement.pdf. Accessed on 16 March 2016.

24 The names and countries of origin of the members of the Group of Experts can be consulted at: <http://www.un.org/es/sc/1540/committee/expert-group.shtml>. Accessed on 16 March 2016.

Cooperation among NATO, EU and OSCE

The joint declaration made at the 2014 NATO Summit in Wales attaches great importance to cooperation and the need for complementarity with the EU, and devotes three paragraphs to these questions. Nevertheless, this cooperation, as well as addressing other challenges, has broader goals, such as the fight against terrorism in general, and institutional and capacity strengthening against the threat of WMD. To this end, NATO could take advantage of the flexible relationship and cooperation it enjoys with the EU, which is reflected especially at the operational level in shared scenarios such as the Balkans and the Horn of Africa.

OSCE approaches its collaboration with other international organisations from two complementary perspectives: a direct one, with the international organisation itself, and another as a mediator between participating States and other international organisations, focusing on the exchange of experts and the organisation of conferences and working groups; in other words, on activities that benefit the OSCE and its Member States from the standpoint of training or outreach. Sometimes, however, the activity consists only of meetings, lacking further practical effects.

The capabilities and activities provided by EU Centres of Excellence concerning assistance and outreach can also be supplied by other organisations, such as the OSCE or the African Union, which means there is a risk of duplication of efforts.

NATO, EU and OSCE in the Comprehensive Review of UNSCR 1540

In view of the heterogeneity of NATO, EU and OSCE and the holistic approach needed to effectively combat the proliferation of non-State actors, it is clearly desirable to seek complementarity among these organisations.

The EU has the potential to make a significant contribution to the implementation of UNSCR 1540, thanks to its ability to adopt a comprehensive approach, and to its presence in and relationship with African countries (which account for the highest proportion of those yet to implement the UNSCR 1540 resolution). Therefore, it would not be unreasonable to view the EU as a central pillar, together with the African Union, supporting universal implementation of the resolution throughout Africa. This consideration might be made explicit following the 2016 review of UNSCR 1540.

From the point of view of providing assistance to States, on request, both the EU and the OSCE possess the means and structures, as well as appropriate relationships, to do so. The OSCE, moreover, provides an ideal forum for cooperation and coordination in its field, and is the only organisation on the 1540 Committee's list of offers of assistance. In the future, a mechanism

should be created to take better advantage of the capacities offered by the EU and the OSCE.

In relation to complementarity, efforts should also be made to enhance the synergies present among the contributions made by each organisation, not only in the short term, as reflected in the annual periodicity of the Committee's Programmes of Work, but also in medium-term forecasts (2 or 3 years), which would allow greater synchronisation between the implementation of UNSCR 1540 and the planning cycles of the two organisations.

The above considerations lead us to believe that the 1540 Committee should be equipped with a mechanism enabling it to more quickly and efficiently coordinate the contributions and capabilities of international organisations in implementing UNSCR 1540, and in supporting the activities proposed by the Committee.

In a comprehensive approach, the military factor should also be taken into consideration. However, UNSCR 1540 does not contemplate this factor and, therefore, fails to take advantage of the fact that organisations such as NATO and the EU could directly support the resolution through military operations against terrorism in international maritime spaces. Such maritime security operations would include fighting against the proliferation of WMD and providing support for security sector reform.

Finally, and also of great importance in the fight against transnational threats, is the question of information sharing. In this respect, the 1540 Committee should seek to overcome reservations and create a climate of trust, in order to foster relationships among the organisations and nations with which it works. In this respect, both NATO, through its WMD Non-Proliferation Centre, and the EU through its Intelligence Analysis Centre and agencies such as Europol, could make a more significant contribution.

To achieve universality and to ensure that UNSCR 1540 is better employed against WMD proliferation among non-State actors, national actions should be complemented to take advantage of the considerable potential offered by international organisations. Success in this regard might alleviate the fears expressed in 1945 by Robert Oppenheimer, and these organisations should be encouraged to play a more conspicuous role in achieving the purposes of UNSCR 1540.

Some solid advances: Resolution 1540 in sub-Saharan Africa

Ignacio Cartagena Núñez

Introduction

In the 1950s, Dag Hammarskjöld, the UN Secretary-General, said that in the multilateral world, immobility does not exist, because everything that is not a step forwards is actually a step backwards. The distinguished Swedish diplomat died in a plane crash in Africa in 1961. If he were alive today, it would be interesting to hear his views on what is taking place in that continent with the implementation of Resolution 1540.

In fact, the panorama is one of stark contrasts. On the one hand, 176 of the 193 UN Member States have already submitted their first reports on compliance¹. Of the 17 countries yet to do so, 13 are African². On the other hand, the trend is positive and the reporting quality, good. There is growing involvement of the African Union and other subregional organisations, as well as that of other actors such as the EU and the International Atomic Energy Agency. These indications suggest that the universalisation of UNSCR 1540 is not only feasible, but closer than it might at first appear.

1 1540 Committee, 2015 Report on the implementation of Resolution 1540 (2004) (S/2015/1052), February 2016.

2 Central African Republic, Chad, Comoros, Equatorial Guinea, Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, Mozambique, Somalia, Swaziland, and Zimbabwe. Non-African: Haiti, Democratic People's Republic of Korea, Solomon Islands and Timor-Leste.

This article analyses the causes of the relative delay in the implementation of 1540 in sub-Saharan Africa, and considers the instruments that can be used – and which are being used – to achieve full implementation, a goal that the Security Council wishes to achieve by 2021. We propose some recommendations in this respect.

Causes of delayed implementation in sub-Saharan Africa: lack of technical capabilities and different perceptions of security

African States represent a quarter of all UN Member States, and present a high degree of adherence to conventional instruments of disarmament, non-proliferation and arms control.

All except South Sudan are party to the Non-Proliferation Treaty; almost all have signed and ratified the Chemical Weapons Convention; 32 are party to the Biological and Toxin Weapons Convention; and only three have yet to ratify the Convention on Certain Conventional Weapons. In 1996, the countries of Africa concluded the Pelindaba Treaty³, which prohibits (under Article 4) the presence of nuclear weapons in Africa. In 1999, the Organization of African Union, the predecessor of the African Union, adopted the Convention on the Prevention and Combating of Terrorism, which requires States Parties (under Article 4.2) to establish and strengthen mechanisms to detect illegal trafficking and the import, export, storage or use of weapons and explosives.

Therefore, the delay in implementing UNSCR 1540 is not due to a lack of commitment by African countries to disarmament and non-proliferation, but rather to two factors that are conjunctural and therefore can be overcome: the lack of technical skills for presenting the reports, and differing perceptions of security issues, due to differing levels of development.

Institutional fragility and/or a lack of technical capacity are frequently cited as causes of non-reporting or of inadequate reporting. Although under UNSCR 1540 the first reports should have been submitted within six months of its adoption (April 2004), in fact only 50 States met this deadline. This fact alone highlights the difficulties – common to all members of the international community – encountered in adopting an ad hoc legislative package or setting up the institutions and controls required. And if this is true for most countries, it is all the more so for developing countries, which have struggled to present not only their UNSCR 1540 reports, but also those required by other multilateral instruments. Thus, in the framework of the Convention on Biological and Toxin Weapons, only five sub-Saharan countries submitted compliance reports in 2014, and only two did so within the framework of the Convention on Certain Conventional Weapons.

3 Complete name: African Nuclear-Weapon-Free Zone Treaty. Concluded in Cairo on 11 April 1996, in force since 15 July 2009.

Furthermore, the problems encountered in presenting UNSCR 1540 reports are not only quantitative. The first compliance reports submitted by sub-Saharan African countries rarely provided sufficient detail. Some were extremely terse and seemed to be formulated only for the sake of compliance. Others merely noted that as their country did not possess WMD, there was no likelihood of these being seized by non-State actors; or cited a list of disarmament and non-proliferation agreements that had been signed and ratified as an assurance of compliance with UNSCR 1540. Of the reports that have been submitted so far, those presented by South Africa are of outstanding quality, as is consistent with this country's past as one that has previously possessed WMD and which is now firmly committed and active in rejecting them. Moreover, South Africa was Chair of the 1540 Committee in 2011 and 2012.

Another cause of the delay in implementation of UNSCR 1540 is that of the different perceptions of priorities among developed and developing countries. In Africa, most countries do not produce or export materials relevant to UNSCR 1540. Logically, therefore, these authorities perceive a greater risk (and so concentrate their efforts) in other areas, such as the fight against trafficking in small arms and light weapons, of which almost 20% of the world total – estimated at 640 million – circulate within Africa. In this respect, the activity presented is comparable with national concerns: 47 African countries (i.e., almost all of them) are signatories or party to one or more regional instruments for arms control, such as the ECOWAS Convention, the Nairobi Protocol or the SADC protocol. Furthermore, 49 have national contact points and 27 have developed action plans in this area⁴. As observed by the delegate of the Republic of Congo at the UN Security Council "The issue of small arms and light weapons is of greater legitimacy for African countries, as they threaten the daily existence of Africans and are the main instruments used by non-State actors for their crimes"⁵.

Resolution 1540 and its application to sub-Saharan Africa

Even though WMD pose no priority threat to countries that have never produced or possessed them – and, moreover, whose daily lives present risks that are much more pressing, such as epidemics, famine or radicalism – there exist various factors in sub-Saharan Africa that could make Resolution 1540 a very useful instrument.

First, almost all African countries have industries and sectors that could be described as being "at risk" with respect to WMD. While it is true that most African countries lack the infrastructure to produce nuclear or radiological

4 Carlson, Khristopher "Efficacy of Small Arms Control Measures and National Reporting: Learning from Africa", Small Arms Survey, No. 33, August 2013.

5 UNSC, "Update report on terrorism and WMDs: Resolutions 1540 and 1673", 2007, p. 15.

weapons, nuclear energy is already part of the present in Africa, and could be a major player in its future. South Africa has several nuclear reactors in operation; Kenya, Ghana and DRC have experimented with research reactors, while others, such as Uganda and Senegal, have shown interest in acquiring nuclear infrastructure. Various African countries have biotechnology and chemical industries, and are exposed to the threat of biological pathogens.

The risk sectors described above have arisen in a context of low rates of development and considerable social inequality, which constitutes a good breeding ground for all kinds of radicalism, and therefore for terrorist groups to become established. Since the 1990s, Al Qaeda has acted in Ethiopia, Kenya, Tanzania, Sudan, Somalia and Uganda. Globally, Somalia is the country at greatest risk of terrorism. In the Sahel, the traditional players have been joined by Daesh, which has penetrated the region and prospers on the situation of chaos in eastern and southern Libya. Despite the considerable advances made by the Nigerian security forces, Boko Haram still controls large tracts of land, and bloodthirsty suicide bombings are committed almost daily, both in Nigeria and extending to Cameroon, Central African Republic and other countries. The threat of terrorists and criminals gaining access to WMD is real, and the question is not so much whether they will be used in a major attack, as when.

Finally, due to institutional fragility and porous borders, Africa is often the scenario for all kinds of illegal trafficking. The Database on Nuclear Smuggling, Theft, and Orphan Radiation Sources has reports of twelve incidents of trafficking in uranium between 1995 and 2005, in Tanzania, DRC, Namibia and South Africa. Moreover, in 2003 investigations into the nuclear technology trafficking network led by the Pakistani scientist A.Q. Khan⁶, revealed the existence of branches in up to thirty countries, including Libya and South Africa⁷.

Illicit trafficking in small arms and light weapons (and also narcotics) is commonly present, with two major routes in West Africa: one centred on Guinea and Guinea Bissau, and the other along the coast between Ghana and Nigeria, while a new route has been opened up in East Africa, involving countries such as Kenya, Tanzania, Mauritius, Seychelles and Comoros. The cause, and at the same time, the consequence of this traffic is the insecurity of the African coasts (in particular, the Gulf of Aden and the Gulf of Guinea), which since the late 2000s have been a recurrent scenario of piracy. This risk is strongly associated with the security situation on the mainland, and especially so in the case of Somalia, where pirates have committed attacks up to 1000 nautical miles from the coast.

6 Assembly of the African Union/AU/dec472 (XX), 27-28 January 2013.

7 Dye, Dominique, "African perspectives on countering weapons of mass destruction", ISS paper 167, September 2008.

The full implementation of Resolution 1540: some proposals

As discussed above, the absence of weapons of mass destruction, or of the capacity to manufacture them, does not immunise a State from this threat, and therefore it is necessary to determine what can be done to achieve the full implementation of UNSCR 1540 by 2021. In this respect, it is crucial to provide assistance in drafting an implementation report and to raise awareness of the importance of this resolution for these countries' own security.

Let us start by examining the work of the 1540 Committee. Since the last Comprehensive Review of the resolution, in 2010, the Committee's approach has increasingly been based on cooperation and transparency⁸, which is consistent with its mandate from the Security Council⁹.

Resolution 1540 did not include any provision on the role of the 1540 Committee in assisting States, on request. Indeed, it might seem that the functions assigned to the Committee were deliberately limited, an impression produced, among other reasons, by the lack of a separate budget and of an organisational structure. Instead, the resolution delegated the function of assistance to the Member States themselves. In this first stage of the Committee, the question of assistance was relegated to the fundamental issues of the resolution – so much so that only two of the fourteen members of the Security Council that adopted the resolution made any reference to providing assistance for in its implementation.

Resolution 1673¹⁰ invigorated the question of assistance in the implementation of UNSCR 1540, calling on the 1540 Committee, directly, to enter into dialogue with the States to ensure the full implementation of Resolution 1540. This dialogue should include a discussion of the technical assistance needed, and offered by Member States, and the availability of programmes to facilitate the implementation of UNSCR 1540. As a result of this encouragement, several meetings and forums were held, emphasising the importance of and need for cooperation in assisting implementation. At these events, the providers of assistance met those requesting it, and/or civil society organisations were urged to participate in this task.

8 Report of the Committee established pursuant to Security Council resolution 1540 (2004). Report on the Comprehensive Review of the status of implementation. 14 September 2011. S/2011/579.

9 Established by Resolution 1977 (2011). The original mandate empowered the Committee to collect reports from States and to submit an implementation report to the Security Council. Eventually, the Committee was expected to evolve into a more permanent agency, empowered to collect and share information on best practices, to promote outreach, dialogue and cooperation, and to facilitate assistance.

10 Approved by the Security Council at its 5429th Session, on 27 April 2006.

The heightened promotion of assistance was also evident at the Committee's 9th Programme of Work, approved in February 2010, which created a system of work groups, one of which was dedicated exclusively to providing assistance for implementation.

At present, the assistance function is viewed as a key aspect of the Committee's work. Numerous international organisations have associated themselves with Resolution 1540, including the Global Partnership Working Group, the Organization for the Prohibition of Chemical Weapons and Interpol, and all of these facilitate assistance in capacity-building programmes. Africa constitutes one of their priority areas of attention. To date, 15 African States have requested assistance from the 1540 Committee, and almost 50 UN Member States, together with 17 international and regional organisations, have made offers of assistance via the Committee. In this respect, too, the synergies existing between the Committee and the IAEA may be of advantage. The complementarity existent between the latter bodies, which is referred to both in the preamble to the resolution and in successive resolutions of the IAEA General Conference, has resulted in frequent contacts and information sharing taking place, although a natural limit arises as a result of the confidentiality with which both organisations must operate¹¹.

The EU, too, has provided assistance to African countries within the framework of UNSCR 1540, through joint actions approved by the European Council in 2006 and 2008. The first of these actions, with a budget of €195,000, gave rise to regional seminars being held (in Africa, Latin America and Caribbean and Asia-Pacific), to elucidate the requirements and obligations of Resolution 1540, to assist in the drafting of national reports and to share experiences in adopting national legislation accordingly. In 2010, the EU launched its Centres of Excellence for risk mitigation, with a budget of €100 m, which have collaborated in the formulation of national plans in Ghana and Kenya. Since 2004, most Member States have offered assistance, either bilaterally or by participating in multilateral programmes.

While the assistance of these organisations is of crucial importance, so too is the appropriation of UNSCR 1540 by the African countries themselves, particularly through regional organisations, most notably the African Union. This aspect of the question became particularly important after the adoption of Resolution 1777 (2011).

The trigger for greater involvement by the African Union in implementing the resolution was a seminar hosted by South Africa, UNODA and the Institute for Security Studies, in Pretoria in November 2012, to explore the possibilities for synergies with the 1540 Committee and with other regional organisations. Then, in January 2013, at its 20th Annual Assembly, the African

11 Andemicael, Berkhanynun, "1540 cooperation and the developing world: international, regional and subregional organizations", ISS monograph 191.

Union emphasised the significance of Resolution 1540, and called upon the Commission to cooperate with the 1540 Committee and international organisations in supporting implementation by its Member States.

The African Union now has a focal point for UNSCR 1540, in its Defence and Security Division, and works actively with countries that have requested the 1540 Committee for assistance in preparing their first report. The first pan-African workshop on the resolution took place in November 2012. The following edition of this seminar was in Addis Ababa in December 2013 and in 2014, under the auspices of the UN Regional Centre for Peace and Disarmament in Africa (UNREC). In the same year, on the occasion of the 10th anniversary of Resolution 1540, the Chairperson of the African Union Commission, Nkosazana Dlamini-Zuma, issued a statement reiterating the commitment of the African Union to the effective implementation of Resolution 1540 and to combining regional and global efforts to prevent and combat global terrorism and the proliferation of weapons of mass destruction. In her words, "The evolving threat of terrorism on the continent and the terrorists' determination to inflict wanton destruction through all means possible require continued efforts by the Member States, individually and collectively, to protect the continent and its people against such threats"¹².

One of the main roles of the African Peace and Security Architecture is that of promoting collaboration with other African regional organisations, such as ICAD, ECOWAS and ECCAS¹³, and in September 2015 a joint seminar in Nairobi explored new avenues of collaboration.

The above efforts and events preceded the Assistance and Review Conference on the Implementation of UNSCR 1540 (2004) in Africa, held in April 2016 in cooperation with the 1540 Committee, with the support of UNODA and the participation of all African Union Member States.

This conference had two main aims: to analyse the challenges the continent must face in implementing Resolution 1540, and to specify the assistance it will require to do so, for the information of donors participating in the conference (States and international and regional organisations). The conference took place, moreover, taking into account the threat posed by the proliferation of WMD and the need to advance rapidly from speech to action.

The Member States of the African Union exchanged ideas on the Comprehensive Review of Resolution 1540, led by Spain in its role as Chair of the 1540 Committee, which is scheduled to be completed by the end of November 2016, seeking to make an active contribution, in the understanding that this Review would not be complete or effective without Africa's invaluable contribution.

¹² African Union, press release by the Chairperson of the AU Commission, 30 April 2014.

¹³ ICAD - International Conference on African Development; ECOWAS - Economic Community of West African States; ECCAS - Economic Community of Central African States.

Conclusions

Despite the difficulties, Africa is making good progress towards the goal of full implementation of Resolution 1540. Although a handful of sub-Saharan countries have yet to issue their first report, others, such as Angola, Gabon, Kenya, Togo and South Africa, have distinguished themselves by regularly reporting compliance over the last decade. On the other hand, another key indicator of the complete implementation of Resolution 1540 is the voluntary development of national action plans, and in this respect the total number of UN Member States to have done so (21) is still low. Interestingly, the last country, to date, to present this information, was Malawi in 2016, and so four African states have now delivered their national action plans. Thus, progress is being made.

Nevertheless, further synergies are needed between the implementation of UNSCR 1540 and other arms control instruments. The creation of national focal points would facilitate this task. Another priority is to seek complementarities between the 1540 system and the fight against terrorism, with commitment to the concept of “wide-ranging security”. By strengthening joint approaches to the problem, a greater perception of the added value of the 1540 system can be achieved among African countries.

On the other hand, it is important to avoid obsessing ourselves with report presentation, as an end in itself, as this can lead to the sterility of “reporting fatigue”. It is of great importance – as a precedent and because it reflects the commitment (at least on paper) of States’ role in implementing the resolution – that an initial report on compliance be issued. Clearly, the failure to supply a report can be as negative as the writing of inadequate or inaccurate reports. However, what really matters is that the States should, in practice, effectively fulfil their obligations under Resolution 1540.

It has often been observed that compliance with the provisions of UNSCR 1540 requires States to achieve coordinated and comprehensive action by all areas of administration (the ‘whole-of-government’ approach). This, clearly, is a challenge, but it can also be an incentive for the implementation of the resolution. It should also be emphasised that drafting a good report is a valuable learning experience in itself. The process should be viewed as a vehicle for structuring and reinforcing the administrations involved. It is essential that compliance with UNSCR 1540 be perceived in terms of mutual benefit, not as a cumbersome process, merely required to fulfil a commitment to multilateral bureaucracy.

In sub-Saharan Africa, the full implementation of Resolution 1540 is one more challenge, among many. The urgency and the dimensions of the political, social, humanitarian and security challenges that the continent must face every day might make any other commitment pale. However, the dimension of UNSCR 1540 and its focus on cooperative security is such that, without

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the wholehearted contribution of all stakeholders, its effectiveness will be diminished and the risks it seeks to combat, heightened.

Work must continue towards achieving full compliance with UNSCR 1540, as the dividends it offers in terms of security are global, as is often the case with the challenges of disarmament and non-proliferation. Moreover, there does not appear to be any insurmountable obstacle to its universal implementation, at least among the countries of sub-Saharan Africa. As Dag Hammarskjöld said, "Never measure the height of a mountain until you reach the top; when you have reached it, you will see how low it was".

Law enforcement bodies under the framework of the UNSCR 1540: assessment, analysis and proposals of improvement

Joaquín Rebollo González

Introduction

The UNSCR 1540¹ constitutes the first formal decision of the Security Council of the United Nations that takes into account the illicit trade of nuclear, chemical and biological weapons, their delivery systems and the related materials. This Resolution is seen from a new perspective of the proliferation that admits the existence of a tie between proliferation and the risk that arises from the access of non-state agents and terrorist elements to weapons of mass destruction.

This resolution is established as the most important effort of the international community to prevent and strengthen the structure of the non-proliferation.

On account of that, the UNSCR 1540 is fundamental for the duties and missions that the Spanish Constitution and the Organic Law 2/1986 (*Ley Orgánica 2/1986*) of the 13th March, on the Law Enforcement Bodies, assigns to the Spanish Civil Guard and the Spanish Police Bodies.

Therefore, taking as a starting-point the advances developed by the Law Enforcement Bodies in this field, and after analysing the current situation,

1 United Nations' Security Council adopted on the 28th April 2004 the UNSCR 1540 as a response to the threat against international peace and security that has been caused by the proliferation of nuclear, chemical and biological weapons, as well as their delivery systems, by non-state actors.

this project is aimed to detect the weak and strong points, the threats and the opportunities that are a result of the development of the different strategic strands of action set forth in the abovementioned resolution. Thereby, a better establishment of the National Action Plan for the UNSCR 1540² will be encouraged and a comprehensive review of this Resolution will be possible.

Analysis and assessment

The “Action Plan for the Implementation of the UNSCR 1540” establishes a series of prime objectives in order to set the priorities of action and to serve as indicators of control for the review, assessment, improvement and updating of this Action Plan. Consequently, starting from these objectives, it seems necessary to emphasize, as strengths, the work carried out by the Law Enforcement Bodies of the State.

The prevention and dissuasion are fundamental to face the proliferation of weapons of mass destruction. Therefore, it is necessary to provide the Law Enforcement Bodies the legal tools needed to apply the UNSCR 1540 in an effective manner.

In this regard, the Organic Law 1/2015 (*Ley Orgánica 1/2015*), of the 30th March, which modifies the Organic Law 10/1995 (*Ley Orgánica 10/1995*), of the 23th November, from the Spanish Criminal Code, puts the nuclear and radiological substances on a level with the chemical and biological devices, weapons and substances, with regard to the crimes set out in the Chapter V of the Title XXII “On the possession, trafficking and storing of arms, ammunition/munition and explosives” (*Capítulo V del Título XXII “De la tenencia, tráfico y depósito de armas, municiones y explosivos”*), as well as the ones set forth in the Chapter VII of the same Title “On the terrorists organizations and groups and on the terrorism crimes” (*Capítulo VII del Título XXII “De las organizaciones y grupos terroristas y de los delitos de terrorismo”*). In fact, among the terrorism crimes, the provision “or whatsoever crimes with similar destructive power” has been included, which means that there is a new possibility to apply these criminal provisions to this new threat derived from the proliferation of weapons of mass destruction.

Likewise, the process of implantation of a new “Model of Security for Nuclear Power Stations” (*Modelo de Seguridad de las Centrales Nucleares*) allows guaranteeing the security in the nuclear power stations under the defined adversary combining the private security with the public security, being the latter the responsible for the constitution of response groups with reinforced capacities, which ought to be placed permanently inside these stations with

2 Taking into consideration the obligations derived from the UNSCR 1540, in line with the CBRN Action Plan of the European Union (2009), as well as with the objectives of the National Security Strategy (2013) and the Global Counter-Terrorism Strategy (2012), the Security Council adopted the “Action Plan for the Implementation of UNSCR 1540”.

the aim to face the abovementioned. In fact, the implementation of this new model has provoked the publication the last 18th December 2015 of the Royal Decree 1086/2015³ (*Real Decreto 1086/2015*) in order to provide legal coverage to the Units of Response of the Civil Guard and determine clearly the responsibilities, missions and duties of the different actors involved in the security of the nuclear power stations.

Within the framework of the protection of critical infrastructures, the Law 8/2011 of the 28th April (*Ley 8/2011*), which establishes measures for the protection of critical infrastructures, gathers the 12 strategic sectors according to which we differentiate the work, economic and productive areas that provide an essential service or that guarantee the exercise of the authority of the State or the security of the country. Specifically, the nuclear and chemical industries and the researching facilities are defined as strategic sectors.

Consequently, taking as a reference the National Plan for the Protection of Critical Infrastructures (*Plan Nacional de Protección de las Infraestructuras Críticas*), the National Centre for the Protection of Critical Infrastructures devised in 2015, from the field of security, a Nuclear Industry Strategic Plan. Moreover the Chemical Industry Strategic Plan is being currently devised and the drawing up of a Strategic Plan for the researching facilities is expected for 2017.

With the development of these Strategic Plans, we can get to know which are those essential services provided to the society in each of these sectors, the general performance thereof, the principal infrastructures and the operators which own and administrate them, the vulnerabilities of the system, the potential consequences of the inactivity of these sectors and the strategic measures necessary for their maintenance.

Particularly, within the strand of action relating to the security and protection of materials and high-risk CBRN facilities, and within the framework of the protection of critical infrastructures, all of the operators that are owners and/or administrators of a critical infrastructure included in any of the three abovementioned sectors shall devise an Operator's Security Plan and a Specific Protection Plan for each of the infrastructures classed as critical.

Therefore, with this structure, apart from guaranteeing the normal action of this type of facilities, and with the aim of protecting the population, the robbery or theft of those CRBN materials that can be stored in this type of facilities can be prevented, as well as the access to dangerous substances by unauthorized people.

3 Royal Decree 1086/2015 (*Real Decreto 1086/2015*), which modifies the Royal Decree 1308/2011 (*Real Decreto 1308/2011*) on physical protection of nuclear facilities and materials, and of the radioactive sources.

An important aspect in the field of transport has been the holding of the Joint Simulation Spain-Morocco "Gate to Africa". The general objective of the simulation had a double side; on the one hand, at a national level, it was aimed at checking and verifying the coordination and performance of the national authorities and entities with competence in the physical security of the transport of nuclear and radioactive material in the event of different incidents such as robbery, sabotage, unauthorized access, illegal transfer and other malicious actions. On the other hand, at an international level, it was directed to verify and strengthen the international cooperation between Spain and Morocco in terms of physical security of the transport of radioactive material, as well as to test the reaction and response capability of both countries in the event of a terrorist attack.

This simulation has permitted to train and pilot the measures of physical nuclear security associated with the maritime transport of radioactive material, both at national and international level, by means of the planning of suppositions which permitted the assignment of responsibilities to the authorities and other competent entities, both in the prevention and detection of the nuclear or radioactive material and in the response and tactic reaction to illicit actions that would guarantee the recovery and the control of this material preventing a radiological emergency. In addition, "Gate to Africa" has strengthened the mechanisms of cooperation and exchange of information between Spain, Morocco and the International Atomic Energy Agency.

With regard to the intervention mechanisms and response in case of an incident in the nuclear/radiological sphere, the Law Enforcement Bodies of the State have analysed and studied the national forensic abilities and have designed conceptually the structure of the National Plan of Response and, currently, they are working on the establishment of a technical and operative procedure that permits the proper collaboration and cooperation of all the actors involved in a joint action.

This document is being drafted on the basis of all the national technical documents relating to nuclear/radiological security and its aim is to include them in an incident with nuclear material out of regulated control. Similarly, work is being carried out to develop a comprehensive approach of the incident which covers the coordinated action of different groups constituted by actors belonging to different institutions: detection (prevention and detection), response and mitigation (categorization, sample drawing, storage and transport) and forensic-nuclear (analysis and attribution).

In this regard, work is being carried out for the development of an Operative Action Plan according to the National Strategy for Security and Protection against the use of Chemical Weapons. In fact, in the biological field, action protocols have already been developed, and they include the action of the Network of Biological Alert Laboratories (RELAB) and the CBRN operative units of the Law Enforcement Bodies of the State.

Simultaneously, as a result of the work performed by the operative units of the Civil Guard and the Spanish Police Corps, a number of deficiencies concerning the implementation of UNSCR 1540 have been detected. This resolution has different objectives, but it sets neither priorities nor hierarchies for its implementation, presuming that its implementation depends on each country, considering its own circumstances and interests. With this approach, each country decides its own priorities and establishes its own definition of “proper and effective” measures.

Along the same lines, the 1540 Committee tries to promote the implementation of the resolution by means of dialogue, spreading, assistance and cooperation, but it lacks inspection and control mechanisms. Moreover, the 1540 Committee does neither approve lists of control nor demands the States to adopt them. That way, each State can adopt the lists of materials, agents, technology and final users that it deems appropriate.

In fact, the 1540 Committee acknowledges that there are a number of international conventions, intergovernmental organizations and multilateral or regional agreements that have already adopted lists of strategic products. Nevertheless, the accession to these conventions, agreements or treaties is a free decision, and that makes the lists of control a useful instrument only for the countries of the abovementioned treaties or agreements.

Furthermore, the transnational and global nature of the international terrorism and organised crime, and also the complexity and specificity, from both the technical and legislative point of view, of the control of defence and dual-use materials, prevents the courts’ jurisdiction from carrying out judicial investigations of the necessary level. Hence, it would be advisable that the *Audiencia Nacional* (Spanish court with jurisdiction in all the Spanish territory) assumed the responsibility of criminal law matters to deal with the offences derived from this type of illicit activities; even the incorporation of the concept “proliferation of weapons of mass destruction” in the Spanish Criminal Code would be considered.

Additionally, the complexity and specificity of the transfer of strategic and dual-use materials can create a gap between the different departments that are involved. Consequently, it is worth considering to increase consular vigilance to prevent the transfer of intangible technology and to raise the awareness of the risks of proliferation in the scientific and academic sectors, as well as to strengthen the exports controls.

Henceforth, taking as a reference the weaknesses and with the aim to address the existent threats, it is necessary to develop and deepen into the following opportunities:

- To fix concrete dates to the adaptation of each State to UNSCR 1540, as well as the priorities within the activities that are going to be developed.

- To ascribe to the 1540 Committee further functions of audit and control, even from the point of view of the sanctions, so that there would be a greater control of the networks of arms trafficking, biological and chemical weapons.
- To establish, at the level of the 1540 Committee, a common list of control. That way, the work of the Law Enforcement Bodies when carrying out judicial investigations would be easier and strengthened.

Conclusions and Recommendations

The globalization and the possible access to this kind of weapons of mass destruction and its delivery systems by non-state actors have generated a new scenario that entails risks and threats that can affect the national and international security.

The approval of UNSCR 1540 was a response to the threat against international peace and security derived from the proliferation of weapons of mass destruction and their delivery systems. This resolution was adopted under the Chapter 7 of United Nations Charter: "Action with Respect to Threats to the Peace, Breaches of the Peace, and Acts of Aggression".

The main objective of UNSCR 1540 is to avoid that the weapons of nuclear, biological and chemical mass destruction, as well as their delivery systems and related materials, fall into the hands of terrorist groups or organized crime.

The *"Action Plan for the Implementation of the UNSCR 1540"* defines the necessary measures to achieve the complete implementation of the UNSCR 1540 and to meet the needs of National Security in general and to the ones of the nuclear security in particular. This plan is characterised by the following aspects: strategic, which designs the national structure and defines the broad lines of action; national, which affects all the territory and that must be fulfilled by all the Ministries and competent national organisms; efficient, which makes a good use of the mechanisms that are already in force; and consistent with the National Security Strategy.

Furthermore, once jointly analysed the UNSCR 1540 and the *"Action Plan for the Implementation of the UNSCR 1540"*, and taking into consideration the different activities carried out by the Spanish Police Corps and the Spanish Civil Guard, which have met their most important objectives and lines of action, and that have permitted identifying a series of strong and weak points, threats and opportunities, the following *"lines of action"* are suggested with the aim to improve the efficiency of UNSCR 1540:

- To intensify the interministerial collaboration to homogenize criteria and to obtain conclusions based on the efficiency and efficacy.
- To boost the exchange of information between the agents with accountability in the implementation of UNSCR 1540 to strengthen its objectives

and to apply comprehensive measures of security, focusing the efforts in the border control. Direct cooperation and fast and efficient exchange of information between the police corps and the customs officials in charge of the detection and vigilance are fundamental to prevent and cope with strategic articles with destination to possible terrorist networks.

- To establish the organizational structure of the "Action Plan for the Implementation of the UNSCR 1540" in Spain in an effective manner.
- To make progress on the development of the National Program of Security against the use of chemical weapons.
- To promote the "security awareness" through the training of all the actors involved in the usage of strategic information on the subject.
- To establish a "plan of awareness for the industry" (nuclear, chemical and biological) based on the cooperation between the private and the public sectors, so that these types of materials cannot be used to the proliferation of weapons of mass destruction.

The role of the customs in the fight against the new trends of proliferation

José Luis Valle María

Introduction

The United Nations Security Council (UNSC) described the proliferation of weapons of mass destruction as a threat to the international peace and security. In response to this threat, in 2004 the UNSC adopted unanimously the UNSCR 1540, imposing binding obligations on all states to take and enforce effective measures to prevent proliferation, lots of them depending on the customs, including, inter alia, export, transshipment and border controls and law enforcement to block illicit trafficking of related materials. Therefore, success ultimately depends on effective leadership within states to ensure that those measures are taken and implemented, and, on the ability of the States to collaborate between them for its national, regional and international implementation, especially in the current global world.

In our regional sphere, the proliferation of weapons of mass destruction also constitutes one of the greatest challenges to the security of the European Union (EU). In this regard, the EU Strategy against the proliferation of weapons of mass destruction was adopted by the European Council in December 2003, among other objectives, to promote the role of the United Nations Security Council and to increase its ability to address the challenges of proliferation; subsequently, in 2008, with the new lines of action of the EU in the fight against proliferation of weapons of mass destruction, and more recently, by means of the Decision 2013/391/PESC of the Council of 22th July

2013, it supports the practical implementation of the UNSCR 1540, encourage the regional perspective in the implementation of the abovementioned Resolution and collaborates with the national States in the development of national action plans.

Finally, in our national sphere, the National Security Strategy approved in June 2013, also identifies the proliferation of weapons of mass destruction as a threat to our security. And consequently, complying with all the obligations derived from the UNSCR 1540, and in line with the objectives fixed in the National Security Strategy, the Spanish National Action Plan¹ for the implementation of UNSCR 1540 was approved.

Nonetheless, the proliferation threat is also evolving and, nowadays, it is characterised by its great complexity and high adaptation ability, derived from factors as evolution and diffusion of strategical technologies, the new information technologies and social networks, the use of dual-use materials and substitutes that are not included in the international lists of relevant items subject to control, the use of routes and networks of illicit trafficking, etc., which only confirmed to establish an very complex international scenario, changeable and unpredictable in prospective terms, as it will depend on many variables (logistic, economic, risks and results) that are difficult to quantify. At the same time, globalization and the increase international trade make the prevention of proliferation more difficult.

Twelve years have passed since the adoption of UNSCR 1540 and its degree of implementation varies very much from one State to another, taking into account that the resolution indicates that the measures shall be adequate and effective. That is why the ongoing process of global review for the implementation of UNSCR 1540, which shall end before 30th November 2016 and presented before the Security Council, is a fundamental matter for the Spanish Presidency of the Committee 1540, with the objective of making it more efficient against new threats. The abovementioned process focuses on four areas that ought to be improved: a) monitoring and national implementation; b) assistance; c) cooperation with international organizations; and d) transparency, outreach and dialogue with the industry, academia and civil society.

Among the international organizations that work in the framework of non-proliferation of weapons of mass destruction, there is the World Customs Organization (WCO), which helps the Customs of the Member States comply with their obligations.

The WCO accepted with gratitude the UN Committee 1540 President's (the Ambassador and permanent representative of Spain in the UN) generous invitation and decided a meeting the 9th February 2015.

1 [http://www.un.org/es/sc/1540/national-implementation/pdf/Spain-action-plan%20\(S\).pdf](http://www.un.org/es/sc/1540/national-implementation/pdf/Spain-action-plan%20(S).pdf).

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The work of the WCO was introduced by the Secretary-General, who also explain about illicit trade and the SAFE program of the WCO, in which it is included the Strategic Trade Control Enforcement (STCE)², as a program of assistance to the members for developing abilities of risk management, operative abilities (like operation COSMO)³, etc.

The members of the Committee 1540 had a question-and-answer session about certain aspects of the customs, which regulate the practical implementation of Resolution 1540. In conclusion, they indicated that Customs have a splendid position and ability to supervise and control the export of strategic goods, the complementarity of the functions of Committee 1540 and the WCO, as well as the necessity of including the national customs administrations in the programs and action plans national of non-proliferation in order to establish an efficient customs control of the strategic goods.

The perspective of the Customs

«Nonproliferation from a Customs angle»

Facilitation versus Security

Customs supervise the international goods trade, mainly in its external borders, in other words, in ports, airports and land border crossings, and they are the first defensive line against dangerous goods, illegal trafficking, fraud, terrorism and organized crime, at the same time that they make the legal business trade easier.

The illicit trade of strategic products is a threat to both the national and international security. The possibility that the strategic products end up falling into the hands of radicalized terrorists is threat that endangers not only the legitimate trade, but also the welfare state and their citizens. The possible use of containers to introduce nuclear materials or radioactive devices inside is particularly worrying: apart from the devastating direct effects of an attack of this type, the international transport and trade would stop, with serious consequences for the global economy.

2 In the last years, there has been an evolution to the term "Strategic Trade Enforcement" instead of "exports control" in recognition for the importance of strategic products control in all the trade flows of the global economy, especially in the customs sphere of exports, imports, as well as the traffic, transfer and re-exportation. "Strategic products" refers to the weapons of mass destruction themselves and the articles for development, and to the manufacturing of these weapons or their use. The majority of them also have legal trade applications, and that is why they are defined as "dual-use".

3 Operation COSMO is a joint customs operation with the rest of the relevant authorities to detect and prevent the illicit trafficking of strategic goods in the international supply chains. It was carried out from 1st May 2014 to 31st May 2015.

The risks that arise from the diversion and smuggling of strategic materials are increasing considerably. Globalisation and international trade are making easier to acquire these components and strategic materials and, in line with that, the development of technology and the outreach of information are also making the manufacturing of strategic weapons easier.

This worrying trend means an increasing serious challenge for the customs all around the world, which, as their main responsibility lies on the supervision of the international supply chain, they must act in order to mitigate the risks derived from the improper final use and illicit trafficking of strategic goods and related materials and apply greater security controls in goods transport so that the rebirth of the terrorist threat in the last years can be counteracted, and, at the same time, they must guarantee that the circulation of goods through the borders is carried out smoothly and that the strategic products adapt to the international control systems established by national and international acts and rules, mainly those related to the search of operators and licensing.

It must be borne in mind that the strategic products are crucial to the EU in its way to innovation and competitiveness, and that they represent a significant part in the trade of the EU with key members. That is the reason why the controls of strategic products exports affect normally this trade of products with high technological added value in all key sectors of the EU, in situations with a high content of R&D as, for instance, industries of different sectors, such as energy, aerospace, defence and security, chemistry, electronics, laser, etc.

As a consequence of all that has been said, we can state that we are not facing an exclusive process of comprehensive review of UNSCR 1540; also the EU is involved in a process of review of the strategic trade control in environment where the economy, technology and security are important and changeable, and its control as a whole remains in the forefront of the international efforts of non-proliferation. Nevertheless, it is important to underline the necessity of reviewing and adapting the exports control to, on the one hand, the evolution and changeable nature of the security risks and threats, and, on the other hand, the advances in technology and science and the fast transformations in the global economic relationships, with the aim of establishing a fair balance between security and facilitation or competitiveness in international trade, trying that the controls are not detrimental to the scientific research.

Customs capacity building

The international regime of non-proliferation has many levels, in which are included treaties, the implementation of embargos and sanctions, and the multilateral agreements on exports control, which, along with the UNSCR 1540 that establishes certain binding obligations to take and apply efficient measures, entail certain responsibilities of the customs to control the strategic trade.

The role of the customs in the fight against the new trends...

Spain has signed and ratified the main treaties and conventions of non-proliferation; and the Spanish Customs Department (in spanish, "*Departamento de Aduanas de la Agencia Estatal de Administración Tributaria*") takes an active part in the meetings of the different organisations and relevant forums, where the guidelines for the exports control and the lists of common control to coordinate the efforts made for the national control of strategic trade are fixed. The customs participate proactively in the sub-groups that are in charge of the licenses or authorizations and of their implementation, that is to say, the sub-groups known as LEOM (Licensing and Enforcement Officers Meeting) or LEEM (Licensing and Enforcement Experts Meeting); and, in my opinion, it is advisable that the customs officials take part actively and represent the customs perspective in these forums, which would indeed improve the customs capabilities as a whole.

All the countries of the European Union (EU) participate in these forums, and the EU has consolidated the control lists of all the forums in a unique control list, which is seen as an annex to EU's⁴ dual-use Regulation, which establishes common control rules of the EU, a EU common list⁵ of the dual use products, as well as the coordination and cooperation to support a consistent and harmonized implementation in all the EU, provided that the regulation is compulsory and directly applicable in all the EU.

As it has already been mentioned, also the EU is involved in a process of review of the strategic trade control with the objective of establishing a fair balance between security and facilitation, and that is why it is necessary, among other aspects, a greater strategic and operative cooperation between all the authorities and with the customs in order to achieve a suitable risk management in customs controls and the security of the supply chain.

Customs Security Program

The EU Customs Security Program covers activities that contribute to the development and the implementation of security measures, some of them already mentioned. Especially:

- Suitable controls to guarantee the protection and both national and EU security, and in close cooperation with the main trade partners in the world to guarantee the protection of the international supply chains.
- The assistance and facilitation to the operators that develop compatible efforts to ensure their part in the international supply chains.

⁴ Regulation (EC) No. 428/2009, of the European Council. (<http://ec.europa.eu/trade/import-and-export-rules/export-from-eu/dual-use-controls/>).

⁵ Although this EU common list only has force of act in the EU, it has become an international de facto control list since in many countries of all around the world, apart from the 28 countries of the EU, they choose it as a model for their own national control lists.

EU Customs approach on security



Source: European Commission / Taxation and Customs Union. http://ec.europa.eu/taxation_customs/customs/policy_issues/customs_security/security_initiatives/index_en.htm.

Risks management

"On the path to an integrated system of strategic trade control based on the risk"

As the trade movements are gradually increasing and the nature of the risks that must be addressed is variable and broad, the customs use the risk management to carry out effective controls in the frame of the fight against fraud in general, which takes place by means of smuggling, false declarations, customs clearances without license or authorization, etc.

The risks management associated with trade and transport of strategic goods require for the ability to identify, assess and analyse the risks and threats associated with the abovementioned strategic goods and their movements, taking into account the variety of risks, as well as their repercussions and consequences if these risks materialized, in order to adopt the control measures in the most timely moment and place of the supply chain.

As it has already been reiterated, the measures of implementation depend on the sphere and national laws, and on the collaboration between the different authorities in its national, regional and international implementation. Consequently, each country must define its strategic interests and specific concerns on security, the goods that are considered as strategic (control lists), registry of the operators that trade with these goods, which require an authorization/license, etc. Similarly, it is necessary to identify different crime organizations and their illicit activities, the relevant sanctions and the offences associated to the illicit trafficking of the abovementioned goods, etc. in order to dispose of a *"National assessment of the threat"*.

The role of the customs in the fight against the new trends...

The Spanish system for the control of defence materials and dual use products and technologies is structured around the Interministerial Board for the Regulation of External Trade in Defence and Dual-Use Materials (in spanish, Junta Interministerial reguladora del comercio exterior de material de defensa y doble uso (JIMDDU), where the administration organisms that are involved in the control of the foreign trade of these goods and products are represented. The objectives of these organisms are aimed at assessing and verifying the correct final use of these products and technologies; and preventing their diversion to an undesirable end user or use.

The customs authorities, as supervisors of trade, recognize that the effective risk management is a task that concern the different organisms represented in the JIMDDU and, as a consequence, it requires a close cooperation between all the organisms with the objective of guaranteeing the appropriate vigilance and customs controls of the selected strategic goods that enter and leave the territory. At the same time, the international agreements of Spain in this respect are complied with, and the general interests of the national defence and foreign policy of the State are guaranteed.

In our customs strategy, all the parameters of assessment of the threat must be identified, as well as the strategic goods that are going to be controlled at a national level (identification of the codes of the combined nomenclature system), identified indicators and risk profiles, establishment of the control filters, establishment of the physical and documental controls of the selected goods, flow of information between the organisms that are involved, etc. In essence: *"Assessing with advance, controlling when necessary"*.

The coordination at a European level makes possible a fast exchange of information about risks, guaranteeing in that way the detection of any good already rejected that tries to enter through another entry point. By the same token, the joint action of the customs authorities is fundamental to fight identified illegal trade patterns and prevent their repetition.

Use of modern technologies of detection

In order to improve the efficiency of the controls it is increasingly necessary to use modern technologies of detection.

Thereby, in the main ports and airports, radiological control devices are being installed in order to detect and intercept the illicit traffic of nuclear materials and other radioactive materials.

Likewise, to speed up the inspection of goods in customs controls, non-intrusive inspection devices are installed in order to visualize the content of the containers without unloading them.

Authorized economic operators (AEO)

In addition to introducing suitable security controls, the EU Customs Security Programme cooperates closely with the trade partners at a world level in order to protect the international supply chains.

The reliable operators that are registered in the Special Register of Operators engaged in Foreign Trade (in Spanish, *Registro Especial de Operadores de Comercio Exterior* or *REOCE*), which make the necessary the operators engaged in foreign trade efforts to guarantee the security of their products and to protect their stretch of the supply chain, can request the certification as *Authorized Economic Operators (AEO)* and can benefit that way from a simplification of the procedures. The reliable operators apply certain guidelines to identify, manage and reduce the risks of exhibition to proliferation with a greater vigilance of strategic products that present those risks, by means of requirements of due diligence and/or compulsory notification of the suspicious transactions.

The Member States can give this consideration to the economic operators that meet strict criteria in terms of the compliance with customs standards, registries maintenance, financial solvency and, for the trade of strategic products, the compliance with appropriate protection and security levels.

Obviously, these high levels of compliance entail costs for the company; nevertheless, they are mutually reinforced with the competitiveness since the risk of involuntary supply of dual use products to questionable programs is reduced. Such cases expose the companies to sanctions and damages for their reputation, and, apart from that, the customs controls of the authorized economic operators are reduced. In conclusion, it is a zero-sum game, where the benefits in one area create costs in the other.

Key Challenges from the Customs Perspective

The efficient implementation of strategic trade controls through the customs depends, to a large extent, on their capabilities and, after the development of international customs joint operations, we have been able to identify good practices, but also gaps and shortcomings in the abilities, provided that we have identified challenges in critical areas for the future and, along with that, the recommendations.

a) The lack of global understanding of the strategic products trade patterns

Frequently, the analysts that take part in the strategic trade control lack the quantitative global understanding of the relevant trade patterns that help them to assess and focus the control efforts, and they are not aware that there are data that can add some elements to the assessment system. Therefore,

during the operation COSMO, a “*Global Trade Atlas*”⁶ of the strategic products was made, supplying macroscopic graphic representations of the global trade flows classified under the tariff codes of the Harmonized System (HS) of classification of goods, managed by the WCO with two, four, six and eight digits; and the profiles are based on the COMTRADE Data base of UN on statistic data about goods trade.

b) To improve the harmonized system or tariff classification system of strategic products with a view to customs control against proliferation of weapons of mass destruction.

The customs use the harmonized system code not only to classify the trade goods, but also to identify them, including the strategic products. Nevertheless, there is no correlation between the codes on the annex of the control list of strategic products and the codes on the harmonized system or tariff codes. This hampers the controls and risks management and that is the reason why, frequently, the products are classified in generic categories, such as “Others”, and, as a consequence, the abovementioned code contains only a little percentage of strategic products and many others that are not strategic.

In order to solve this problem, it will be necessary to either completely review the HS system with codes, subcodes and explanatory notes related to the strategic products; or complement that HS system by other industrial or products classification systems, or the CAS (*Chemical Abstracts Service*) for the chemical substances, etc.

c) Conflict of priorities and fulfilment of objectives

The definitions of risk profiles and selection criteria for high-risk controls are applied to the set of customs frauds (smuggling, drugs, dangerous goods, weapons, and the strategic products control is another one), established for 2016 in the Annual Plan on Tax and Customs Control (in Spanish, “Plan Anual de Control Aduanero y Tributario”⁷). The limitation of resources regarding the identification and awareness related to these strategic products prevents from focusing on them, because of the fear of an illegal or negligent action with regard to the products themselves, or to remove personal risks in

6 *Global Trade Atlas* is a data base that offers a unique perspective of the global trade statistics, and it allows us to see the world trade flow in the products we are interested in, using updated information about the imports/exports from the official sources of many countries and from COMTRADE of United Nations. The information for the majority of products includes value, volume, unit price, country that informs and trade partner country (both in exports and imports), classified under the Harmonized System (HS). The available statistics go from 2 to 4 to 6 digits, to the most detailed level provided by each country.

7 Resolution of the 22th February 2016, of the Directorate-General of the Spanish Tax Agency, by which the general guidelines of the Plan Anual de Control Tributario y Aduanero de 2016 (BOE n° 46 de 23 de febrero de 2016) – p. 12 are adopted.

dangerous situations due to the type of materials (toxic, infectious, explosive, radioactive, etc. substances).

Therefore, the trend is changing towards focusing the customs controls on more recognizable fraud objectives and with improved risk selection systems.

d) High degree of training

The volume and diversity of these strategic products make the knowledge more difficult, and the controls demand very specialized support mechanisms. There is a wide range of materials, pieces and dual use devices, each and every one technically very complex so, as a consequence, their recognition by the customs officials remains a challenge, even greater in certain spheres, such as the biological. As a result, the Communication⁸ of the Commission to the European Council and Parliament, on the review of the exports control policy, cause the necessity of creating a training program addressed to the relevant government employee, including the customs officials. In this regard, and from the customs perspective, it is worth emphasising and recommending the Strategic Trade Control Enforcement (STCE⁹) of the WCO, and the Commodity Identification Training (CIT)¹⁰, a program of identification of strategic products, of the US Department of Energy.

This is a field where the controls can result in many “false positives”, in customs slang, which make the controls more difficult and slow down the lawful trade, and, in most of the cases, it will be decided that they are legal when additional information is requested, and that is the reason why a higher degree of engagement of and with the private sector is needed. The approaches of risk management must be perfected in order to make more precise selections, although we cannot expect a 100% of precision.

Once selected for being controlled because of constituting a high-risk consignment, a series of controls are gradually established, by means of documental, technical and physical control:

- Frequently, the documental examination is carried out electronically. They are progressive, beginning with available documents, such as the sea manifest or bill of lading and export goods declaration. If there are

8 COM (2014) 244 final - Communication of the Commission to the European Council and Parliament, about the review of the control policy of the exports: to guarantee the security and competitiveness in a changeable world.

9 See note 2.

10 Commodity Identification Training (CIT) –International Nonproliferation Export Control Program - Nuclear Security Administration – US Department of Energy. At a national level, we have developed this training program in the Customs of Algeciras, Valencia y Barcelona, although it has been developed for all the government employees with responsibilities in the customs with gates of radioactive detection and non-intrusive inspection devices; and all in accordance with the bilateral agreement signed between Customs of Spain and the US Department of Energy on the Megaports Initiative.

suspicious, the commercial invoices are requested, a document where usually the product is identified in detail (it is an interesting document for this type of strategic products).

- The technical examination, by means of detectors and X-ray scanners. Although the non-intrusive nature is appealing for many goods, these products are not usually hidden as smuggling and, as a consequence, they do not present distinctive signs in these examinations.
- The physical examination is also progressive, and it begins with a visual inspection, the packaging and labeling, as well as the documentation and certifications that frequently come with the products. Sometimes, it is necessary a sample drawing for the purpose of determining the composition of a chemical substance or identifying an alloy.

The capacity building is essential for the identification and verifying of the products.

e) Limitations in the exchange of national and international information

For an efficient implementation, is it necessary to exchange information between the national authorities, between them and the operators, and also with the regional and international authorities and, of course, it is crucial that the customs are present in all these fields of exchange. Nevertheless, the national restrictions in the intelligence or business strategic information exchange must be overcome.

Summary

In short, it is worth underlining that the framework for the customs control of the strategic products trade has been described, the review of the process and procedures, the modernization of the risk management practices and the capacity and intelligence abilities development. To conclude, it is worth mentioning some of the key challenges, such as the necessity of improving the awareness and strategic direction, a greater cooperation between all the relevant authorities, improving the intelligence sources of the abovementioned products and improving the cooperation with the private sector in order to achieve a better assessment and orientation of the controls, and a better capacity to identify the strategic products.

Involvement of the industry, outreach and awareness

Juan Blázquez Martínez

Introduction

It is clear that the components of the weapons of mass destruction (WMD) are manufacture by the industry. If we consider the argument backwards, without the industry, the WMD would not exist. Although this logical evidence, UNSCR1540 does not directly stipulates the role of the industry.

However, in the initial statements of the UNSCR1540¹²³ the industry and the civil society are indirectly included. In fact, one of the first articles of the UNSCR1540, which establishes the statements of intent, states the following:

- Welcoming the multilateral efforts in order to protect civil society from WMD.
- Statement on the issues related to the export of components used in WMD production.
- Serious concern about the illicit trafficking of proliferation materials.
- Reaffirmation of using all the available resources to fight against the threat.

1 United Nations Security Council, *Committee 1540, Home Page*. Addressed at: <http://www.un.org/en/sc/1540>.

2 United Nations Security Council, *Resolution 1979, S/RES/1977*, 2011.

3 June 29, 2012, the United Nations Security Council adopted the Resolution 2055, increasing the number of members of the UNSCR1540 Expert Group up to nine.

In those aspects, the industry plays an important role, and it seems advisable that this role will be more explicit⁴ in a future review of the UNSCR1540. The following suggestions are ideas from a strategic approach, which can be useful in that future review.

In UNSCR1540, the State is shown as a subject responsible for its implementation. This subject can be identified, so the responsibility to the United Nations has a defined meaning. Nevertheless, the industry is an actor with an impersonal subject, so its responsibility disappears. ¿Who is the industry?

Industry is divided in sectors; but still, for WDM the agro-food sector is not the same as the nuclear sector; it is clear that the involvement of the nuclear one is much higher. Moreover, the nuclear sector is formed by many companies, highlighting certain companies that are directly involved in the UNSCR1540. Fortunately, it cooperates with professional associations in the sector, which could outreach the resolution, and even its identifiable subjects.

The terrorist activities regarding WMD are considered as a threat. It is important to consider the risk related to two components⁵: the damage caused and the probability of occurrence and both of them affect the industry.

$$\text{Risk} = \text{Probability} \times \text{Damage}$$

Regarding WMD, *damage* is at a high level. If we measure the *damage* in currency units, the *risk* will share these units, since the *probability* is a pure number. For example, a radiological dispersal device (a dirty bomb) could pollute 25% of a city of more than one million inhabitants. Although the low rate of deaths, it is easy to estimate the damage in euros.

For the *risk* to be low, the probability has to be reduced, and that is where the industry plays a significant role. It is worth considering that each event has probability and information. Before occurring, it has probability, but it lacks information; when it has occurred, it loses probability and the information appears⁶. It is also frequent that events with low probability provide much information; as it happens with WMD events. The industry plays also a significant role in that information and in the lessons learned after the event.

Another interesting consideration, related to probability, is that the States are much more predictable than terrorists. States operate "*manu militaris*", and usually the military try not to do things for which they are prepared;

4 Finlay Brian, *Meeting the Objectives of UN Security Council Resolution 1540: The role of Civil Society*, STIMSON, December 2012.

5 Rubio Romero J.C. *Manual para la Formación de Nivel Superior en Prevención de Riesgos Laborales*, Díaz de Santos, 2005, ISBN 84-7978-700-7.

6 Jessop. A. *Informed Assessments*, Ellis Horwood, New York, Chap. 2, 1995, ISBN 0-13-109229-5.

however, terrorists are the opposite: they want to do the things for which they are not prepared.

The abovementioned consideration is part of the so-called “Asymmetrical Threats”. This threat⁷ is no longer faced only by the military; nowadays many new actors are involved, and the *intelligence* plays a crucial role by reducing *probability*. Certainly, the industry is an important actor in mitigating the threat. A heavily-industrialized⁸ society has better defence than other emerging societies.

However, the industry is aimed to produce goods and services in order to obtain a monetary compensation for its products, higher than their cost of production. Given that security has costs, for which the industry is not responsible, and that usually limit the industrial objective⁹, a strategic approach is needed to review the UNSCR1540, in order to achieve the objective of directly involving the industry in it.

Wiesbaden Process

It is clear that Germany is one of the most industrialised countries in the world. Since 2012, in Wiesbaden, a small town near Frankfurt, the German initiative has gathered companies from different sectors in order to address the role of the industry in the UNSCR1540.

In the 2012 conference, the problem regarding the export of components used in WMD¹⁰ was raised. Apart from the companies, twenty organisations and experts in the UNSCR1540 were involved. The general role of civil society was addressed, but the companies have to be lucrative.

The 2013 conference was focused on biosecurity, coinciding with the epidemic of the virus Ebola. The biological risk was more evident, and even dramatized by the media. The companies had been advised to be conscious about security and to have a code of good practice. They also addressed the lack of applicable legislation in these cases.

The 2014 conference was aimed to the implementation by the industry of the recommendations and to controlling that implementation. A conflict of interest was created between the State, the industry and the scientific sector.

7 Salazar Serrantes G. *Nuevos Desafíos no Convencionales: la Proliferación NRBQ en la Amenaza Asimétrica*. Spanish Institute for Strategic Studies (IEEE), Opinion Paper 72/2011, October 10, 2011.

8 Asymmetry does not only refer to non-state actors versus States, it is also defined by the technological development, the economic and technical resources that qualify its activity.

9 Riola Rodríguez J. M. *La Situación Actual de las Tecnologías de Doble Uso*, IEEE, Strategy Paper 169, Chapter 4, 2014, NIPO 083-14-234-4.

10 Kiesler K.K., *Towards the 2016 Comprehensive Review, Private Sector Engagement: Lessons Learnt from Wiesbaden Process*, ISS Monograph. Number. 191, 2015.

The States want security and companies' cooperation, but it refuses to pay for it. Companies need clear regulations in order to prevent the loss of competitiveness caused by the additional cost of security. Science requires outreach freedom, which is limited by security requirements.

Controlling the compliance of the rules against WDM seems possible among certain large companies from different sectors involved; but, what about SME's? They are far more numerous and more reluctant to share information. This highlights the role that the professional associations play regarding awareness and outreach of the regulation for the implementation of the UNSCR1540.

Within the security culture¹¹ and within the companies, the difference between *Safety* and *Security* must be clear. In many languages, both of them are translated as "security", but the first one refers to the documental safety and the second one to the physical security. For example, within the transport of radioactive substances, the transport must meet previous requirements (*Safety*), such as the thickness of the shielding, guaranteeing the integrity of these products in the event of an accident, etc. A police escort or a permanent radio communication station would be examples of physical security (*Security*). UNSCR1540 refers to "physical" security mainly, but, normally, the industry also request "documental" safety, since they have to report back to the State Regulatory Authorities.

One of the interesting ideas of the Wiesbaden process is to link the security culture to the quality guarantee of the ISO standards¹². If the guarantee that the companies dispose of people with security culture is added to the effective quality standards, and it is required that this culture must be verifiable in a documentary way, then the step to the awareness would be ensured, regardless the size of the company.

Strategic Approach

If it is accepted that the industry has not a secondary role in the threat of the WMD, the review of UNSCR1540 should bring in some strategic aspects. Those aspects can be classified with the SWOT analysis (Strengths, Weaknesses, Opportunities and Threats), which is commonly used in the industry¹³. From this analysis should emerge tactical aspects, that is to say, useful recommendations in the review of the resolution.

11 Khripunov I., *A Blueprint of Security Culture*, 1540 Compass, Issue 2, 2012.

12 The standards 9000 of the International Standardization Organization (ISO) are continually updating. Nowadays, they are widely used in the industrial sector. They can be consulted here on <http://www.iso.org/iso/home.html>.

13 Sánchez Pérez M., *Casos de Marketing y Estrategias*, Editorial UOC, 2014.

Weaknesses

Lack of awareness about WMD and UNSCR1540. The industry in general promotes security from several points of view: access controls, to clock in and out, fire extinguishers, defibrillators against heart attacks, evacuation regulations in the event of a fire, etc. These considerations are set out by a regulation and they are binding. There is no awareness that some manufactured products could be used as WMD components, so they require extra security, not as general as the previous ones, and that is the reason why it is not easy to describe it in a regulation.

Conflict of interests. The interest of the industry does not concern the WMD, but to obtain a profit as a consequence of the acceptance of its products in the market. Therefore, to commit internal resources to something that is not their own product, their own direct responsibility, and that it is not set out by the regulations, necessarily increases the costs and it conflicts with their real interest.

Threats

Difficulties for the exports. The States that have not signed the Non-Proliferation Treaty are good clients and they pay large quantities of money for the components they need to manufacture WMD. Frequently, those are dual use components, so the export permit is not guaranteed. The result is a potential market loss.

Regulation. Since it is not possible to have a regulation for each component, it is likely that other companies manufacture it, losing that way competitiveness.

Increasing of the overhead. In all the companies, there are costs directly related to the manufacture of the product, and indirect costs, such as management, cleaning service, electricity, telephones, etc. The direct costs are multiplied by a factor named *overhead* that includes the indirect costs. The security actions related to UNSCR1540 necessarily increase the overhead factor and, as a consequence, competitiveness is lost.

Loss of prestige. If it is discovered that there are components used for WMD manufactured in a company, that company loses prestige and, therefore, also loses positioning within the market.

Strengths

Professional associations. Within a developed industrial society, there are business and professional associations. The UNSCR1540 recommendations can be aimed at these associations. Furthermore, they are a suitable channel for the outreach of the recommendations. If the society is not developed, in

general, it has no capacity to comply with all the recommendations and it needs external help. The associations might be a good point to channel the aid.

Prevention capacity. The industry has developed numerous sensors to keep its products safely, and it is capable of reporting in real time the robbery, the illicit trafficking, etc.

Mitigation capacity. After a crime with WMD takes place, the industry should be the one that mitigates the damages and recover the lands. It also has training facing the consequences of the accidents not related with WMD, such as radioactive releases, etc.

Information capacity. An event of low probability, such as the usage of WMD, contains much information, but it must be extracted and analysed. The analysis is frequently carried out by the intelligence services, but the extraction of information is an ability of both the industry and the Research Centres.

Financial capacity. Few important things can be done without financing and, in general, the industrial companies have loans.

Existence of quality standards. The companies frequently work with procedures and standards; especially, with quality standards. These have two different aspects: on the one hand, the standards make the product more expensive and, on the other hand, they increase the customer satisfaction. Commonly, these standards are accepted and required on the contracts. Then, if the cultural documental test of the UNSCR1540 is included in the quality standards, it would be another requirement, and the companies that did not comply with the standards, would lose market share. This also applies, by outsourcing, to the SME.

Opportunities

Synergy. The UNSCR1540 recommendations raise the security culture of other security aspects of the company that are not related to WMD.

Technology development. If the awareness against WMD is popularised, new equipment and procedures are needed for their control. In some way, a new market is created and the companies can take advantage of it.

Tax relief. It must be borne in mind that the UNSCR1540 holds the States responsible, and not the industry, for the WMD. If someone is helping the State to fulfil its responsibility and, as a consequence, there are extra costs, it is not a misconceived idea to demand a tax relief that compensates for the losses.

Criteria in the public recruitment. It is common to request the companies certain criteria that is taken in account for the most important public contracts. If the awareness about the UNSCR1540 is added to the criteria, the companies that can prove that awareness would have a competitive advantage over the others.

Conclusions

The industry has only an indirect responsibility in the adoption of the UNSCR1540. Nevertheless, it has a key role regarding the WMD. The strategic approach can help the lawmakers to provide the industry with that key role, keeping in mind the possible compensations for an extra cost of its products. The weakest point is the lack of awareness about the WMD and, among all the striking strategic aspects, there are some tactical actions that could improve it:

- Including it in the criteria for public recruitment.
- Including it in the quality standards (ISO).
- Tax relief.

These aspects are easy to apply and they could be proposed in the review of UNSCR1540 by the United Nations.

Appendix I

The Spanish Nuclear Sector

Not every industry is affected in the same way by the Resolution 1540. In this respect, there are three main sectors: biotechnology; chemicals; and nuclear. Within a State, the level of industrial development of the abovementioned sectors is highly unequal; therefore, from the industry's point of view, their potential contribution to the WMD components will be also uneven.

The 19th century witnessed the Classical Physics development; the 20th century is certainly the time of the Chemistry expansion; and the 21st century seems to be the Biology century. At the moment, the industrial sector related to Biology is rapidly growing and it has not reached its maximum, as other sectors have; moreover, its potential use as a weapon has not an immediate effect from the military perspective, as it can turn against oneself.

However, it is not an obvious matter from the non-governmental agents' perspective. Firstly, the level of terrorist fanaticism, which does not distinguish between aims and means, raises the fear of terrorists not considering the consequences driven from their criminal acts. Secondly, if biosecurity¹⁴ is not implemented the weapons become cheaper. It is also important to consider that, within civil population, the water tanks infections with pathogens were common in the past, and also deliberate epidemics with rats, etc.

In the Wiesbaden process, it is mentioned that the approach of the review of the 1540 Resolution, in terms of biotechnology industry, would have to be focused on the companies requiring the biosecurity of pathogens. Given that the industrial sector is at a very early stage, or even zero in many States, it is not easy to go further on the review; at the moment, the emphasis is placed in good practices.

Regarding to the chemical sector, the opposite/contrary/reverse is true/the case: it is too wide and it operates in all States. Practically, all materials are manufactured/produced by the chemical industry, so that the dual- use is ubiquitous.

Fortunately, only a small group of gases are used in WDM, and they are under close surveillance.

The nuclear sector is different. It has been developed to a greater or lesser degree in all States with electric nuclear energy, and it is tightly regulated. Furthermore, the medical application of radioactive sources has to be taken into account, which is ubiquitous all over the world, and the industrial application of radioisotopes in gamma radiography, soil humidity measurement, thickness measurement, etc.

Electricity generation produces fissile material, which can cause illegal smuggling by habitual offenders, as indeed it occurs. The large amount of

14 Pérez Mellado R. *Recomendaciones para Mejorar Medidas de Biocustodia*, Spanish Ministry of Foreign Affairs, 2014, Legal Deposit M-32432-2014.

radioactive sources is another concern, basically due to the so-called orphan sources or uncontrolled sources, from which the materials used for dirty bombs are obtained.

The Spanish nuclear sector, within the signatory States of the Treaty on the Non-Proliferation of Nuclear Weapons, has an average but very significant size, which can be used as a reference with regards to specific points of the role the industry has in the review of the Resolution 1540.

First of all, it is worth considering its economic sphere: it contributes with 0.27% to the Gross Domestic Product (GDP)¹⁵. The 2013 figures are €2.781m, which is 70% of the sector dedicated to air transport. Just nuclear industry itself contributed €1,967m to Spanish GDP. The nuclear sector bears 27,466 jobs, and 8,472 are directly related to nuclear industry, most of them being permanent and high-qualification contracts.

R&D&I investment reached €71.3m, a significantly higher figure than those reached in the textile, the metallurgical or the shipbuilding sectors. This innovative ability turns into a capacity to export, making export one of the sector's income sources. Exports reached €238m, 0.1% of Spanish total exports.

This export capacity is, precisely, the one restricted by the Resolution 1540 with regards to dual-use of certain sector components or services. If earning loss caused by these issues had some kind of state compensation, sector's awareness would increase. It has to be borne in mind that the contribution to the taxes totals €1,141m. The abovementioned figures forecast 10% exports loss due to the implantation of the Resolution 1540. It can be compensated with a 2% tax exemption of the fiscal burden.

In Spain, nuclear industry is represented by the Nuclear Forum, a non-profit association, which represents the interests of the industry since 1962 in four areas for action:

- Industrial support.
- Technical support.
- Communication and training.
- Interrelationship between industries, at national and international level.

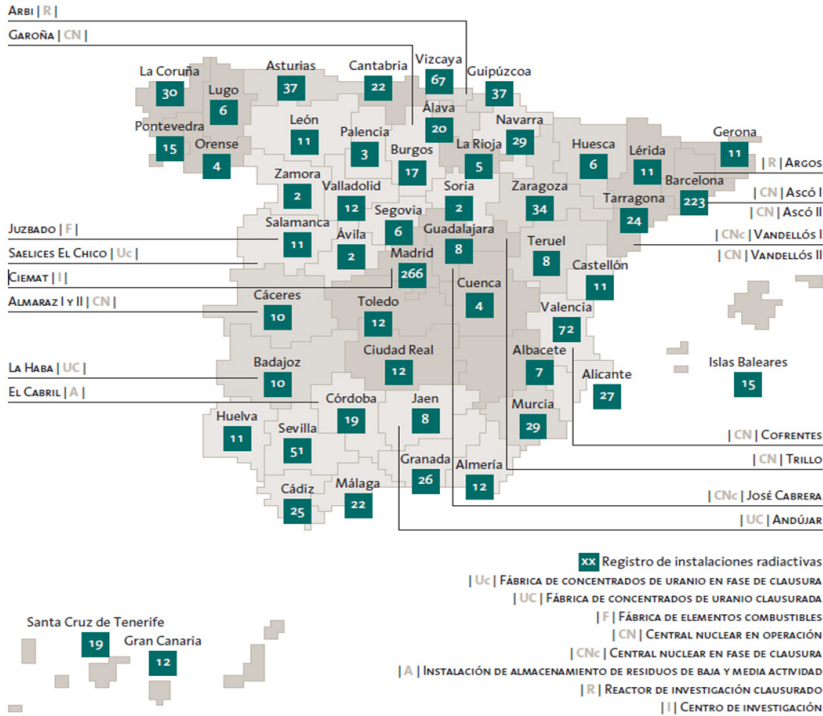
Thus, it is one of the resources of the nuclear sector, maybe the most suitable for being a participant in the amendments of the Resolution 1540.

Another possible participant is the Spanish Nuclear Society¹⁶; another professional non-profit association within the nuclear sector concerning professionals instead of companies.

15 PricewaterhouseCoopers Asesores de Negocio, S.L., *Impacto Socioeconómico de la Industria Nuclear en España*, Edited by Nuclear Forum of Spain, 2015.

16 The Spanish Nuclear Society was founded in 1974 and it is considered as a Non-Profit Public Utility Association. It has approximately one thousand individual members and more than sixty collective members; its purpose is to promote the spread of nuclear science and

The annual meetings organised by this association are a unique framework to spread the ideas of the Resolution 1540 and to raise awareness about the challenges related to the nuclear proliferation by organising lectures on this topic.



This image shows the distribution of radioactive facilities in Spain. Source: ENRESA. Most of the facilities are placed in Madrid, Barcelona, Biscay and Seville. The physical security of these facilities concerns the Resolution 1540, because terrorists can obtain radioactive sources from then in order to make dirty bombs. It is clear that there is place in the market for companies that help improve the security regarding WMD. In addition, this knowledge can be exported. This subject, as a strong point of the DAFO strategic plan, would improve the awareness on this issue and due to Resolution 1540. It should be noted that one of the biggest threats is the large amount of orphan sources in the world.

technology. It organises annual meetings, which are an ideal framework to promote the culture of 1540 Resolution.

Appendix II

Lessons acquired from the Wiesbaden Process

Controlling the purposes of the Resolution 1540

One of the characteristics of the law is that it has to be easily understandable and applicable. If this is not taken into account in the review of the Resolution 1540, the relationship with the industry will flourish. It is worth mentioning that the efficiency is inherent to the production of goods and services, so it is required that the aspects related to it are focused and not too fragmented. The German initiative in the Wiesbaden process shows that the approach for the 1540 Committee is difficult without the links with the industry.

Communicating the Resolution 1540 to the industry

It is not just a simple communication, but a selling technique of the Resolution. The private sector must be seduced by the Resolution, if the sector understands its importance in it, and that it could even benefit from its implementation. Most of the major companies involved in the Resolution are public limited companies; that means that its interlocutors are not owners of the companies, and they have to explain, before a Board of Directors, the convenience of using their own resources for activities for which the State is responsible. It will be challenging to persuade them if one of them does not feel involved.

Opening to criticism

If, from the position of authority of the United Nations, the Committee of the Resolution 1540 it is not open to criticism from the industry, it will be hard to improve its implementation. It is a difficult issue, since the industry lacks overall vision of WMD, and the committee consists of members that do not have a professional expertise in the industry, which is the reason why they have a misguided approach. It is an important lesson to embed criticism in overall vision.

Private companies and associations

In line with the Pareto's principle, only the square root of the amount of companies involved plays a significant role. It is a small amount of companies, between 15 and 25 in each State. The interlocution between these companies is crucial; but there are also small companies, which can be entered through

professional associations. Another lesson drawn from the Wiesbaden process is to identify the significant companies and associations.

Motivation

It is too ideal to accept that the companies are going to take part in something which is not their direct responsibility and does not provide them earnings. It is important to take these earnings into consideration in order to offset the expenditure resulting from the implementation of the Resolution 1540 in the companies.

Raising awareness in research centres about the spread of WMD

Javier Quiñones Díez

Introduction

Research centres, directly or indirectly, are at the frontier of knowledge, seeking to answer questions and resolve problems, to benefit society and to provide scientific, technical and economic leadership. These centres are highly diverse, and their output is equally varied.

As an initial classification, research centres can be divided into two classes: international ones (CERN¹, JRC², Centres of Excellence for training and support, etc.) and national ones.

- International centres usually focus on basic research (CERN), although they may be associated with the development of dual-use technologies, or that of possible new components of WMD.
- National research centres may be public or private, and in either case, directly related to national security or not.

In this chapter, we examine the case of national research centres that are not subject to national security controls. Other types are audited and controlled by mechanisms discussed elsewhere in this paper. For example, international research centres are subject to direct control by the participating

1 European Organization for Nuclear Research– <http://www.home.cern>.

2 JRC- Joint Research Centre. <https://ec.europa.eu/jrc/>.

countries (government structures), which are implicitly proactive in favour of Resolution 1540³.

Any new development in the field of WMD implies the existence of a research group that has applied the knowledge acquired by society for its own defence. If the development in question has been made by the State or by any specific group, this requires the existence of scientists and technicians, making use of their knowledge. Although this seems logical, UNSCR 1540 does not directly address the role of research centres.

Let us now consider the situation in this regard in Spain. The Spanish National Action Plan for compliance with UNSCR 1540⁴ states that the object of the resolution is to prevent WMD and their means of delivery and related materials from falling into the control of terrorist groups or organised crime.

The resolution urges all States to “refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear weapons, chemical or biological weapons and their delivery systems”. Therefore, States must develop and implement laws that address this risk effectively.

National strategic approach

Spain’s national security strategy calls for strategic lines of action (SLA) to be established and monitored. Research centres are indirectly affected by some of these, such as SLA 4 “Strengthening policies and practices for controlling the export of dual-use goods and technologies” and SLA 5 “Reinforcing measures to combat the transfer of knowledge, technology, goods and equipment”. Clearly, these lines of action indirectly promote the accountability of research centres, through proactive actions designed to prevent the loss of control of knowledge, which in turn might aggravate the risks addressed.

The Plan calls for a regulatory plan to be developed, and in point 3.2, research and development are defined as areas for action.

Accordingly, the Spanish National Action Plan must take into account the need to involve research centres and researchers in protecting civil society against the threat of WMD.

3 United Nations Security Council, Committee 1540, Home Page. Available at: <http://www.un.org/es/sc/1540/>.

4 National Action Plan for compliance with UNSCR 1540. Presented in New York, May 2015.

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The following Spanish legislation is applicable to research centres and universities: the Public Administration Act⁵, the Public Employment Statute⁶, the Science, Technology and Research Act⁷, the European Charter for Researchers⁸ and the Universities Act^{9, 10, 11}.

Analysis

As stated in the National Plan, the State is responsible for implementation of UNSCR 1540. Under the Science, Technology and Research Act, the protection of knowledge developed in national research centres is the responsibility of those research centres, although there are no laws to prevent the subsequent hiring of their researchers by other institutions, where research can continue based on the prior knowledge acquired.

Although the research centres are legally responsible for the information generated, there exist various types of centre and organisational structure:

- Some (such as CIEMAT¹², INIA¹³ and INTA¹⁴) have a hierarchical organisation, similar to that of ministerial structures, where research and development projects are controlled by a Directorate General.
- At others (such as CSIC¹⁵, universities and mixed research centres) the principal investigator (university professor, lecturer or project leader) is responsible for custody and control of the research findings. This situation is characterised by less control of the information and knowledge generated by research groups, which are often based on personal relationships.

As explicitly mentioned in the National Action Plan, UNSCR 1540 seeks to protect society against the threat of WMD. This is entirely consistent with the objectives of national research centres, which aim to resolve the problems and threats facing the society of which they are part. As also stated in the National Action Plan, the State is responsible for implementing the resolution. As public research institutions depend on the relevant ministry (e.g. the Ministry of Economy and Competitiveness, the Ministry of Defence or

5 Public Administration Act 6/1997, of 14 April (LOFAGE)

6 Public Employment Act 7/2007, of 12 April.

7 Science, Technology and Research Act 14/2011, of 1 June.

8 European Charter for Researchers. Code of conduct for hiring researchers. General Directorate for Research, Human Resources and Mobility (Marie Curie Actions) EUR 21620 (2015).

9 Universities Act 6/2001, of 21 December (Spanish Official Gazette 24-12-2001).

10 Universities Act 4/2007, of 12 April, amending Universities Act 6/2001, of 21 December (Spanish Official Gazette 13-04-2007).

11 Universities Act. Available at: <https://www.boe.es/buscar/act.php?id=BOE-A-2001-24515>

12 CIEMAT - Energy, Environmental and Technologies Research Centre

13 INIA - Spanish National Institute for Agriculture and Food Research and Technology

14 INTA - National Institute for Aerospace Technology

15 CSIC - Higher Council for Scientific Research

the Ministry of Education, Culture and Sports), this hierarchical dependence amply demonstrates the chain of responsibility in Spain with respect to implementation of the resolution by scientific research centres.

Analysis of the current behaviour and future plans of research centres for the implementation of Resolution 1540 shows that all of them present a security-oriented culture with respect to information disclosure, and awareness of the need to safeguard against possible actions of piracy. Moreover, in the areas in which research groups work, those with implications for security and defence are clearly separated from those where there are no such consequences. In all cases, however, the security measures applied are aimed more at the protection of the knowledge itself than at restricting or preventing its misuse to develop WMD.

The fact that within research centres protection is only extended to intellectual property, which may initially seem like a weakness as regards the risk of WMD being developed, may in fact be the seed from which a culture of security can develop (as already exists concerning nuclear and radiochemistry research), thus promoting the involvement of the entire research team (as defined by Frascati¹⁶, “Professionals engaged in the conception or creation of new knowledge, products, processes, methods and systems, and also in the management of the projects concerned”), in particular in research areas such as chemistry and biology, where there is no control over the disclosure of knowledge that might be put to double use for the development of WMD.

In addition, scientists are well respected and valued in society and their views are heeded. Therefore, it would be useful to actively involve research centres and researchers in a campaign (via the media and social networks) to promote social awareness of the need to support the resolution.

A fact that should not be overlooked, and which reflects a conflict of interest between the implementation of the resolution by the State and by research centres, is that the control of information inherently involves the non-publication or non-disclosure of sensitive information generated. This clashes directly with current opinion that research requires freedom of publication. In addition, researchers are evaluated, from their initial recruitment and at every stage in their career, according to their publications (number of articles published, impact factor of the journals publishing them, citations by other researchers, etc.). Therefore, restrictions imposed in accordance with the resolution could decrease researchers’ interest in working in areas where they might be affected.

To address this conflict of interests, the State should enable procedures or means of compensation or recognition of research activity carried out without the need for open disclosure to be made. Moreover, as this type of

¹⁶ Proposed Standard Practice for Surveys on Research and Experimental Development, Frascati Manual, OECD, 2002.

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research is devoid of commercial motivation, i.e., it is directly dependent on or associated with national security, the State should make long-term plans to promote the maintenance of research groups. The threats considered, of WMD, are of low probability, and so there are few international research groups in this field, and the dissemination of documentation in the respect is very limited. This situation could provoke the disappearance of critical knowledge (due to the absence of generational replacement) with which to fight against such threats. In Spain, for example, the nuclear and radiological characterisation of materials, soils and building surfaces is no longer taught in any studies offered by public universities.

In addition, The Transparency, Access to Public Information and Good Governance Act¹⁷, 19/2013, regulates the availability of information generated in public research centres in accordance with the terms of the resolution. As these issues may involve State security, the documents in question may be classified, with restricted access. This policy is currently being implemented in many research centres.

One of the threats that the resolution is intended to combat is the presence of insiders among research centre staff, who attempt to access information technology and benefit from its sale or use by a third party. While this illicit behaviour is not new, nor is it exclusive to any particular type of organisation, research centres, given the high mobility of their staff and the often temporary nature of their employment, are very susceptible to this type of threat. The effective implementation of the resolution, together with the generation of a culture of security to control the use made of knowledge acquired, will do much to counter such threats.

Nevertheless, despite the above-mentioned weaknesses or conflicts of interest in the involvement of research centres in implementing the resolution, there are also strengths and opportunities that should be pointed out.

Effective interaction between law enforcement and State security agencies and research centres can enable them to share experience and knowledge and thus create an information channel to transmit international developments and understanding. Such an interaction would strengthen areas such as:

- Advice on simulation exercises, tabletop exercises or field trials where responses to WMD are to be evaluated.
- Advice on creating a comprehensive security structure.
- Evaluation of new technologies, materials, products and processes that can be used in the manufacture of WMD.
- International collaboration in research projects, workshops and conferences where the issue of WMD is studied, as well as interaction with other international centres and organisations that are developing technologies and operating procedures in this field.

¹⁷ Act 19/2013, of 9 December. BOE No. 295 10 December 2013.

- Research teams to develop technological capabilities such as support for nuclear forensics, where (as in other EU countries and elsewhere) forensic capabilities are developed from the technical capacities already existing in national research centres. This would help produce world leading teams in the identification and characterisation of materials.

Active involvement in the development and implementation of the resolution will provide research centres with greater international presence in an area of great current interest, allowing them to develop lines of activity with participation in internationally-funded research or development projects in third countries.

Conclusions and Recommendations

Resolution 1540 is an essential tool in the defence of civil society (national and international) against the global threat posed by the development of WMD. In this context, the scientific community cannot remain passive to or distanced from the threats facing society and the issues involved. Scientists are expected to behave ethically, in their private and their professional lives, and to provide society (which allows them to do their work) with knowledge, to evaluate the problems identified and to search for solutions, so that human lives in their own society and worldwide may benefit.

Therefore, national research centres should be proactive in the implementation and application of UNSCR 1540, thus promoting social acceptance and minimising any social reticence to restrictions on information disclosure (applied in accordance with Act 19/2013).

To encourage national research centres to involve themselves in implementing the resolution, the State should provide funds to enable the formation and long-term existence of expert groups on these issues and to enable researchers to develop their careers in this field, with continuous assessment to ensure continuing excellence. Such initiatives, and the reputation of the professionals involved, will stimulate interest among younger scientists in forming part of such research groups, even if peer-group evaluation differs somewhat from that in other research areas.

Last, but not least, the implementation and development of the National Action Plan should promote and enhance interaction and collaboration among researchers (i.e., research centres) and emergency response teams (law enforcement agencies and State security forces). Participation in joint research projects, workshops, drills, etc., helps establish lines of communication, based on personal relationships, which ultimately strengthen and enhance institutional relations, ensuring the existence of meaningful groups and cutting-edge work in this area of knowledge.

The UNSCR1540: the role of national parliaments

Francisco Márquez de la Rubia

Introduction

Unlike other prior efforts made globally in WMD management, such as the Nuclear Non-proliferation Treaty (1968), the Chemical Weapons Convention (1993) or the Biological Weapons Convention (1972), the UNSCR1540¹ of the UN Security Council (UNSC) adopted under the Chapter VII of the UN Charter, it is especially significant, by both its purpose and its main targets². Certainly, over the last decades, it has been the most important step in fighting against proliferation of weapons of mass destruction.

The efforts of Spanish parliament over the last decade have been essential since it has been carrying out the legislative work (along with the regulatory production of the Executive branch) and has been approving the regulation that constitutes, at the moment, the baseline body of law for the implementation of the UNSCR1540.

The road travelled until now, in a decade of hard work, must allow suggestions and recommendations for carrying out the parliamentary duties in a full and deep way.

1 <http://www.un.org/sc/1540/>.

2 <http://www.un.org/press/en/2004/sc8076.doc.htm>.

A new legislative and parliamentary scenario

The recent adoption of the Ley 36/2015 de Seguridad Nacional (LSN)³ should contribute to boost the efforts in order to ensure an effective and extensive implementation of the terms and objectives of the resolution.

In this regard, the LSN considers the Cortes Generales (Spanish Parliament), among others, as a competent body in terms of National Security (LSN section 1.a). The role that the legislator had in a factual manner on the grounds of his own constitutional powers is reinforced and concreted, but henceforth, this role becomes specific and proactive. The participation of the chambers becomes effective through the creation of a Joint Commission Congress-Senate on National Security (LSN section 2)⁴. Since the adoption of the LSN, the Cortes take specific functions, not well-regulated so far, directly related to the UNSCR1540.

This laudable originality of the UNSCR1540 as of its duality of international agreement and practical element of intervention, and its nature of document which is assimilable to International Conventions or Treaties, underlines the importance of the Parliament. The Congreso de los Diputados must authorise the ratification of international treaties signed by Spain, being a necessary condition for its full validity. It also adopts all the legal instruments with the status of acts aimed to the implementation (in this respect) of the UNSCR1540, either by its own initiative or by the executive power's initiative (which is more common based on the subject and on the characteristics of the Spanish parliamentary system).

In the review of the current legal rules and in the adoption of new texts, the Parliament shall fulfill its functions: the Security Council of the United Nations, last year, in a resolution which established the mandate of the "comprehensive review of the UNSCR1540"⁵, called upon all the States to increase the efforts in implementing the resolution, and to focus on areas where the measures adopted can be intensified in order to achieve its full implementation by 2021. Spain needs to get involved in this subject by using all its actors in the field of security.

This last decade, certain tools have been developed as guidance for States when they are engaged in the process of implementing UNSCR 1540, which will be useful to this comprehensive review, for example, the "Legislative Guide to National Implementation of UN Security Council UNSCR1540"⁶, adopted in 2014. It identifies and organises, in one document, the model

3 <https://www.boe.es/boe/dias/2015/09/29/pdfs/BOE-A-2015-10389.pdf>.

4 <https://www.boe.es/boe/dias/2015/09/29/pdfs/BOE-A-2015-10389.pdf>

5 http://www.exteriores.gob.es/Portal/es/SalaDePrensa/Multimedia/Documents/2016_ENERO_BALANCE%20CSNNUU.pdf

6 [http://www.vertic.org/media/assets/nim_docs/NIM%20Tools%20\(Guides%20Hand-books\)/UNSCR_1540_NIM_GUIDE_EN_feb2014.pdf](http://www.vertic.org/media/assets/nim_docs/NIM%20Tools%20(Guides%20Hand-books)/UNSCR_1540_NIM_GUIDE_EN_feb2014.pdf)

laws, implementation kits and handbooks and other legislative assistance providers to assist States in implementing the international legal instruments on chemical, biological, radiological and nuclear defence (CBRN), in order to assess the extent to which the laws of a State meet the requirements of the CBRN treaties and the resolution.

These are the most evident functions of the Spanish Parliament; however, they are not the only ones that are related to a legislative body in a Western democratic system. Those are combined with other less widely known functions, which can sometimes go undetected, but they can and must have an important role in the ongoing implementation process (*on the run implementation*) supported by the United Nations. This is an ongoing initiative to improve the system by calling upon all the actors involved to produce, in their respective domain of competence, the necessary changes or innovations for this matter.

Therefore, in this regard, the rest of the constitutional functions need to be strengthened in order to achieve the common purpose ratified by Spain in the UNSCR1540. Given that the parliamentarians are the direct representatives of the citizens, in the broadest sense, the Parliament has been imbued with a strength that is not comparable to any other constitutional power. Their status as people's representatives directly elected by the citizens, as distinct from other civil society representatives that do not have that status and that have sectoral or particular interests. In turn, this feature allows the Parliament to directly and legitimately cooperate with those sectoral representatives of civil society in order to fully perform their function. Moreover, this would also produce legitimate aspirations, visualization of initiatives that cannot be applied with other methods, and the contribution to an exhaustive improvement of specific areas of reflection.

The Parliament as the driver of the Action of the Executive

The momentum to the action of the Executive is carried out directly through specific instruments, including the study groups in which the competent experts discuss and which allow the reflection of the Parliament and the adoption of positions about improving the system. The major contribution of a forum like this is the inclusion of the political plurality element based on the impulse to the action of the executive. In State policies, such as the security and defence policies, and especially in sensitive topics as the control of the non-proliferation of weapons of mass destruction, it seems highly advisable to incorporate all political options, representing a diverse and pluralistic society, in order to reflect and analyse the understanding of the phenomenon and the necessary actions.

Therefore, the national Parliament, by using its constitutional powers, must propose or advise the executive on certain widely accepted actions due to

deliberation and analysis. These initiative functions are undoubtedly related to the rest of their functions in a process that is anchored seamlessly in a global and uninterrupted action.

Within a parliamentary system such as the Spanish one, a checks and balances system, this analytic or advisory function should not be understood as an intrusion but as a potential collaboration element to improve the system. The case of the better implementation of a resolution such as the UNSCR1540, in which many different departments and sectors of society are involved, is paradigmatic. The Parliament should, by using its constitutional powers, propose or advise the executive on certain actions on the basis of the conclusions of the conducted studies.

The Parliament along with Civil Society

The controlling function of the Parliament is extended to functions which, in developed democracies, are performed by civil society regarding policies of the executive with a prior and/or constitutive proposal for action. Therefore, it is possible to think about the joint efforts of both parties, Parliament and civil society, in order to perform their functions: civil society can exercise legitimate and democratic control in accordance with the parliamentary functions, and both of them can actively support the actions regarding security and defence.

The civil society actors provide the necessary expertise and knowledge in highly specialized sectors, while the Parliament provides representative legitimacy and the intimate relationship with the executive power, as well as the active ability to take action in the system. Due to the difficulties related to the implementation of the multifaceted provisions of the resolution, the effective execution of a national strategy on non-proliferation requires the participation of many departments and administrative bodies, as well as a close relationship with R&D&I sectors in the private sector: manufacturers, transport operators, financial entities, insurance companies, etc.

In some cases, due to lack of expertise in dual-use technologies, the know-how of the industrial sector and the civil society organizations could be useful to develop an extensive implementation "diente a cola". This is a broad interpretation which includes Spanish legislation in the innovative Ley de Seguridad Nacional, which defines security as a shared goal by different administrations, constitutional institutions, particularly the Cortes Generales, the private sector and civil society⁷

Similarly, Parliament and civil society can cooperate in identifying shortcomings in the action of the remaining actors in different areas of

7 <https://www.boe.es/boe/dias/2015/09/29/pdfs/BOE-A-2015-10389.pdf>.

implementation, as well as detecting new risks in the ongoing updating process of the UNSCR1540.

Certainly, civil society and some academic sectors can cover a wide spectrum of tangible and intangible needs by cooperating with the Parliament. For many governments, which do not have enough capacity to fully implement the UNSCR1540, the civil society organizations and the Parliament can play a crucial role to address the importance of the mandate and to call upon these governments to prioritize the enactment of the measures.

Naturally, Parliaments are not the only possible contributors in civil society organizations, neither the sole beneficiaries. These organizations can be strengthened by the cooperating with some of the many international, regional and subregional organizations, which are working to ensure the successful implementation of the UNSCR1540.

The Parliament and the “Strategic Communication” of the UNSCR1540

The PAN identifies as Línea de Acción Estratégica (LAE) 3.7 the adoption of “strategic communication measures” and it defines them as the “necessary outreach and dialogue with civil society and the academic sphere” and reiterates the need to “cooperate with citizens, academic sectors and commercial sectors”. It is important to “promote the implementation of the resolution through dialogue, outreach, assistance and cooperation⁸”.

The dialogue between national parliamentarians and citizens and civil society has been discussed above these lines. It is worth noting the importance of the outreach of the threats (which are found in the beginning of the determination and strength of the UNSCR1540), as well as the outreach of its principles and tools, so that the objectives of the resolution can be reached in a global and continuous way.

In fact, it is common in other countries’ Parliaments to observe that the Chambers organize lectures and awareness raising workshops, allowing the experts to take part in international conferences focused on the UNSCR1540. This type of events has been developed in order to study the implementation in specific geographical areas in the framework of international assistance established in the UNSCR1540 or to carry out a technical in-depth study on specialized fields, which require cooperation and sharing experiences.

The Spanish Parliament needs to play a significant role with regards to its condition of meeting point in this type of work forum in which we can find the outreach and communication strategy of both the current threat and the necessary awareness and outreach of measures and adopted controls.

8 <http://www.spainun.org/wp-content/uploads/2015/05/COMITE-1540-ENG.pdf>

It is logical to think about a more proactive role in the analysis related to UNSCR1540, along with other international actors, especially with those countries that share historical, cultural and linguistic links with Spain, therefore creating a cooperation line, which will provide even more content to the close relationships, built around the communication channels and institutions at all levels (e.g. Ibero-American Summit).

The comprehensive review of the UNSCR1540 will include the support of the culture of implementation. This is only possible if it also boosts the levels of implementation all over the world, as the common culture begins to be rooted. This spread culture encourages the facilitation of international controls.

That implementation culture is created thanks to national outreach networks. Parliaments can build networks to link differing governmental actors (in a decentralized country like Spain), between governments, and the private industry, in order to facilitate and support the implementation of the resolution's terms. This participatory outreach strategy would provide a better overall understanding of the extent and importance of UNSCR1540.

A good example of active and direct cooperation of the Spanish legislative bodies with civil society regarding to the verification research is the Verification Research, Training and Information Centre (VERTIC)⁹ a non-governmental organization, based in London that gives assistance to States to understand the necessary national measures in order to implement UNSCR1540. VERTIC also provides free legal assistance to States regarding the verification programs of chemical weapons, biological, radiological and nuclear treaties, and legal instruments.

The Parliament, the Concept of Threat, the Security Culture and the Defence Culture

The level of development of a nuclear security culture has not reached its maximum; according to most analysts, the level of development of a security culture related to bacteriological and chemical proliferation is quite low. Due to that and to the aim of progressing towards the strategic objective of outreaching the threat in all of its areas, it is indispensable to use the entry point of the outreach of the threat's real terms and, after that, the outreach of a real security culture. The role of the Parliament can be essential in these matters.

The threat hanging over us is diffuse and hybrid and it can be, in many occasions, out of territorial control of the sovereign States, within this sort of "non places" such as globalization, the virtual world, communication, interconnection, etc. In other cases, the complexity of the processes that make

⁹ <http://www.vertic.org>

up the threat hampers its identification or fast and intuitive understanding by threatened societies.

Due to the transnational nature of security threats and to the lack of restrictions in many physical borders, it is mandatory to promote synergy and cohesion between different national actors and to foster, between signatory States, the development of a common approach which recognises the transnational nature of this issue. That is the so called shared security culture.

The development of the abovementioned “strategic communication” policy within society in order to raise awareness about threats and the need of security culture and an appropriate defence culture will lead to a non-proliferation culture.

Special attention should be given to the role of national Parliaments, eligible by the forum and by their own characteristics in order to achieve agreements and/or comprehensive reflections with the widest consensus possible. This debate can also include unavoidable elements in the 21st century, such as the popular demand of greater democratic participation to achieve a better public awareness, that is, the global cooperation in the building process of a defence culture consistent with the more widely-known idea of “human security” and focused to the empowerment of society in terms of defence.

The Parliament is able to produce citizenship information plans (already implemented in other fields) about the threats and risks related to the WMD proliferation process. Moreover, Chambers are able to provide opportunities for citizen involvement in the debate on defence politics. This is an innovative mandate of the LSN 36/15, in accordance with the broad-based security policy, also based in citizenship, adopted in the rest of the European countries.

The Parliament is able to take an active part in the definition of these policies and to set aside the current role of firmly assisting the subsequent implementation process. The comprehensive reflection, entrusted by the Security Council about the terms of the UNSCR1540, opens de door to an intensification of its role within the system as a whole.

The Parliament and its connection with the University

Although the Spanish authorities are not responsible of the implementation of the UNSCR1540, it is very important to focus more in the private sector, especially in universities (the interaction with NGOs and the industry has already been addressed). National Parliaments have a long tradition of close relationship with the academic sector and, due to that, they are particularly suitable for achieving this relationship to help meet the objectives of the UNSCR1540. There are certain aspects that give importance to this topic.

Firstly, universities are very welcomed and trusted institutions by society. Therefore, the documents prepared by universities usually build consensus and approval due to its academic credibility.

Secondly, universities are institutions holding many talented, well-prepared and educated people. They are able to play a significant role (which they already play in some areas) in a strategic cooperation with the Parliament, in order to outreach the security culture and, especially, security and defence against WMD proliferation in our nations.

Thirdly, the extensive presence of universities nationwide turns them into an excellent outreach network of principles and values related to security and non-proliferation.

Fourthly, the outreach capacity of universities is clear, beyond its scientific or technical production, due to its high number of members in its academic, administrative staff and its students; consequently, it is a useful tool to transmitting information to the community.

In contrast, university graduates will enter into sectors such as industry, agriculture or healthcare, all of them needing the outreach of non-proliferation culture and double-use technologies security. Graduates, thus, will add to their knowledge the lessons learned in terms of security and non-proliferation.

The Parliament and its counterpart: the European Union

As part of the Common Foreign and Security Policy (CFSP) of the European Union (EU), the Common Security and Defence policy (CSDP) provides a political framework for certain permanent political and military structures, and for operations outside the EU. This policy was included in the EU Treaties in 1999. Articles 42 to 46, chapter 2, section 1, title V ("General provisions on the Union's external action and specific provisions on the common foreign and security policy"), explain the functions of the European Parliament (EP), while its specific role related to the CFSP and the CSDP is described in the article 36 of the EU Treaty.

Since 2003, the European Security Strategy establishes the CSPD strategy. Due to the events and challenges in terms of security within the European environment, and to the demand of a more active role of the EU as a security guarantor recognised by Member States and citizens, the CSPD is evolving and it will continue to do so. In this regard, the Parliament and its coordination with its national counterparts, have to be empowered in future years.

Nevertheless, in order to increase the effectiveness in terms of security and defence, the Parliament will need to be supported by its national counterparts and other European institutions. In this field, it is appropriate to achieve a coordinated action related with the implementation of the UNSCR1540 and

the outreach of its non-proliferation principles. The council of the European Union already adopted the DECISION 2013/391/CFSP, in July 22 2013 in order to support the practical implementation of the UNSCR1540¹⁰.

It is worth keeping in mind that, since 2012, the European Parliament and national Parliaments of Member States have organised annual interparliamentary conferences to discuss issues related to the common security and defence policy. Interparliamentary cooperation is provided in Protocol 1 of the Treaty of Lisbon, which describes the role of national parliaments in the EU. Therefore, it is suitable to include the EP in this open debate on the comprehensive review of the UNSCR1540, as an initiative of the Spanish presidency.

Lastly, given that international cooperation is one of the key points of the UNSCR1540, the Parliament must be an important link between international organizations such as IAEA, OPCW, WHO, FAO, OIE, OSCE.

Conclusions

1. The Parliament must continue with its level of legislative production and its competences in the comprehensive review of the UNSCR1540, as well as acting as a catalyst for achieving the implementation objectives. Its functions and abilities, beyond the traditional ones that the classic parliaments have carried out, allow the Parliament to play a more significant role.
2. It is worth considering the recent adoption of the National Security Strategy and especially of the Ley de Seguridad Nacional in Spain, as a big step forward. From them, we draw a more significant role of the Parliament (as well as of the civil society), which will be executed through the Joint Commission Congress-Senate on National Security.
3. The Propositiones No de Ley adopted in the Joint Commission Congress-Senate on National Security¹¹ are parliamentary instruments aimed to improve Executive's policies. These instruments would have to be used in the framework of the implementation of its driving force between society and the powers of the State.
4. The Parliament could maximise its functions as a representative of society by increasing the interaction with civil society (NGO, business sectors and industrial sectors), in order to strengthen the implementation in a continuous process of upgrading information and transmission of its conclusions to the Executive.
5. The Parliament, being closely related with academic sectors and universities, could bring out these sectors' potential from their nature as

10 <http://www.boe.es/doue/2013/198/L00040-00044.pdf>.

11 <http://www.dsn.gob.es/es/actualidad/sala-prensa/cortes-generales-acuerdan-constitucion-composicion-comision-mixta-congreso>.

- creators and carriers of knowledge. This will require the implementation of periodic and stable mechanisms of reflection and consultation.
6. The Spanish Parliament could play an important role both in outreach at the international level of implementation culture, and in cooperation in implementation tools and particularly, in the framework of forums where Spain has a significant role like other areas such as Latin America.
 7. It is particularly important for the Parliament to assume an outreach function of existing threats in terms of WMD, and also an awareness function in order to create a broad security culture and a real defence culture in Spain.
 8. There is clearly a need to develop a “strategic communication” policy about society in order to raise awareness of threats and due to that, there is also a need for *ad hoc* security and defence; the Parliament could be the suitable actor for that matter.
 9. Direct cooperation between the Spanish Parliament with representatives of non-governmental organisations (NGO) and industries (including academic sectors) is essential to share best practice in terms of implementation, technical experiences and unique approaches, which can help States in process of implementation.
 10. The increasing cooperation in security and defence policy with our European partners and the role of the European Parliament since the implementation of the Treaty of Lisbon, give importance to the cooperation between both institutions, a status that has not been articulated in all respects in terms of culture regarding nonproliferation agreements.
 11. Finally, it is necessary that all national Parliaments support, in a comprehensive and continuous basis, the efforts made by the international community to keep working on improving the implementation of the UNSCR1540.

The reinforcement of the requirements to prevent and control the proliferation of weapons of mass destruction financing

Raquel Cabeza Pérez

UN Security Council Resolution 1540 inaugurated the set of actions which the UN Security Council has been developing in regard to the proliferation of weapons of mass destruction by state and non-state actors. Coinciding with the global revision of the resolution application process, taking place in 2016, analysis should be made on the basis of where are we and where would we like to take steps towards the content and the application of this resolution, particularly in relation with the financial obligations incorporated.

Introduction

Over the past years, United Nations have intensified the use of financial measures as mechanism for restoring peace and security. These measures have evolved from the imposition of general restrictions to more sophisticated and accurate systems set to better reach their goal and to reduce the negative effects of these measures on the involved country¹. Since 1966, UN Security Council ² has established twenty-six sanctioning regimes. Currently, sixteen

1 In relation with the «surgical» or smart sanctions description and characteristics, look David Cortright & George A. Lopez, Introduction: Assessing Smart Sanctions: Lessons from 1990s, in SMART SANCTIONS: TARGETING ECONOMIC STATECRAFT 1,2 (David Cortright & George A. Lopez eds., 2002).

2 As given in VII UN Chapter, the Security Council is entitled to take necessary measures to maintain or to restore peace and security.

of them remain in force, some of which are articulated as measures for restoring peace and security in certain countries, coexisting with sanctioning systems adopted to fight terrorism not focused on specific regional areas.

This intensification in the use of sanctions, which in most cases contain financing measures, is not only taking place at the United Nations level, but also it is taking place in the foreign policies of state actors, such as the United States, or supranational actors like the European Union.

While financial sanctions are intended to complete and support other type of measures, their implementation brings to light the tendency of approaching problems from a multidimensional angle, where financial issues have an increasing relevance. .

This multidimensional approach remains the same in the processing of actions intend to prevent and prosecute law offences. Indeed, combating crimes which are susceptible to generate an economical return from a collateral approach to the financial gain of the offense has being increased lately. The ultimate aim is to deprive the offender of his motivation, which it is usually a financial profit. This is consistent with the emergence and gradual development of prevention and fight against money laundering mechanisms.

Concurrently, terrorism is addressed from a multidimensional perspective, where investigation, prevention and disruption of direct lines of economical support, take an essential role at the time to approach the problem.

With this increasing importance as an evidence of the new approach, the 17th of December of 2015, the Security Council's Resolution 2253 (2015), on threats to international peace and security caused by terrorist, was adopted by the State's Economic and Finance Ministers, for first time in the history of the Council.

In this context, the Financial Action Task Force (FATF)³ is the core of international efforts to effectively prevent and fight against money laundering, the financing of terrorism and, more recently, the financing of weapons of massive destruction.

In all these areas, the FATF plays a key role as a creator of guiding standards to guarantee the developing of a consistent and comprehensive framework of measures, taking into account all the particular situations in every state, which countries have to enforce in order to prevent and fight these scourges.

3 The Financial Action Task Force (FATF) is an inter-governmental body established in 1989. The objectives of the FATF are to set standards and promote effective implementation of legal, regulatory and operational measures for combating money laundering, terrorist financing and other related threats to the integrity of the international financial system, such as the financing of the proliferation of weapons of mass destruction.
<http://www.fatf-gafi.org>.

Simultaneously, the FATF includes references, within its standards or recommendations⁴, to the Resolutions of the UN Security Council, as it is the case of Resolutions 1267 (1999) and 1373 (2001). With regard to these Resolutions, the FATF reiterates in its Recommendation 6 the countries' obligation to effectively implement it⁵. Notwithstanding, the FATF not only reiterates the necessary compliance with the UN Security Council Resolutions about financing terrorism or proliferation of weapons of massive destruction, but has also developed a framework of preventative requirements for the financial institutions and other non-financial entities. The enforcement of these measures has a dual function. On one hand, its enforcement acts as a measure to prevent and to hinder money laundering, terrorist financing or proliferation of weapons of mass destruction operations. On the other hand, these measures also provide essential information which will help to detect potential suspicious transactions which can be further investigated and, when appropriate, examined by Court.

UN Security Council Resolutions have recognized the key role of the FATF in the application in the financial system of measures to prevent and combat illicit activities. UN Security Council has referred to the need to implement FATF standards as a prerequisite for reaching the Resolution goals⁶. In this way, the UN Security Council Resolutions utilizes not only their own mechanisms, but also takes advantage of the instruments and mechanisms developed by other organisms, when their implementation contribute to the achievement of the goals determined by the resolution⁷.

4 TheFAFT (40) Recommendations: <http://www.fatf-gafi.org/publications/fatfrecommendations/documents/fatf-recommendations.html>

5 Recommendation 6 of the FATF establishes: «Countries should implement targeted financial sanctions regimes to comply with United Nations Security Council resolutions relating to the prevention and suppression of terrorism and terrorist financing. The resolutions require countries to freeze without delay the funds or other assets of, and to ensure that no funds or other assets are made available, directly or indirectly, to or for the benefit of, any person or entity either (i) designated by, or under the authority of, the United Nations Security Council under Chapter VII of the Charter of the United Nations, including in accordance with resolution 1267 (1999) and its successor resolutions; or (ii) designated by that country pursuant to resolution 1373 (2001)».

6 UN Security Council Resolution 2253 (2015) and 2255 (2015), concerning to threats to international peace and security caused by terrorist acts.

7 G20 messages remain the same in its last press releases, among others the "Communiqué G20 Finance Ministers and Central Bank Governors Meeting (26-27 February 2016, Shanghai, China)" "We are resolved to combat decisively terrorist financing. We will intensify our efforts to tackle all sources, techniques and channels of terrorist financing and will enhance our cooperation and exchange of information. We call on all countries to join us in these efforts, including through a swift implementation of FATF standards and provisions of the UN Security Council Resolution 2253 in all jurisdictions. We ask the FATF, working with the relevant IOs, to strengthen its work on identifying and tackling loopholes and deficiencies that remain in the financial system and ensure that the FATF standards are effective and comprehensive, and fully implemented. (...)".

Financial aspects of the Resolution 1540 (2004)

The first three operative paragraphs of the UN Security Council Resolution 1540 (2004) deal with the aspects related to the financing of proliferation of weapons of mass destruction by non-state actors.

In the first place, States are obligated to not provide any type of support to non-state actors for the developing, manufacturing, acquiring, transporting or using weapons of mass destruction. Among this list of general prohibitions, it is also included the prohibition of any kind of financial support.

In terms of the second operative paragraph the States, in accordance to their national procedures, will obey and help to enforce appropriate and effective laws banning activities which main purpose is financing the proliferation of weapons of mass destruction.

The third operative paragraph establishes that States shall adopt and enforce effective measures in order to prevent the proliferation, and they shall *«establish, develop, evaluate and maintain appropriate and effective national controls»* with regard to the financial services associated to the proliferation of weapons of mass destruction.

Therefore, all the countries have as general requirement the prevention of financing proliferation (first operative paragraph) via two principal mechanisms: the prohibition of financing proliferation (second operative paragraph) and by establishing appropriate controls to prevent that financing (third operative paragraph).

As it is evident from a careful scrutiny of the three aforementioned paragraphs, the standards of the Security Council are highly generic and consequently, all the measures and changes proposed in this paper could be considered implicitly included in the current Resolution. However, the inclusion of the financial aspects in such general terms and almost as a kind of secondary or ancillary measure regarding the actions of direct control over the items and products necessary for proliferation, negatively affects the level of actual implementation in the States and does not respond to the reality of the importance, that the financial aspects have in the context of the fight against criminal activities, including terrorism.

UN Security Council Resolutions relevant to achieving the objectives of the Resolution 1540 (2004) adopted by the Security Council

When strengthening the financial content of the Resolution 1540, the first valuable aspect to consider should be that other UN Security Council Resolutions enable Resolution 1540 to fulfil the financial purposes.

The activities carried out by the UN in the context of the fight against the proliferation of the weapons of mass destruction operate at a twofold level: activities carried

The reinforcement of the requirements to prevent and...

out by state actors and those carried out by non-state actors. In the second case, the main threat referred to by the Resolution 1540 is the terrorism⁸.

In accordance with the Security Council regulations, there are certain resolutions aimed at the fight against financing terrorism whose implementation depends on the development of actions which also contribute towards the objectives related with the financing of proliferation of weapons of mass destruction of the Resolution 1540.

This refers in particular resolutions concerning threats to international peace and security caused by terrorist acts. It is especially significant in this case Resolution 1267 (1999), which set up the Al-Qaeda and Taliban terrorist list – this list has recently been modified to emphasize its broader point of view including an express reference to DAESH⁹ – and Resolution 1373 (2001), which requires that Member States have to create necessary instruments to develop a national list of terrorists identified and designated in each country.

In all cases, these lists, allow Member States to have essential information to detect groups or people who could have access to weapons of mass destruction for achieving their own purposes. This information is particularly relevant in the financial context, where these lists play a key role not only to freeze terrorist assets, but also to detect and prevent commercial activities or the procurement of certain dual-use items.

How can we strength the purposes of the UN Security Council Resolution 1540?

It follows from the above that the moment has come to equal the content of Resolution 1540 with the answer of the International Community and the UN Security Council to similar situations.

In a global networked economy, the prevention of the proliferation financing schemes requires a clear determination of the objectives and measures to be implemented by Member States, making sure coordinated, coherent, and consistent measures are launched with no exceptions.

In a globalized economy, the shortcomings in the practical implementation of the measures can involve the ineffectiveness of the totality of the measures in a global level: “the chain is only as strong as its weakest link”.

8 «Gravely concerned by the threat of terrorism and the risk that non-State actors such as those identified in the United Nations list established and maintained by the Committee established under Security Council resolution 1267 (1999) and those to whom resolution 1373 (2001) applies, may acquire, develop, traffic in or use nuclear, chemical and biological weapons and their means of delivery».

9 UN Security Council Resolution 2253 (2015), about the concerning threats to international peace and security caused by terrorist acts.

For this reason, concreteness and clarity of the required measures will facilitate its practical enforcement without prejudice to the inevitable flexibility that should be provided to Member States on their practical implementation.

Notwithstanding, the above mentioned review does not necessarily involve the creation of new and original elements, but the transposition to this Resolution of the set of obligations contained in previous resolutions, plus the measures taken by other organizations, such as the FATF.

Emphasize the importance of fighting terrorism UN Security Council Resolutions enforcement

In line with this, to comply with the objectives of Resolution 1540 UN Security Council, the relevance of the correct overall implementation of the mandates contained in the resolutions of the Security Council 1267 (1999) and its successors, especially Resolution 2253 (2015), as well as derivatives of the content of Resolution 1373 (2001), should be highlighted and clarified.

The lists of terrorists prepared under the aforementioned resolutions are erected in a key element in the process of detecting financial schemes linked to proliferation, being the basic initial element applied in the control processes developed by the entities.

The development of the mandates of the RESOLUTION 1371 (2001) is especially relevant. According to these, the States should elaborate their own national lists of terrorists and count with mechanisms to recognise the lists of third countries.

Consequently, when detailing specific financial obligations that countries should implement, the resolution should expressly include the mention of the necessary immediate and effective implementation of the restrictive measures of a financial nature, which arise from the cited resolutions. Furthermore, the constant vigilance that the countries should deploy so that none of the mentioned in the lists created by such resolutions could participate in financial operations related to the proliferation of WMD, directly or by means of societies or interposed legal instruments. .

Introduce the obligations for the prevention of terrorism financing as a tool to prevent proliferation

Actions to tackle the terrorism financing schemes in general and the proliferation of WMD in particular cannot be done without the direct participation and collaboration of the private sector, mainly, of the financial system; a partnership that materializes in the treatment of all information that entities manage in relation to their clients.

Regulations to prevent money laundering and terrorist financing do indeed have their cornerstone in the requirement for institutions to know their customers, for which the due diligence measures should be applied¹⁰.

These due diligence measures are geared towards getting to know very different aspects such as those related to the client in question or to the activities developed. This knowledge allows entities to assess the level of risk that the client and operations pose. A priori, the risk level will determine the extent of the measures for monitoring their activities throughout the life of their business relationship. Likewise, due diligence measures involve, in the case of legal persons and legal instruments without personality, the development of mechanisms to determine the identity of the beneficial owner of the legal person¹¹; a very important aspect when preventing terrorists and other NSAs from trying to use these structures as an instrument to conceal the true destination of the products or origin of funds related to proliferation.

When providing financial services for international trade, obtaining these data constitutes a crucial element to permit an adequate assessment of the risks linked to the sector or geographical area in which the client operates. And it is precisely in the context of the international trade where the resources for the detection of transactions involving proliferation financing should be concentrated.

Only a proper acquisition, treatment and monitoring of customer information will enable entities to detect transactions with suspicious elements that, if confirmed, could lead to the non-execution of the operation in question and its report to the authorities. In short, the obligation of the States to implement and apply the FATF Recommendations should be included explicitly as a method to prevent proliferation financing. An explicit mention to the obligations for the financial sector should be implemented to ensure customer due diligence, the abstaining from executing of transactions where appropriate and, in any event, the communication of suspicious transactions to the Financial Intelligence Units¹².

10 Recommendation 5 of the FATF established the measures of due diligence

11 Law 10/2010 of April 28, prevention of money laundering and terrorist financing, defines beneficial owner in its article 4

12 Countries should establish a financial intelligence unit (FIU) that serves as a national centre for the receipt and analysis of: (a) suspicious transaction reports; and (b) other information relevant to money laundering, associated predicate offences and terrorist financing, and for the dissemination of the results of that analysis. The FIU should be able to obtain additional information from reporting entities, and should have access on a timely basis to the financial, administrative and law enforcement information that it requires to undertake its function properly.

Demands for public-private collaboration

A legal regime requiring controls do not guarantee the effectiveness of the system. An additional effort is needed. Consequently, the enforcement of the legal framework which justifies the application of controls by entities needs not only the adoption of national legal instruments implementing the FATF recommendations, but also the development of other actions executed by Member States. With this statement, we are referring to the need of reinforcing countries support to private sector entities in the development of their control systems.

It is an increasingly common need the strengthening of mechanisms for collaboration and information sharing of public and private sectors¹³ with the final objective of improve further the information available to better implement effective control mechanisms.

Through these coordination schemes, private sector should receive data, reports on major developments, risks or areas of particular concern detected by authorities. This information sharing will help the private sector to more effectively readapt their internal procedures to the real threats. Moreover, this sharing information has become a vitally important element for the FATF in its fight against terrorism and it has been incorporated as a goal that has to be strengthened¹⁴.

13 In this line, paragraph 23 of the Resolution 2253 (2015) «*Urges Member States to promote awareness of the ISIL (Dahesh) & Al-Qaida Sanctions List as widely as possible, including to relevant domestic agencies, the private sector and the general public to ensure effective implementation of the measures in paragraph 2, (...)*».

14 "Consolidated FATF Strategy on Combatting Terrorist Financing", February 19th of 2016. <http://www.fatf-gafi.org/media/fatf/documents/reports/FATF-Terrorist-Financing-Strategy.pdf>.

Annex I

Resolution 1540 (2004)

United Nations S/RES/1540 (2004)

Security Council Distr. General

28 April 2004

Resolution 1540 (2004)

Adopted by the Security Council at its 4956th meeting, on 28 April 2004

The Security Council,

* Definitions for the purpose of this resolution only:

Means of delivery: missiles, rockets and other unmanned systems capable of delivering nuclear, chemical, or biological weapons, that are specially designed for such use.

Non-State actor: individual or entity, not acting under the lawful authority of any State in conducting activities which come within the scope of this resolution.

Related materials: 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.

–*Affirming* that proliferation of nuclear, chemical and biological weapons, as well as their means of delivery,* constitutes a threat to international peace and security,

–*Affirming* that proliferation of nuclear, chemical and biological weapons, as well as their means of delivery,* constitutes a threat to international peace and security,

–*Reaffirming*, in this context, the Statement of its President adopted at the Council's meeting at the level of Heads of State and Government on 31 January 1992 (S/23500), including the need for all Member States to fulfil their obligations in relation to arms control and disarmament and to prevent proliferation in all its aspects of all weapons of mass destruction,

–*Recalling also* that the Statement underlined the need for all Member States to resolve peacefully in accordance with the Charter any problems in that context threatening or disrupting the maintenance of regional and global stability,

–*Affirming* its resolve to take appropriate and effective actions against any threat to international peace and security caused by the proliferation of nuclear, chemical and biological weapons and their means of delivery, in conformity with its primary responsibilities, as provided for in the United Nations Charter,

–*Affirming* its support for the multilateral treaties whose aim is to eliminate or prevent the proliferation of nuclear, chemical or biological weapons and the importance for all States parties to these treaties to implement them fully in order to promote international stability,

–*Welcoming* efforts in this context by multilateral arrangements which contribute to non-proliferation,

–*Affirming* that prevention of proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes while goals of peaceful utilization should not be used as a cover for proliferation,

–*Welcoming* efforts in this context by multilateral arrangements which contribute to non-proliferation,

–*Affirming* that prevention of proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes while goals of peaceful utilization should not be used as a cover for proliferation,

–*Gravely concerned* by the threat of terrorism and the risk that non-State actors* such as those identified in the United Nations list established and

maintained by the Committee established under Security Council resolution 1267 and those to whom resolution 1373 applies, may acquire, develop, traffic in or use nuclear, chemical and biological weapons and their means of delivery,

–*Gravely concerned* by the threat of illicit trafficking in nuclear, chemical, or biological weapons and their means of delivery, and related materials,* which adds a new dimension to the issue of proliferation of such weapons and also poses a threat to international peace and security,

–*Recognizing* the need to enhance coordination of efforts on national, subregional, regional and international levels in order to strengthen a global response to this serious challenge and threat to international security,

–*Recognizing* that most States have undertaken binding legal obligations under treaties to which they are parties, or have made other commitments aimed at preventing the proliferation of nuclear, chemical or biological weapons, and have taken effective measures to account for, secure and physically protect sensitive materials, such as those required by the Convention on the Physical Protection of Nuclear Materials and those recommended by the IAEA Code of Conduct on the Safety and Security of Radioactive Sources,

–*Recognizing further* the urgent need for all States to take additional effective measures to prevent the proliferation of nuclear, chemical or biological weapons and their means of delivery,

–*Encouraging* all Member States to implement fully the disarmament treaties and agreements to which they are party,

–*Reaffirming* the need to combat by all means, in accordance with the Charter of the United Nations, threats to international peace and security caused by terrorist acts,

–*Determined* to facilitate henceforth an effective response to global threats in the area of non-proliferation,

–*Acting* under Chapter VII of the Charter of the United Nations,

1. *Decides that* all States shall refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery;
2. *Decides also* that all States, in accordance with their national procedures, shall adopt and enforce appropriate effective laws which prohibit any non-State actor to manufacture, acquire, possess, develop, transport, transfer or use nuclear, chemical or biological weapons and their means of delivery, in particular for terrorist purposes, as well as attempts to engage in any of the foregoing activities, participate in them as an accomplice, assist or finance them;

3. *Decides also* that all States shall 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 and to this end shall:
 - a. Develop and maintain appropriate effective measures to account for and secure such items in production, use, storage or transport;
 - b. Develop and maintain appropriate effective physical protection measures;
 - c. Develop and maintain appropriate effective border controls and law enforcement efforts to detect, deter, prevent and combat, including through international cooperation when necessary, the illicit trafficking and brokering in such items in accordance with their national legal authorities and legislation and consistent with international law;
 - d. Establish, develop, review and maintain appropriate effective national export and trans-shipment controls over such items, including appropriate laws and regulations to control export, transit, trans-shipment and re-export and controls on providing funds and services related to such export and trans-shipment such as financing, and transporting that would contribute to proliferation, as well as establishing end-user controls; and establishing and enforcing appropriate criminal or civil penalties for violations of such export control laws and regulations;
4. *Decides* to establish, in accordance with rule 28 of its provisional rules of procedure, for a period of no longer than two years, a Committee of the Security Council, consisting of all members of the Council, which will, calling as appropriate on other expertise, report to the Security Council for its examination, on the implementation of this resolution, and to this end calls upon States to present a first report no later than six months from the adoption of this resolution to the Committee on steps they have taken or intend to take to implement this resolution;
5. *Decides* that none of the obligations set forth in this resolution shall be interpreted so as to conflict with or alter the rights and obligations of State Parties to the Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention and the Biological and Toxin Weapons Convention or alter the responsibilities of the International Atomic Energy Agency or the Organization for the Prohibition of Chemical Weapons;
6. *Recognizes* the utility in implementing this resolution of effective national control lists and calls upon all Member States, when necessary, to pursue at the earliest opportunity the development of such lists;
7. *Recognizes* that some States may require assistance in implementing the provisions of this resolution within their territories and invites States in a position to do so to offer assistance as appropriate in response to specific requests to the States lacking the legal and regulatory in-

frastructure, implementation experience and/or resources for fulfilling the above provisions;

8. *Calls upon* all States:

- a. To promote the universal adoption and full implementation, and, where necessary, strengthening of multilateral treaties to which they are parties, whose aim is to prevent the proliferation of nuclear, biological or chemical weapons;
- b. To adopt national rules and regulations, where it has not yet been done, to ensure compliance with their commitments under the key multilateral non-proliferation treaties;
- c. To renew and fulfil their commitment to multilateral cooperation, in particular within the framework of the International Atomic Energy Agency, the Organization for the Prohibition of Chemical Weapons and the Biological and Toxin Weapons Convention, as important means of pursuing and achieving their common objectives in the area of non-proliferation and of promoting international cooperation for peaceful purposes;
- d. To develop appropriate ways to work with and inform industry and the public regarding their obligations under such laws;

9. *Calls upon* all States to promote dialogue and cooperation on non-proliferation so as to address the threat posed by proliferation of nuclear, chemical, or biological weapons, and their means of delivery;

10. Further to counter that threat, *calls upon* all States, in accordance with their national legal authorities and legislation and consistent with international law, to take cooperative action to prevent illicit trafficking in nuclear, chemical or biological weapons, their means of delivery, and related materials;

11. *Expresses* its intention to monitor closely the implementation of this resolution and, at the appropriate level, to take further decisions which may be required to this end;

12. *Decides* to remain seized of the matter.

Annex II

Resolution 1977 (2011)

Adopted by the Security Council at its 6518th meeting, on 20 April 2011

The Security Council,

Reaffirming its resolutions 1540 (2004) of 28 April 2004, 1673 (2006) of 27 April 2006 and 1810 (2008) of 25 April 2008,

–Reaffirming that the proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security,

–Reaffirming the need for all Member States to comply fully with their obligations and fulfil their commitments in relation to arms control, disarmament and non-proliferation in all its aspects of all weapons of mass destruction and their means of delivery,

–Reaffirming that prevention of proliferation of nuclear, chemical and biological weapons should not hamper international cooperation in materials, equipment and technology for peaceful purposes while goals of peaceful utilization should not be misused for proliferation purposes,

–Remaining gravely concerned by the threat of terrorism and the risk that non state actors may acquire, develop, traffic in or use nuclear, chemical, and biological weapons and their means of delivery,

–*Reaffirming* its resolve to take appropriate and effective actions against any threat to international peace and security caused by the proliferation of nuclear, chemical and biological weapons and their means of delivery, in conformity with its primary responsibilities, as provided for in the United Nations Charter,

–*Reaffirming* its decision that none of the obligations in resolution 1540 (2004) shall be interpreted so as to conflict with or alter the rights and obligations of State Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, the Chemical Weapons Convention and the Biological and Toxin Weapons Convention or alter the responsibilities of the International Atomic Energy Agency or the Organization for the Prohibition of Chemical Weapons,

–*Noting* that international cooperation between States, in accordance with international law, is required to counter the illicit trafficking by non-State actors in nuclear, chemical and biological weapons, their means of delivery and related materials,

–*Recognizing* the need to enhance coordination of efforts at national, regional, subregional and international levels, as appropriate, in order to strengthen a global response to the serious challenge and threat to international peace and security posed by the proliferation of weapons of mass destruction and their means of delivery,

–*Emphasizing* the need for States to take all appropriate national measures in accordance with their national authorities and legislation, and consistent with international law, to strengthen export controls, to control access to intangible transfers of technology and to information that could be used for weapons of mass destruction and their means of delivery, to prevent proliferation financing and shipments, and to secure sensitive materials,

–*Endorsing* the work already carried out by the Committee established pursuant to resolution 1540 (2004), hereafter the 1540 Committee, in accordance with its programmes of work, including the establishment of the working groups for facilitating implementation of the Programme of Work,

–*Recognizing* States' progress in implementing resolution 1540 (2004), *while noting* that States have taken fewer measures in some of its areas,

–*Endorsing* also the valuable activities of the 1540 Committee with relevant international regional and subregional organizations,

–*Taking note* of international efforts towards full implementation of resolution 1540 (2004), including on preventing the financing of proliferation-related activities, and *taking into consideration* the guidance of the framework of the Financial Action Task Force (FATF),

–*Noting* that not all States have presented to the 1540 Committee their national reports on implementation of resolution 1540 (2004),

–*Further noting* that the full implementation of resolution 1540 (2004) by all States, including the adoption of national laws and measures to ensure implementation of these laws, is a long-term task that will require continuous efforts at national, regional and international levels,

–*Recognizing*, in that regard, the importance of dialogue between the 1540 Committee and Member States and stressing that direct contact is an effective means of such dialogue,

–*Recognizing* that many States continue to require assistance in implementing resolution 1540 (2004), *emphasizing* the importance of providing States, in response to their requests, with effective assistance that meets their needs, and *welcoming* the coordinating and facilitating role of the 1540 Committee in this regard,

–*Stressing*, in that regard, the need of enhanced assistance and collaboration among States, between the 1540 Committee and States, and between the 1540 Committee and relevant international, regional and subregional organizations in assisting States to implement resolution 1540 (2004),

–*Recognizing* the importance of progress towards achieving the goals and objectives of the 2010 Nuclear Security Summit as a contribution to the effective implementation of Security Council resolution 1540 (2004),

–*Calling on* States to work together urgently to prevent and suppress acts of nuclear terrorism including through increased cooperation and full implementation of the relevant international conventions, and through appropriate measures to reinforce the existing legal framework with a view to ensure that those committing offences of nuclear terrorism are effectively held accountable,

–*Endorsing* the 2009 comprehensive review of the status of implementation of resolution 1540 and *taking note* of the findings and recommendations contained in its final document,

–*Acting under Chapter VII of the Charter of the United Nations:*

1. *Reiterates* its decisions in and the requirements of resolution 1540 (2004), and *re-emphasizes* the importance for all States to implement fully that resolution;
2. *Decides* to extend the mandate of the 1540 Committee for a period of 10 years until 25 April 2021;
3. *Decides* that the 1540 Committee will conduct a comprehensive review on the status of implementation of resolution 1540 (2004), both after five years and prior to the renewal of its mandate, including, if necessary, recommendations on adjustments to the mandate, and will submit to the Security Council a report on the conclusions of those reviews, and *decides* that, accordingly, the first review should be held before December 2016;

4. *Again decides* that the 1540 Committee should submit an annual Programme of Work to the Security Council before the end of each May, and *decides* that next Programme of Work will be prepared before 31 May 2011;
5. *Decides* to continue to provide the 1540 Committee with the assistance of experts, and to this end:
 - a. *Requests* the Secretary-General to establish, in consultation with the 1540 Committee, a group of up to eight experts ("group of experts"), acting under the direction and purview of the Committee, composed of individuals with the appropriate experience and knowledge to provide the Committee with expertise, to assist the Committee in carrying out its mandate under resolutions 1540 (2004), 1673 (2006), 1810 (2008) and this resolution, including through facilitation of assistance to improve implementation of resolution 1540 (2004);
 - b. *Requests*, in that regard, the 1540 Committee to consider recommendations for the Committee and the group of experts on expertise requirements, broad geographic representation, working methods, modalities, and structure, including consideration of the feasibility of a coordination and leadership position of the group of experts, and to present these recommendations to the Security Council no later than 31 August 2011;

Implementation

6. *Again calls upon* all States that have not yet presented a first report on steps they have taken or intend to take to implement resolution 1540 (2004) to submit such a report to the Committee without delay;
7. *Again encourages* all States that have submitted such reports to provide, when appropriate or upon the request of the 1540 Committee, additional information on their implementation of resolution 1540 (2004), including, voluntarily, on States' effective practices;
8. *Encourages* all States to prepare on a voluntary basis national implementation action plans, with the assistance of the 1540 Committee as appropriate, mapping out their priorities and plans for implementing the key provisions of resolution 1540 (2004), and to submit those plans to the 1540 Committee;
9. *Decides* that the 1540 Committee shall continue to intensify its efforts to promote the full implementation by all States of resolution 1540 (2004), through its Programme of Work, which includes the compilation and general examination of information on the status of States' implementation of resolution 1540 (2004) as well as States' efforts at outreach, dialogue, assistance and cooperation; and which addresses in particular all aspects of paragraphs 1, 2 and 3 of that resolution, which encompasses (a) accountability, (b) physical protection, (c) border controls and law enforcement efforts and (d) national export and

trans-shipment controls including controls on providing funds and services such as financing to such exports and trans-shipments; and includes, as necessary, specific priorities for its work, taking into account its annual review on the implementation of resolution 1540 (2004), prepared with the assistance of the group of experts before the end of each December;

10. *Urges* the 1540 Committee to continue to engage actively with States and relevant international, regional and subregional organizations to promote the sharing of experience, lessons learned and effective practices, in the areas covered by resolution 1540 (2004), drawing in particular on information provided by States as well as examples of successful assistance, and to liaise on the availability of programmes which might facilitate the implementation of resolution 1540 (2004), while bearing in mind that customized assistance is useful for the effective implementation of resolution 1540 (2004) at national levels;
11. *Encourages*, in that regard, the 1540 Committee, with the support of necessary relevant expertise, to actively engage in dialogue with States on the implementation of resolution 1540 (2004), including through visits to States at their invitation;
12. *Requests* the 1540 Committee, with the support of the group of experts, to identify effective practices, templates and guidance, with a view to develop a compilation, as well as to consider preparing a technical reference guide about resolution 1540 (2004), to be used by States on a voluntary basis in implementing resolution 1540 (2004), and in that regard, *encourages* the 1540 Committee, at its discretion, to draw also on relevant expertise, including, civil society and the private sector, with, as appropriate, their State's consent;

Assistance

13. *Encourages* States that have requests for assistance to convey them to the 1540 Committee, and *encourages* them to make use of the Committee's assistance template to that effect;
14. *Urges* States and relevant international, regional and subregional organizations to inform the Committee as appropriate of areas in which they are able to provide assistance; and *calls upon* States and such organizations, if they have not done so previously, to provide the 1540 Committee with a point of contact for assistance by 31 August 2011;
15. *Urges* the 1540 Committee to continue strengthening the Committee's role in facilitating technical assistance for implementation of resolution 1540 (2004), in particular by engaging actively, with the support of the group of experts, in matching offers and requests for assistance, through such means as visits to States, at the invitation of the State concerned, assistance templates, action plans or other information submitted to the 1540 Committee;

16. *Supports* the continued efforts of the 1540 Committee to secure a coordinated and transparent assistance process that provides timely and ready availability of information for States seeking assistance and for States prepared to provide assistance;
17. *Encourages* meetings on assistance issues with the participation of the 1540 Committee, between States prepared to offer assistance, States requesting assistance, other interested States, and relevant international, regional and subregional organizations;

Cooperation with International, Regional, and Subregional Organizations

18. *Calls upon* relevant international, regional and subregional organizations to designate and provide the 1540 Committee by 31 August 2011 with a point of contact or coordinator for the implementation of resolution 1540 (2004); and *encourages* them to enhance cooperation and information sharing with the 1540 Committee on technical assistance and all other issues of relevance for the implementation of resolution 1540 (2004);
19. *Reiterates* the need to continue to enhance ongoing cooperation among the 1540 Committee, the Security Council Committee established pursuant to resolution 1267 (1999), concerning Al-Qaida and the Taliban, and the Security Council Committee established pursuant to resolution 1373 (2001), concerning counter-terrorism, including through, as appropriate, enhanced information sharing, coordination on visits to States, within their respective mandates, technical assistance and other issues of relevance to all three committees; and expressing its intention to provide guidance to the committees on areas of common interest in order to better coordinate their efforts;

Transparency and Outreach

20. *Requests* the 1540 Committee to continue to institute transparency measures and activities, inter alia by making fullest possible use of the Committee's website, and *urges* the Committee to conduct, with the participation of the group of experts, regular meetings open to all Member States on the Committee's and group's activities related to the aforementioned objectives;
21. *Requests* the 1540 Committee to continue to organize and participate in outreach events on the implementation of resolution 1540 (2004) at the international, regional, subregional, and, as appropriate, national level, and promote the refinement of these outreach efforts to focus on specific thematic and regional issues related to implementation;

Administration and Resources

22. *Recognizes* that implementation of the mandate of the 1540 Committee requires sustained support and adequate resources; and to that end:
 - a. *Endorses* the existing administrative and logistics support to the 1540 Committee from the Office for Disarmament Affairs, and decides that

the Committee should report to the Council by January 2012 on the possibility of strengthening this support, including through strengthening of ODA's regional capacity to support the implementation of the resolution at regional, subregional and national levels;

- b. Calls upon* the Secretariat to provide and maintain sufficient expertise to support activities of the 1540 Committee as outlined in the present resolution;
 - c. Encourages* States that are able to do so to provide resources to the Office of Disarmament Affairs to assist States in implementing their 1540 obligations, and to make available "in kind" contributions or cost-free training and expertise to the 1540 Committee to help the group of experts meet requests for assistance in a timely and effective manner;
 - d. Invites* the 1540 Committee to consider developing, in close cooperation with relevant international, regional and subregional organizations and other United Nations bodies, ways to utilize and maintain expertise, including, in particular, of former experts of the group, that could be made available for specific missions and assistance needs regarding the implementation of resolution 1540 (2004);
 - e. Urges* the 1540 Committee to continue to encourage and take full advantage of voluntary financial contributions to assist States in identifying and addressing their needs for the implementation of resolution 1540 (2004), and *requests* the 1540 Committee at its discretion, to promote the efficient and effective use of the existing funding mechanisms within the United Nations system;
23. *Decides* to remain seized of the matter.

Annex III

Introduction

Action plan of Spain for the implementation of Security Council Resolution 1540 (2004)

One of the principal challenges to national and international security is the appearance of a new scenario characterized by the emergence of new threats, including the risk of non-State actors, in particular terrorist groups, gaining access to weapons of mass destruction and associated technologies. This threat has resulted in the adoption of global measures such as Security Council resolution 1540 (2004) of 28 April 2004, the first international instrument to address the problem in its full complexity.

The resolution is principally designed to prevent nuclear, biological and chemical weapons of mass destruction, their means of delivery and related materials, from coming under the control of terrorist or organized crime groups. The rule of law response to this challenge requires many internal and external aspects of security to be addressed and coordinated, because they are inextricably linked and interdependent.

The resolution calls upon all States to “refrain from providing any form of support to non-State actors that attempt to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons

and their means of delivery” in such diverse areas as the manufacture, acquisition, possession, development, transport, transfer and use of such weapons, their means of delivery and related materials.

The resolution also obliges States, in accordance with their national procedures, to adopt and enforce effective laws that prohibit and criminalize access by non-State actors, in particular terrorists and their accomplices, to such weapons and materials, and to take effective measures to establish domestic controls for the physical protection of such items and border controls to detect, deter, prevent and combat illicit trafficking and brokering in them.

In its subsequent resolution 1977 (2011), the Security Council recognizes that the full implementation of resolution 1540 (2004) is a long-term task that will require continuous efforts at the national, regional and international levels. The scope of these obligations, which, as stated in resolution 1977 (2011), relate to arms control, disarmament and non-proliferation “in all its aspects”, requires the entire administration to act in a coordinated and comprehensive manner at the State and interministerial levels.

The Committee established pursuant to resolution 1540 (2004) is the Security Council subsidiary body responsible for ensuring compliance with and promoting the implementation of that resolution, principally through:

- The reports¹ of each State on the implementation of the resolution.
- The implementation matrix².
- Offers of assistance to States that request it.

The National Security Strategy, adopted by the Council of Ministers on 31 May 2013, considers the proliferation of weapons of mass destruction as a threat to our security, and one of its strategic lines of action is “Strengthening the non-proliferation system through the full implementation of the relevant treaties and international instruments, including resolutions of the United Nations Security Council, in particular resolution 1540 (2004), which was sponsored by Spain”.

In addition, in December 2008, the General Affairs and External Relations Council of the European Union adopted the “New lines for action by the European Union in combating the proliferation of weapons of mass destruction and their delivery systems”, which resulted in the European Union Chemical, Bacteriological, Radiological and Nuclear (CBRN) Action Plan of 2009, designed to strengthen CBRN security and reduce the threat

1 In resolution 1540 (2004) and the follow-up resolutions thereto, States are urged to present a report to the Committee on the steps they have taken or intend to take to implement resolution 1540 (2004).

2 The matrix is the Committee’s tool for the facilitation and organization of information regarding States’ implementation of the resolutions.

of and damage resulting from CBRN incidents of accidental, natural and intentional origin, including terrorism.

The Strategy to Combat International Terrorism and Radicalization³, adopted on 4 June 2010, also includes within its scope combating CBRN terrorism and establishes that all CBRN-related aspects must be enshrined in a national strategy that coordinates all bodies involved within Spain and facilitates international cooperation.

Consequently, in compliance with the obligations resulting from Security Council resolution 1540 (2004) and in line with the European Union CBRN Action Plan of 2009 and the objectives set in the National Security Strategy of 2013 and the Comprehensive Strategy to Combat International Terrorism and Radicalization, the present national action plan for the implementation of that resolution is hereby established.

National action plan for the implementation of Security Council resolution 1540 (2004)

The National Security Strategy considers the proliferation of weapons of mass destruction as a threat to national security and establishes preventing proliferation, depriving terrorists of access to hazardous substances and protecting the population as the main objectives in this high-priority action area.

Under the National Security Strategy, moreover, the following strategic lines of action, which should also be included in the objectives of the national action plan for the implementation of resolution 1540 (2004), must be followed:

1. Effective multilateralism and active cooperation.
2. Strengthening of the non-proliferation system.
3. Development and updating of the national proliferation prevention and risk mitigation plans.
4. Strengthening of policies and practices for the control of exports of dual-use products and technologies.
5. Enhancement of measures for combating transfers of knowledge, technology, goods and equipment.
6. Improvement of national and international capacities to prevent terrorist attacks that involve radioactive or nuclear materials.
7. Support for international efforts to limit the proliferation of long-range missiles, which can be used to launch weapons of mass destruction.

In this context, and in line with the principles on which the National Security Strategy is based (unity of action, anticipation and prevention, effectiveness

³ The Strategy was approved by the Delegated Committee of the Government for Crisis Situations on 4 June 2010 and endorsed by the Government in 2012.

and resilience), the national action plan for the implementation of resolution 1540 (2004) defines the objectives, operational lines of action and skills needed to achieve the principal objective of full compliance with the obligations resulting from that resolution. In addition, given the unsettled security situation and the need for the capacity to adapt to threats, the national action plan seeks to identify areas in which review, updating and improvement are possible, not only in planning and implementation but also in international cooperation.

The national action plan considers, *inter alia*, measures for preventive security and cooperation with States that require assistance in complying with their obligations under resolution 1540 (2004) and the international non-proliferation treaties, on the basis of Spain's international and strategic interests.

Priority objectives

The priority objectives of the national action plan for the implementation of resolution 1540 (2004) are intended to set the priorities for action and serve as monitoring indicators for the review, evaluation, improvement and updating of the plan.

For the full implementation of the resolution, the following seven priority objectives have been identified:

- Full development and updating of the regulatory framework.
- Protection of critical installations.
- Control of transfers of sensitive and dual-use materials and strategic goods, including intangible transfers.
- Protection of sea, land and air transport and border control.
- Mechanisms for intervention and response in the event of an incident.
- International cooperation and capacity-building.
- Strategic outreach measures.

Because of the adaptive and evolving nature of the threat, compliance with the objectives requires continuous review and updating.

Lines of action

The analysis and periodic updating by the ministries with competence in each area of the matrix for the implementation of resolution 1540 (2004)⁴, which reflects the implementation of and degree of compliance with the resolution, is the starting point for setting the action plan priorities in each phase.

⁴ See the annex containing the implementation matrix adopted by the Security Council Committee established pursuant to resolution 1540 (2004).

Once the respective ministries and national bodies have identified those measures in the matrix for which they have competence and responsibility, each unit involved will develop a programme of specific measures for the implementation of resolution 1540 (2004)⁵, which will reflect the following, inter alia:

- Measures for which the unit has responsibility and competence.
- Action necessary for compliance with the resolution, such as administrative, regulatory, operational, logistical, personnel and equipment-related measures.
- Measures for coordination with other institutions and administrations concerned.
- Measures for reviewing and monitoring the degree of implementation achieved and, if necessary, updating measures.
- Development of the regulations needed for the full and effective implementation of the resolution, where no regulatory compliance framework exists.

The measures in the implementation matrix that require specific interministerial coordination will be addressed by an interministerial contact group for compliance with the national action plan for the implementation of Security Council resolution 1540 (004).

The lines of action for each objective in the national action plan are the following:

Full development and updating of the regulatory framework

The legal measures necessary for the effective implementation of the resolution must be identified or, if necessary, formulated and proposed, organized on the basis of obligations for the prevention of illicit acts related to CBRN materials and technologies in the following areas:

- Development and design.
- Manufacturing and production.
- Acquisition.
- Possession and storage, including multiple storage for the purposes of brokering.
- Transport.
- Transfer.
- Use.
- Collection and destruction.
- Provision of technical assistance.
- Financing.

⁵ Access to such programmes will be restricted, if considered necessary, in accordance with the official secrets regulations in force.

Any other measures considered necessary to the prevention of the proliferation of weapons of mass destruction, their means of delivery and related materials, will also be taken.

Security and protection of high-risk CBRN materials and installations

The appropriate measures to account for, secure and physically protect sensitive nuclear, chemical and biological (pathogenic) or dual-use installations and materials must be identified or, if necessary, formulated and proposed, in the following areas:

- Research and development.
- Production.
- Storage.
- Use.
- Management and handling, including the protection of the information and communications systems that govern physical protection (cybersecurity).
- Development of a security culture among and security training of individuals who work with high-risk CBRN materials, including the establishment of the necessary security clearances for such individuals.
- Cooperation with the private sector and joint participation in capacity-building.
- Criteria for the assessment of security measures.

Any other measures considered conducive to the physical protection and custody of sensitive and dual-use materials related to the purpose of this action plan will also be developed, taking into account, as appropriate, measures related to the National Plan for the Protection of Critical Installations and the related sectoral plans.

Control of transfers of sensitive CBRN and dual-use materials, including intangible transfers

Measures for the control of CBRN and dual-use products that require the issuance of export, transit, trans-shipment and re-export licences, and for the prevention of illicit trafficking in weapons of mass destruction, their means of delivery and related materials, will be identified or, if necessary, formulated and proposed.

- Export, re-export, import and transit controls.
- Issuance of licences for the export, import, transit, trans-shipment and re-export of materials included in the lists of non-proliferation regimes of which Spain is a member, such as the Nuclear Suppliers Group, the Zangger Committee, the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-use Goods and Technologies, the Australia Group and the Missile Technology Control Regime.

- Systems for the inspection and verification of the conditions in which the issuance and renewal of such licences were requested, including, if necessary, the establishment of adequate databases and their possible connection with analogous international systems, mentioned in section 4.4 on suspicious cargoes.
- Controls related to transfers of sensitive technologies and materials in Spanish territory.
- Establishment of controls to address other proliferation risks not on the lists, through the inclusion of technologies other than the products currently under regulatory control.
- Intangible technology transfers and the flow of scientific and technical information and knowledge.
- Risk assessment systems.
- Controls related to financial services for commercial transactions and the financing of the activities identified in resolution 1540 (2004).
- Measures to protect the information and communications systems that govern the management and control of transfers.

Those measures considered necessary for the prevention of illicit tangible and intangible commercial, scientific and financial transactions related to the purpose of this national action plan will also be developed.

Security of the international logistical chain and border control for the detection of possible illicit trafficking, through the improvement of suspicious transaction identification and information

Appropriate measures for the security and protection of the international logistical chain for such materials, in particular sea, land and air transport and border controls, will be identified or, if necessary, formulated and proposed, in the following areas:

- Understanding and control of the supply chain in transfers of sensitive CBRN materials.
- Requirements for the companies and personnel responsible for transporting such materials.
- Security of transport of CBRN materials (regulations, qualitative and quantitative limits for each vehicle, monitoring and tracking systems).
- Risk assessment systems.
- Controls related to transport, loading, unloading, transit and trans-shipment by land, air and sea, at the national and international levels, particularly at ports and airports.
- Controls for the detection in the logistical chain of possible illicit trafficking in CBRN technologies and associated materials.
- Interception and inspection of and intervention regarding cargoes suspected of constituting the illicit trafficking mentioned in resolution 1540 (2004) or subject to embargoes and sanctions established pursuant to

Security Council resolutions or by the European Union, and those measures necessary to ensure the storage and disposition of such cargoes, if necessary, at ports and airports to which funding is allocated for such emergencies.

- Interministerial coordination and research measures, with the establishment of the decision-making levels necessary to respond expeditiously to requirements for the interception of cargoes related to resolution 1540 (2004), both at the national level and as a result of requests for information or cooperation derived from the international commitments made by Spain.
- Exchange of information at the national and international levels on relevant means of transport, their point of departure, route, point of arrival, registry and flag.
- Controls for the physical protection of critical transport related to resolution 1540 (2004).
- Measures to protect the information and communications systems governing management and control in this area (cybersecurity).

Any other measures considered necessary for the protection of national and international transport by all means, including border controls related to sensitive and dual-use materials, will also be developed. To that end, the measures related to the sectoral plans of the National Centre for the Protection of Critical Installations will if necessary be taken into account, as will those measures designed to prevent the illicit transport of weapons of mass destruction, their means of delivery and related materials.

Mechanisms for intervention and response in the event of an incident

Measures for intervention and response in the event of an incident involving nuclear, bacteriological or chemical weapons or related materials will be identified or, if necessary, formulated and proposed, in the following areas:

- Design basis threats, risk analysis and the investigation and prevention of incidents.
- Establishment of resources, means and specialized CBRN personnel, including:
 - Teams for the detection, sampling, analysis and identification of movable and immovable CBRN substances.
 - Teams for the decontamination of personnel and equipment.
 - Medical and emergency teams with specialized personnel and equipment.
 - Reconnaissance and rescue teams.
- Establishment of a reference centre for knowledge at the national level related to risks and CBRN-specific queries, with the possibility of making available an updated database of protocols and good practices and another database of experts in specific CBRN risks.

- Emergency response and evacuation plans for the units involved, and assessment of those plans through simulation exercises.
- Mechanisms for coordinated action at the interministerial level with decision-making and response levels and integrated public communication channels, including a mechanism enabling a return to normality.

International cooperation and support for capacity-building

Measures for international cooperation and assistance to States that require support in complying with their obligations under resolution 1540 (2004) and the international non-proliferation treaties, on the basis of Spain's international and strategic interests, will be identified or, if necessary, formulated and proposed.

- Identification of priorities by country or strategic geographical area.
- Evaluation of requests received directly or through the Security Council Committee established pursuant to resolution 1540 (2004) or other related international organizations, with a view to ensuring that resources are optimized.
- Establishment of measures governing cooperation with international, regional and subregional organizations related to non-proliferation, in particular the European Union and such others as the United Nations Office for Disarmament Affairs, the Organization for Security and Cooperation in Europe, the International Atomic Energy Agency (IAEA), the Organization for the Prohibition of Chemical Weapons, the United Nations Office on Drugs and Crime and the International Criminal Police Organization (INTERPOL).
- Measures to promote active participation in international initiatives whose aims are linked to the objectives of resolution 1540 (2004), including the Global Initiative to Combat Nuclear Terrorism, the Nuclear Security Summits process, the Global Health Security Agenda, the Proliferation Security Initiative, the European Union CBRN Risk Mitigation Centres of Excellence and support for relevant IAEA activities.
- Measures to promote active participation in the various regimes designed to control exports of materials related to the purposes of resolution 1540 (2004), including the Nuclear Suppliers Group, the Zangger Committee, the Wassenaar Arrangement, the Australia Group and the Missile Technology Control Regime.

Measures contributing to capacity-building in other States of strategic interest to Spain through the provision of additional assistance in the areas included in this action plan will also be developed.

Strategic communication measures

Security Council resolution 1810 (2008) establishes the need for the Committee established pursuant to resolution 1540 (2004) to intensify its

efforts to promote the full implementation by all States of resolution 1540 (2004), including through outreach and dialogue with civil society. To that end, States will promote:

- Effective outreach programmes to inform and raise awareness at universities and research and development centres regarding their responsibilities, through the organization of seminars, courses and research programmes.
- Effective outreach programmes to inform and raise awareness among companies falling within the scope of this action plan, regarding the responsibilities and consequences, both moral and criminal, of diverting materials to illicit activities related to resolution 1540 (2004).
- Dialogue and cooperation with civil society and academia to address the threat posed by illicit trafficking in nuclear, biological, chemical or dual-use technologies and substances and their delivery systems.
- Dialogue and communication with industry, transport companies and financial bodies so that they facilitate the detection of and report suspicious transactions in the relevant areas.

In a society of globalization and communication, the cooperation of citizens, academia and the affected commercial sectors, such as industry and transport, is essential to preventing the proliferation of weapons of mass destruction, their means of delivery and related materials.

Organizational structure for the action plan for the implementation of resolution 1540 (2004)

Anchoring of the action plan for the implementation of resolution 1540 (2004) in the national security system

The National Security Council is responsible for supervising the implementation of the action plan, in line with the functions assigned to it by Royal Decree No. 385/2013 of 31 May 2013, amending Royal Decree No. 1886/2011 of 30 December 2011 establishing the Delegated Committees of the Government.

Coordination of the action plan for the implementation of resolution 1540 (2004)

The Ministry of Foreign Affairs and Cooperation, as the national point of contact for the Security Council Committee established pursuant to resolution 1540 (2004), is responsible for coordinating the action plan for the implementation of that resolution and submitting it to the Committee.

In accordance with the principles of unity of external action and integrated action, established under the National Security Strategy, an interministerial contact group will act as the coordination platform.

***Interministerial contact group for the implementation
of resolution 1540 (2004)***

The group is the platform for the coordination of the action plan for the implementation of resolution 1540 (2004), in accordance with article 40 of Law No. 6/1997 of 14 April 1997 concerning the organization and operation of the general State administration. It will meet on an ad hoc basis in accordance with planning needs, and will establish synergies with other existing contact groups related to the non-proliferation of weapons of mass destruction, such as the Contact Group for Nuclear Affairs, the Contact Group for the Prohibition of Biological Weapons and the Working Group of the National Authority for the Prohibition of Chemical Weapons.

To avoid duplication as a result of the State implementation of the European Union CBRN Action Plan, possible synergies with the national group and with each subgroup in the respective CBRN areas, whose leadership and coordination are the responsibility of the National Security Department in the Office of the Prime Minister, will also be taken into account.

Reports

The prevention, protection and response measures designed to address adaptive threats such as illicit trafficking in weapons of mass destruction, their delivery systems and related materials must be continuously adapted in order to ensure their ongoing development. The United Nations Security Council encourages the Committee established pursuant to resolution 1540 (2004) to work closely with States to promote the exchange of experience, lessons learned and effective practices in the areas covered by the resolution, using information provided by States. Consequently, the obligation to report to the Committee established pursuant to resolution 1540 (2004) involves:

- Immediately notifying the Security Council of any violation of the resolution, so that the necessary measures can be taken.
- Informing the Secretary-General of the United Nations of measures to prevent terrorists from acquiring weapons of mass destruction.

The competent ministries will annually submit to the national point of contact at the Ministry of Foreign Affairs and Cooperation, before 30 January, information regarding the measures taken in this area.

Composition of the working group

- Coordinator:** **Vicente Garrido Rebolledo**
Professor of International Relations and Security Studies
King Juan Carlos University
General Director – International Affairs and Foreign Policy Institute (INCIPE)
Member of the Advisory Board on Disarmament Issues of the UN Secretary General
- Member and Secretary:** **M.ª del Mar Hidalgo**
Senior Analyst.
Spanish Institute for Strategic Studies (CESEDEN-IEEE)
Spanish Ministry of Defence
- Members:** **Fernando Borredá Juste**
UNSCR 1540 National Point of Contact
Non Proliferation and Disarmament Office, chemical and biological area
Ministry of Foreign Affairs and Cooperation
- Dr. Rafael Pérez Mellado**
Scientific Adviser Biological Non proliferation
Office for Non Proliferation and Disarmament
Ministry of Foreign Affairs and Cooperation

Composition of the working group

M.^a del Carmen Cañavate

*Manager of the Network of Biological-Alert Laboratories
RE-LAB*

Cdr Antonio Barrera Comendador

*Arms Control, Disarmament, & Non-Proliferation
Branch
Spanish Defense Policy Directorate
Spanish MoD*

Ignacio Cartagena Núñez

*Deputy Director General Subsaharian África
Ministry of Foreign Affairs and Cooperation*

Joaquín Rebollo González

*Head of Section, Guardia Civil
State Secretary of Security
Ministry of Interior*

José Luis Valle María

*Head of Information and Intelligence Office
Customs Surveillance Service
Custom and Special Tax Office AEAT*

Juan Blázquez Martínez

*Main researcher CIEMAT
Scientific Adviser Nuclear issues
Office for Non Proliferation and Disarmament
Ministry of Foreign Affairs and Cooperation*

Javier Quiñones Díez

*Director of Department of Safety and Improvement of
CIEMAT Facilities*

Tcol. Francisco Márquez de la Rubia

Congressman (IX y X legislatures)

Raquel Cabeza Pérez

*Co-Chair, Policy Development Group, Financial Action
Task Force (FATF)
Deputy Director-General
Ministry of Economy and Competitiveness*

