About this monograph

United Nations Security Council Resolution 1540 (2004) calls on states to prevent criminals, militant groups and other non-state actors from acquiring or using weapons of mass destruction. This monograph is based on papers that were presented and discussed at a meeting of former members of the 1540 Committee’s group of experts. The meeting took place in Cape Town, South Africa in May 2015, and was organised by the ISS in cooperation with the United Nations Office for Disarmament Affairs and using funds from voluntary contributions by the governments of the Republic of Korea and the United States of America. The monograph is a timely assessment towards the 2016 Comprehensive Review of the implementation of Resolution 1540. It covers a broad spectrum of topics and recommends better ways to combat the threat of nuclear, chemical and biological weapons.

The reader is invited to explore and think critically about the international community’s efforts in this regard.

About the ISS

The Institute for Security Studies is an African organisation that aims to enhance human security on the continent. It does independent and authoritative research, provides expert policy analysis and advice, and delivers practical training and technical assistance.

Acknowledgements

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Towards the 2016 Comprehensive Review

Former experts assess UNSC Resolution 1540
Compiled and edited by Nicolas Kasprzyk, Mothepe Shadung and Noël Stott
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<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ALADI</td>
<td>Latin American Integration Association (Asociación Latinoamericana de Integración)</td>
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<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<td>ATT</td>
<td>Arms Trade Treaty</td>
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<td>AU</td>
<td>African Union</td>
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<td>BAFA</td>
<td>Federal Office for Economic Affairs and Export Control (Germany)</td>
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<tr>
<td>BATAN</td>
<td>Badan Tenaga Nuklir Nasional</td>
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<td>BBC</td>
<td>British Broadcasting Corporation</td>
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<tr>
<td>BTWC</td>
<td>Biological and Toxin Weapons Convention</td>
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<td>BWC</td>
<td>Biological Weapons Convention</td>
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<tr>
<td>BWC–ISU</td>
<td>Biological Weapons Convention–Implementation Support Unit</td>
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<td>BWPP</td>
<td>BioWeapons Prevention Project</td>
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<tr>
<td>CARICOM</td>
<td>Caribbean Community</td>
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<tr>
<td>CBRN</td>
<td>chemical, biological, radiological and nuclear</td>
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<tr>
<td>CCM</td>
<td>Convention on Cluster Munitions</td>
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<tr>
<td>CICTE</td>
<td>Inter-American Committee against Terrorism</td>
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<tr>
<td>CITS</td>
<td>Center for International Trade and Security</td>
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<tr>
<td>CPPNM</td>
<td>Convention on the Physical Protection of Nuclear Material</td>
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<td>CSO</td>
<td>civil society organisation</td>
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<td>CTC</td>
<td>Counter-Terrorism Committee</td>
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<td>CTED</td>
<td>Counter-Terrorism Committee Executive Directorate</td>
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<tr>
<td>CTITF</td>
<td>Counter-Terrorism Implementation Task Force</td>
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<td>CWC</td>
<td>Chemical Weapons Convention</td>
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<td>ECOSOC</td>
<td>Economic and Social Council</td>
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<tr>
<td>EU CBRN CoE Initiative</td>
<td>European Union Chemical, Biological, Radiological and Nuclear Risk Mitigation Centres of Excellence Initiative</td>
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<td>DG DEVCO</td>
<td>European Commission Directorate-General for International Cooperation and Development</td>
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<td>GPWG</td>
<td>Global Partnership Working Group</td>
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<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
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<tr>
<td>Acronym</td>
<td>Definition</td>
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<tr>
<td>IASB</td>
<td>International Association for Synthetic Biology</td>
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<tr>
<td>IGO</td>
<td>Intergovernmental organisation, or, international governmental organisation</td>
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<tr>
<td>IPU</td>
<td>Inter-Parliamentary Union</td>
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<tr>
<td>IRO</td>
<td>International, regional and subregional organisation</td>
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<td>ISS</td>
<td>Institute for Security Studies</td>
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<tr>
<td>JRC</td>
<td>European Union Joint Research Centre</td>
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<tr>
<td>MERCOSUR</td>
<td>Southern Common Market (Mercado Común del Sur)</td>
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<td>NATO</td>
<td>North Atlantic Treaty Organization</td>
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<tr>
<td>NCB</td>
<td>Nuclear, chemical and biological</td>
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<td>NCBW</td>
<td>Nuclear, chemical and biological weapons</td>
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<td>NGO</td>
<td>Non-governmental organisation</td>
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<td>NPT</td>
<td>Treaty on the Non-Proliferation of Nuclear Weapons</td>
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<td>OAS</td>
<td>Organization of American States</td>
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<tr>
<td>OAU</td>
<td>Organisation of African Unity</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OP</td>
<td>Operational Paragraph</td>
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<td>OPCW</td>
<td>Organisation for the Prohibition of Chemical Weapons</td>
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<td>OSCE</td>
<td>Organization for Security and Co-operation in Europe</td>
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<td>PIF</td>
<td>Pacific Islands Forum</td>
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<tr>
<td>PIP</td>
<td>Partners in Prevention</td>
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<tr>
<td>REC</td>
<td>Regional economic community</td>
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<td>SICA</td>
<td>Central American Integration System</td>
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<td>SME</td>
<td>Small and medium-sized enterprise</td>
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<tr>
<td>STCE</td>
<td>Strategic Trade Control Enforcement</td>
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<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNASUR</td>
<td>Union of South American Nations</td>
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<tr>
<td>UNDPI</td>
<td>United Nations Department of Public Information</td>
</tr>
<tr>
<td>UNICRI</td>
<td>United Nations Interregional Crime and Justice Research Institute</td>
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<tr>
<td>UNODA</td>
<td>United Nations Office for Disarmament Affairs</td>
</tr>
<tr>
<td>UNODC</td>
<td>United Nations Office on Drugs and Crime</td>
</tr>
<tr>
<td>UNREC</td>
<td>United Nations Regional Centre for Peace and Disarmament in Africa</td>
</tr>
<tr>
<td>VERTIC</td>
<td>Verification Research, Training and Information Centre</td>
</tr>
<tr>
<td>WCO</td>
<td>World Customs Organization</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>WMD</td>
<td>Weapons of mass destruction</td>
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<td>WPS</td>
<td>Women, peace and security</td>
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Resolution 1540 (2004), adopted unanimously by the United Nations Security Council on 28 April 2004, was in response to the threat posed by the proliferation of nuclear, chemical and biological weapons and their means of delivery to international peace and security.

The resolution not only places legally binding obligations on states to refrain from supporting by any means non-state actors from proliferating nuclear, chemical or biological weapons and their delivery systems, but also to adopt legislation to prevent such proliferation and to establish appropriate controls over related materials to prevent their illicit trafficking.

The 1540 Committee, a subsidiary body of the United Nations Security Council, was established to monitor the implementation of the resolution, and its current mandate has been extended until 2021.

The Committee is assisted by a Group of Experts consisting of nine members from a broad geographic representation with mutually supporting expertise.

The Group of Experts plays an indispensable role in supporting the work of Committee, and in this context, the Security Council, through resolution 1977 (2011), recognised their contribution and invited the Committee to develop ways to utilise the expertise of former experts.

In the context of the Comprehensive Review of the implementation of resolution 1540 (2004), which needs to be completed before December 2016, the Committee envisaged a meeting of former 1540 experts to share their experience and expertise.

The Review will in a retrospective and forward-looking manner analyse the implementation of resolution 1540 (2004), and, where appropriate, identify and recommend specific, practical and appropriate actions that would contribute to the strengthened implementation of the resolution.

The accumulated knowledge and experience of the former experts are extremely valuable tools that we need to take advantage of while we conduct the review. During their tenure as experts, these highly skilled individuals had unique opportunities to observe first-hand how states implement the resolution; and the challenges they face. Their perspectives will certainly enrich our deliberations during the review.

I applaud the work of the Institute for Security Studies (ISS), which has undertaken several initiatives in support of the implementation of the resolution, including hosting this meeting of former 1540 experts in Cape Town, South Africa, on 28 and 29 May 2015.
The interaction of the Committee and its experts with the ISS takes place in the context of the Committee's Programme of Work that envisaged direct interaction, with industry, academia and civil society.

This publication contains the valuable input the former experts made at the meeting in Cape Town, provides a synopsis of the key areas and challenges facing the implementation of resolution 1540 (2004) and makes some key recommendations to be considered during the Comprehensive Review.

Ambassador Román Oyarzun Marchesi
1540 Committee Chair, Ambassador and Permanent Representative of Spain to the United Nations
New York, USA, 3 September 2015
Preface

Preventing the proliferation of nuclear, chemical and biological weapons, their means of delivery or related material to any individual or organisation not acting under the lawful authority of a state is a key security objective for all states, including African states, in light of the dramatic consequences that would result from the use, or threat of use, of such weapons. In addition, development strategies at the national and regional levels would be severely hampered if it appeared that states were unable to establish appropriate controls over goods, materials and technologies that may be used for both civilian and military purposes and in particular, in this context, dual-use items that could be used to manufacture weapons of mass destruction (WMD) or their means of delivery.

It is in this context that, in October 2014, the Institute for Security Studies (ISS) launched a dedicated project aimed at strengthening the capacity of African states to prevent non-state actors from developing, acquiring, manufacturing, possessing, transporting, transferring or using WMD and their delivery systems.

The ISS is the first non-governmental organisation to establish a project dedicated to the implementation of United Nations (UN) Security Council Resolution 1540 (2004) in Africa. As a pan-African organisation working for the advancement of sustainable human security in Africa, the ISS seeks to mainstream human security perspectives into public policy processes within Africa and beyond by undertaking applied policy research and providing teaching, training as well as technical assistance. Its ‘Africa’s Development and the Threat of Weapons of Mass Destruction’ Programme (under which the project falls) was launched in 2007 with funding from the Royal Norwegian Government, and locates its work within the broader concept of ‘emerging transnational threats’ and the impact these have on Africa’s security, socio-economic and political development.

African attitudes to Resolution 1540 have evolved since its adoption in 2004 under Chapter VII of the UN Charter owing to the potential proliferation of WMD and their means of delivery to non-state actors, such as criminals and groups involved in acts of terror, which has emerged as a transnational threat to the African continent.

As at January 2008, only 19 African states had submitted reports on the steps they have taken, or intend to take, to the 1540 Committee – and most of these reports were well below the quality standard necessary.¹

This may have been the result of the fact that not many countries in Africa are actually capable of producing WMD-related materials, but also because of the stance that the Non-Aligned Movement...
(NAM) took at the time in cautioning ‘against a practice where the Security Council utilises its authority to define the legislative requirements for Member States in implementing Security Council decisions’.2 South Africa as an advanced African country in the biological, chemical and nuclear field supported this position, arguing that it would ‘not accept externally prescribed norms or standards, whatever their source, on matters within the jurisdiction of the South African Parliament, including national legislation, regulations or arrangements, which are not consistent with South Africa’s constitutional provisions and procedures, or are contrary to South Africa’ national interests or infringe on its sovereignty’.3

As of 28 September 2015, only 14 African UN member states had not yet submitted an initial report as required and in November 2012, the government of South Africa, in collaboration with the African Union (AU) and with the support of the UN Office of Disarmament Affairs (UNODA) and the ISS hosted the first all-Africa Resolution 1540 workshop. The workshop concluded with the AU Commission undertaking to further promote and enhance the implementation of Resolution 1540 in Africa by communicating the outcomes of the workshop to member states and requesting the AU Executive Council to express its commitment to Resolutions 1540 and 1977 (2011) and to authorise a structured formal mechanism for follow up at a political level. This led to the AU Summit adopting, in 2013, a decision that the commission should take the necessary steps, in collaboration with the 1540 Committee and all other stakeholders, to further promote and enhance the implementation of Resolution 1540 in Africa.4

This growing political support led the AU to take a leading role and to work in synergy with other African stakeholders, such as the various regional economic communities (RECs) and the Togo-based UN Regional Centre for Peace and Disarmament in Africa (UNREC), to assist African states to make steady progress in implementing the resolution. This includes adopting effective laws to criminalise proliferation activities, and establishing controls over equipment, materials and technology that could be diverted for proliferation purposes.

At a November 2014 AU workshop for RECs and regional mechanisms, the Intergovernmental Authority on Development Secretariat (IGAD) presented possible activities for 2015. This included a regional workshop to promote instruments such as Resolution 1540, the International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT), the Convention on the Physical Protection of Nuclear Material (CPPNM), the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Chemical Weapons Convention (CWC) and the Biological and Toxin Weapons Convention (BTWC).

This workshop for IGAD member states, hosted by the ISS in partnership with the IGAD Secretariat and the AU, on enhancing the implementation of Resolution 1540 and other non-proliferation instruments took place on 14 and 15 September 2015 in Nairobi, Kenya.

In early 2016 the AU is planning to host a 1540 Assistance Conference for African States and a preparatory meeting for this has already been held in Vienna, Austria, at which a number of donor countries were present together with representatives of relevant international organisations. These included the 1540 Committee, the Biological Weapons Convention–Implementation Support Unit (BWC-ISU), the International Atomic Energy Agency (IAEA), the Organisation for the Prohibition of Chemical Weapons (OPCW), the United Nations Office on Drugs and Crime (UNODC), Interpol, the World Health Organization (WHO) as well as the ISS.

This recent impetus from the AU and the fact that all African states (except South Sudan) are party to the NPT and are increasing their participation in the CWC and the BTWC means that African
adherence to international disarmament and non-proliferation instruments is steadily strengthening. As articulated by South Africa’s Ambassador to the UN, Baso Sangqu:

… [t]he commitment of African States to prevent non-State actors, including terrorists, from acquiring WMD-related materials are not in doubt. In 1999, the Organization of African Unity (OAU) adopted the Convention on the Prevention and Combating of Terrorism. The status of acceptance of legal obligations by African States with respect to international instruments on disarmament and non-proliferation is high … for example, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Convention on the Physical Protection of Nuclear Material (CPPNM), the Chemical Weapons Convention (CWC) and the Biological and Toxin Weapons Convention (BTWC). Through the Pelindaba Treaty, African States have established an African nuclear-weapon-free zone. The implementation of these instruments by all States of the region would contribute to meeting their obligations under resolution 1540 (2004) to prevent non-State actors from acquiring access to WMD, their means of delivery and related materials.5

Importantly, Resolution 1540 reiterates that none of its obligations shall conflict with or alter the rights and obligations of states party to these instruments, and for Africa, Resolution 1540 is now considered as reinforcing pre-existing international disarmament and non-proliferation instruments and vice versa.

The near universalisation of the CWC in Africa is largely due to the numerous coordinating activities of the OPCW and, more specifically, comes as a result of the memorandum of understanding and cooperation between the commission of the AU and the technical secretariat of the OPCW. The memorandum seeks to enhance cooperation between the two organisations to implement the CWC and to achieve universality in Africa in accordance with the decision adopted by the 38th ordinary session of the heads of state and government of the AU in Durban, South Africa in July 2002 (Decision AHG/Dec.182 (XXXVIII)).6

At this meeting, the assembly took note of the CWC’s aim ‘to achieve the effective prohibition of the development, production, acquisition, transfer, stockpiling and use of chemical weapons and their destruction’ and, encouraged ‘the call to achieve universality of the Chemical Weapons Convention in Africa’. The 29 January 2006 memorandum of understanding expands on this decision by seeking to enhance cooperation between the two organisations with respect to both the universality of the convention in Africa and for the effective national implementation of its provisions. It also established an effective mechanism between the AU Commission and the OPCW Technical Secretariat to collaborate in areas of mutual interest. At the signing ceremony, then AU Commission chairperson Alpha Oumar Konaré stated that cooperation with the OPCW was important for the AU’s goal of establishing a chemical-weapons-free zone in Africa and for fostering the peaceful uses of chemistry.7

Unfortunately, the BTWC is yet to be fully universalised on the African continent. Eight African states (Angola, Chad, Comoros, Djibouti, Eritrea, Guinea, Namibia, South Sudan) are still not party to the convention, and six (Central African Republic, Côte d’Ivoire, Egypt, Liberia, Somalia, Tanzania) are signatories only. To strengthen support for the BTWC on the African continent and facilitate capacity building, the BWC-ISU should consider launching an African programme, as has been successfully achieved by other international organisations such as the OPCW. ‘This would be useful to address implementation challenges in Africa in a systematic manner, and to develop sustained co-operation with relevant partners’.8
The role of the 1540 Committee’s outreach activities to promote full implementation of Resolution 1540 in the African context is also important. Committee members and experts have made extensive use of opportunities presented to raise awareness about the resolution, share implementation experiences, identify potential gaps in legislation and to provide guidance on reporting and presenting the many opportunities on offer for assistance.

As a result of all these efforts, there is little doubt that the threat of non-state actors acquiring materials that could be used for nuclear, chemical or biological weapons, or their means of delivery, is a well-understood danger to African states.

In addition and importantly, following the November 2012 conference, African states are of the view that the implementation of the resolution is a long-term task and that there are clear synergies between implementing Resolution 1540 and advancing African states’ socio-economic and developmental objectives. Participants were also of the view that the process of implementing Resolution 1540 in Africa should be driven by Africans and that, as Africans, one needed to find linkages with national developmental processes and obligations under Resolution 1540.9

All African states accept the importance of implementing Resolution 1540 and that the proliferation of WMD should be prevented – while the peaceful use of nuclear, biological and chemical materials should continue. Like most, if not all, of the developing world, Africa’s position is clear. There needs to be a balance between security and development – while the security of nuclear (and other radioactive), biological and chemical materials should be ensured, international cooperation with regard to the peaceful uses of such materials should not be undermined, and the continued delivery of the developmental benefits provided by such materials and related applications should not be impeded.

It is thus important to enhance Africa’s role in international efforts to strengthen WMD disarmament and non-proliferation in the context of Africa’s developmental and security imperatives. Given this understanding, UN member states, including those in Africa, have steadily increased their implementation efforts with growing support from international, regional and subregional organisations, civil society and academia.

**Conclusion**

The recent past has also seen many important developments suggesting the emergence of a new momentum both globally and on the African continent. The AU has increased its efforts to facilitate the implementation of Resolution 1540 and there has been a more active dialogue between African states and the 1540 Committee and also more visits by the committee to African states. In addition, assistance providers have engaged in more capacity-building activities in Africa, intergovernmental organisations such as UNREC and African non-governmental organisations such as the ISS have increased their role in Resolution 1540-related matters. In 2014, for example, UNREC organised three language-specific workshops in Africa for states that had not yet submitted an initial report focused mainly on national reporting capacities and methodologies (March 2014: Gabon; April 2014: South Africa; June 2014: Togo). At these workshops, the ISS’ in-house Africa Guide to UN Security Council Resolution 1540 (2004)10 was distributed and referred.

As part of African and international civil society organisations, the ISS will continue to support and facilitate the implementation of WMD disarmament and non-proliferation initiatives at local, national, subregional and continental levels, and provide and facilitate capacity building and training opportunities for appropriate stakeholders in African states. The ISS will continue to make an
important contribution in moving the momentum forward on all these instruments, driven by a desire
to strengthen and facilitate the implementation of Resolution 1540 in Africa.

This is evidenced by the ISS hosting, with the support of UNODA, the meeting of former
1540 Committee experts in Cape Town, South Africa, in May 2015 in line with Resolution 1977.
Resolution 1977 invited the 1540 Committee ‘to consider developing, in close cooperation with
relevant international, regional and sub-regional organizations and other UN bodies, ways to utilize
and maintain expertise, including, in particular, of former experts of the group [emphasis added] that
could be made available for specific missions and assistance needs regarding the implementation of
resolution 1540 (2004)’. This monograph is a result of the meeting of former 1540 Committee experts
and will make a valuable contribution to the 2016 Comprehensive Review of Resolution 1540.

Africa, with the involvement of all stakeholders, governments, regional and subregional
organisations, civil society and academia, will play its role in mitigating the threat to international
peace and security posed by the proliferation of weapons of mass destruction, their delivery systems
and related material.

Mothepa Shadung, Junior Researcher, and Noël Stott, Senior Research Fellow,
Transnational Threats and International Crime, ISS, Pretoria, South Africa, 18 September 2015

Notes

1 See: Jean du Preez and Dominique Dye, Implementing Resolution 1540 in Africa: balancing competing
priorities in Lawrence Scheinman (ed.), Implementing Resolution 1540: the Role of Regional Organizations,
United Nations Institute for Disarmament Research (UNIDIR), 2008; Dominique Dye, African perspectives


3 Security Council, Note verbale dated 31 January 2005
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6 Noël Stott, Amelia du Rand and Dominique Dye,
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7 For a more detailed analysis of Africa and the CWC see:
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11–12 April 2011: seminar proceedings, Organisation
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The Netherlands, 2011.

8 Nicolas Kasprzyk, Mauritania joins the Biological
Weapons Convention, ISS Today, 4 March 2015.

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and Amelia Broodryk, Making Progress implementing
UNSCR 1540 in Africa, 1540 Compass, Issue 9,
Summer 2015; Noël Stott and Amelia Broodryk,
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10 Benita Pavicevic and Adèle Kirsten, Africa Guide to
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Nicolas Kasprzyk

Introduction

The papers made available in the following pages are an invitation to the reader to explore and think critically about the international community’s efforts to prevent the proliferation of weapons of mass destruction (WMD) to non-state actors, in the context of United Nations (UN) Security Council Resolution 1540.

Since its adoption in 2004, the resolution has garnered growing support from states and from the other stakeholders involved in its implementation, be it international, regional and subregional organisations, the private sector, academia or civil society. In a relatively short period of time, Resolution 1540 has emerged as a central pillar of the international non-proliferation architecture, complementing pre-existing international instruments such as the Treaty on the Non-Proliferation of Nuclear Weapons, the Chemical Weapons Convention and the Biological and Toxin Weapons Convention, in a mutually reinforcing manner. Resolution 1540 established obligations that were needed to tackle the proliferation challenges posed by non-state actors in an increasingly interconnected world. It also brought a new impetus to cooperative efforts aimed at reducing the prospect of the use of WMD, which is far from being non-existent, as has sadly been demonstrated in Syria in recent times.

In this context, this monograph is a tribute to all individuals who have participated, in one capacity or another, in the fight against the proliferation of WMD and in efforts to rid the world of the deadliest weapons ever since the very first resolution adopted by the UN General Assembly in 1946. This resolution called for ‘the elimination from national armaments of atomic weapons and of all other major weapons adaptable to mass destruction’. The nature of the threat has evolved since then, but the goal of creating a safer world in which there is peace and security for all – a world free of all WMD – remains as vital as ever.

The papers presented in this monograph serve as a contribution to the 2016 Comprehensive Review of the Implementation of Resolution 1540 and, more broadly, to all efforts made with regard to preventing the proliferation of WMD to non-state actors. The papers have been drafted by former members of the group of experts of the 1540 Committee. They were presented and discussed in a preliminary version in Cape Town, South Africa, on 28 and 29 May 2015, at a meeting hosted by the Institute for Security Studies (ISS).

The meeting also saw active participation from three experts currently supporting the committee, Mr Bennie Lombard, Mr Enrique Ochoa and the coordinator, Mr Terence Taylor; a senior official from the UN Office for Disarmament Affairs (UNODA), Ms Gabriele Kraatz-Wadsack; and representatives of the Republic of Korea, His Excellency Mr Yeon-Ho Choi and Mr Soo-Deok Park. The Republic of Korea
chaired the 1540 Committee in 2013 and 2014, and continues to actively support the implementation of Resolution 1540, including through providing generous support to the UN 1540 Trust Fund.

The fact that the meeting took place far from New York and the UN headquarters, below the tropic of Capricorn, is a strong symbol of the cooperative nature of Resolution 1540 and of its global reach, which relies on active engagement and participation of the Global South. Some 12 of the 18 former experts at the time of the meeting made their way to Cape Town. While the others were not able to do so for practical reasons, they expressed their support for the initiative and contributed ideas ahead of the meeting.

The vision and insights of former 1540 Committee experts are reflected in the following pages, which benefit from the experience they acquired at the core of the 1540 machinery, their efforts to develop the tools of the committee and their encouragement of relevant stakeholders to buy-in, take ownership and facilitate the implementation of the resolution by all necessary means.

The former experts are, to an extent, depositories of the institutional memory of Resolution 1540, together with other members of the 1540 community. It is fair to recognise the role played by this broad and diverse community, which includes the staff and former staff of the UN Secretariat, in particular from UNODA and the Department for Political Affairs, delegates and former delegates of the committee and, of course, all stakeholders at the national, regional and international levels, as well as all committed partners in the private sector, industry, academia and civil society.

During their tenure, which stretched to seven years for some, the former experts developed an intimate knowledge of the dynamics surrounding Resolution 1540 and of its potential and limitations. Having left the group of experts and moved on to other occupations, they enjoy a freedom of expression that results in much-needed independent and out-of-the-box analysis, and the expression of provocative thought.

The monograph covers a broad spectrum of topics. These include the 1540 machinery, the tools of the 1540 Committee, capacity-building and the clearinghouse function of the committee, international cooperation, effective practices in implementing Resolution 1540, the role of the private sector and of the civil society, education with regard to non-proliferation, as well as the chemical, biological and radiological and nuclear (CBRN) security culture and its possible relevance for Resolution 1540. Each former expert makes his or her own specific recommendations about the topic they chose to focus on.

It was a privilege for the ISS to host the first meeting of former 1540 Committee experts. The ISS is grateful to the Republic of Korea, the USA and the UNODA for the generous financial support that enabled the event to be held.

Drawings by Ms Ana Maria Cerini, who served as an expert from 2007 to 2012, bring a touch of humanity to the monograph and show in a profound way that sometimes artistic skills are compatible with non-proliferation expertise.

The production of this monograph benefited from useful technical advice and support from the ISS Communication team, including in particular Ms Jacqueline Cochrane and Ms Amelia Broodryk. They are warmly thanked.

Nicolas Kasprzyk
ISS consultant and former 1540 Committee expert
Pretoria, South Africa, 18 September 2015
Volker Beck

The tools of the 1540 Committee

The spread of weapons of mass destruction (WMD) is internationally regulated by three major conventions: the Nuclear Non-proliferation Treaty (NPT) of 1968, the Biological Weapons Convention (BWC) of 1972 and the Chemical Weapons Convention (CWC) of 1993. Bar the exemption of the five nuclear-weapon states parties to the NPT, the development, production, stockpiling, acquisition and transfer of WMD is globally banned. States parties to the conventions are legally obliged to take steps to prevent the misuse of dual-use items for weapons purposes. However, all three conventions still lack universal adherence. The NPT lacks the adherence of some states that are known to possess nuclear weapons, and membership to the CWC and BWC is presently limited to 192 and 173 states parties, respectively. Although non-state actors have used biological and chemical weapons in the past, such as the Aum Shinrikyo cult’s chemical attack in Japan and the Rajneeshee bioterror attack in the United States, before 9/11 the states parties to the conventions were not highly aware of the possible misuse of WMD-related items by non-state actors. Past discussions at NPT, BWC and CWC review conferences primarily focused on the activities of states and the risks of proliferation of dual-use materials for state WMD programmes. The assessment of WMD proliferation risks changed considerably with the beginning of the 21st century due the unmasking of illicit trafficking of WMD-related materials and technologies as well as terrorist attacks, including the possible use of chemicals and biological agents. With the adoption of Resolution 1540 (2004), the United Nations (UN) Security Council decided – with a specific focus on non-state actor activities – to address the gap in universal adherence to WMD non-proliferation.

Tasks and obligations of the 1540 Committee

For states, the UN Security Council defines in the operational paragraphs (OP) of Resolution 1540 many activities related to the national implementation of ‘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’, but remains vague when addressing the tasks, obligations and tools of the ‘Committee established pursuant to resolution 1540 (2004).’ OP 4 of the resolution restricts the committee’s activities to:

- Examining the implementation of states’ obligations under the resolution
- Reporting to the UN Security Council

The tools available to the 1540 Committee are the first reports by the UN member states and the permission to call on other expertise, i.e. installing the committee’s group of experts.
In OPs 6 to 10 of Resolution 1540 the UN Security Council recognises various tools and activities available to states that can contribute to the implementation of their obligations under the resolution. In this context, Resolution 1540 foresees no role for the committee in assisting states in implementing its provisions. On the contrary, OP 5 of the resolution, referring to the responsibilities of the International Atomic Energy Agency (IAEA)\(^1\) or the Organisation for the Prohibition of Chemical Weapons (OPCW);\(^2\) and OP 8(c), addressing multilateral cooperation, in particular within the framework of the IAEA, OPCW and BWC; create the impression that the committee’s responsibilities are intentionally limited. This interpretation is backed by the committee’s lack of budget, organisational structure and mandate regarding the provision of assistance to states in implementing the resolution’s provisions. These deficiencies further limit the committee’s responsibilities, although the follow-up resolutions try to remedy some of the deficits by extending the mandate to some degree.

The authors of Resolution 1540 decided that states have to submit a first report,\(^3\) but deliberately abstained from any mandatory follow-up mechanism for monitoring the progress of national implementation. The reason for this is to be seen in the ongoing complaints by states (especially those in the developing world) that international organisations overburden them with reporting obligations. When sending the first matrices to the respective states to have them approved, the committee members started lengthy discussions on whether this process creates a follow-up report obligation. Finally, the issue was resolved by asking for additional information in the letters accompanying the matrices.\(^4\) Resolution 1673 (2006)\(^5\) adopted this terminology, but it is embedded in language describing the voluntary rather than mandatory submission of additional information by states.\(^6\)

The first step and major problem for the 1540 Committee after selecting the experts was to achieve unanimous agreement between all committee members on a procedure for examining the first reports without doing an assessment that singled out states. Resolution 1540 does not provide a specific format for reporting, and the understanding of states on what and how to report differed widely. When reading the 100 first reports available in 2005 – as the group of experts started working with the committee – it soon became clear that states had different interpretations of what they had to report on and in how much detail. An additional problem came from understanding national statements in the context of the different constitutional and legal systems of the reporting states. Lengthy discussions between the experts and committee members finally resulted in an agreement to examine the reports by transferring information from the reports into a standardised matrix\(^7\) that presents all information provided by a state but also allows a graphic overview of the information.

Based on a random selection of 30 first reports, which took into account equal shares of developed, developing and under-developed countries, the matrix lists substantive elements from the reports that are understood by states as relevant issues in the context of implementing Resolution 1540. The matrix reflects in a clear arrangement the status of a state’s national implementation of its 1540 obligations without providing a verbal assessment of that status. Importantly, the requirements set out in the matrix are not ideas developed by the experts, but represent OP 3 requirements and the understanding of states of how the 1540 provisions are to be implemented nationally. In addition, the reporting states had to approve the information transferred by the experts from their national reports into the matrix. This was a prerequisite for getting the committee to agree to the matrix approach.

The information in the reports basically covers the listing of relevant national laws and regulations, some details of key legal elements, and organisational structures and procedures necessary for implementing the relevant legislation. As a growing number of countries made their national
legislation available on the Internet, the development of a legislative database provided a tool to crosscheck statements in the national reports with the original documents. The experts’ proposal to establish such a database[^19] for comparing the original text of national laws and regulations with statements in the national reports or with additional information provided by states was accepted by the 1540 Committee. The collection of national laws and regulations in a database also provided in-depth information for the follow-up activities of governmental and non-governmental assistance provided supporting states in improving national implementation, and provided other states with abundant examples[^20] on how to draft and/or improve their national legislation.

The UN Security Council recognises in Resolution 1540 ‘that some States may require assistance in implementing the provisions of this resolution’[^21] and shifts the responsibility to provide assistance to states by inviting ‘States in a position to do so to offer assistance.’[^22] Some states mentioned in their national reports what support they needed in order to meet their 1540 obligations. Letters by the chair of the 1540 Committee to ‘states in a position to do so’ resulted in generic assistance offers. Attempts by the experts to get the committee to agree to directly match requests with offers have not been successful thus far. Resolution 1810 (2008)[^23] and Resolution 1977 (2011)[^24] address facilitating technical assistance by actively engaging the committee in matching offers and requests, but limit this to ‘through means as assistance templates’[^25] or ‘mak[ing] use of the Committee’s assistance template’.[^26] Presenting assistance requests and offers in an ‘assistance template’[^27] is not understood to be ‘active matching’.

Outreach to states, especially states that did not provide a first report, was discussed from the beginning. The proposal of the group of experts to collect information on legal and other issues related to 1540 implementation from open sources on the Internet and to compile and provide such information to non-reporting states in the form of the matrix provoked discussions among committee members (who mistrust open source information in general) about the reliability of such information. It was eventually agreed that such information can be used after the respective state has approved the collected information. Without this agreement, the number of states submitting a first report would be much lower than it is today.

Resolution 1673 (2006) tasks the committee to include in its work programme ‘outreach, dialogue, assistance and cooperation’.[^28] Resolution 1810 reiterates these key concepts[^29] and emphasises cooperation with international, regional and subregional organisations through outreach activities, sharing experiences and lessons learnt, country visits, etc.[^30] Resolution 1977 underpins the activities of the committee already addressed in the preceding resolution and requests that the committee considers the preparation of a ‘technical reference guide about resolution 1540 (2004), to be used by States on a voluntary basis in implementing resolution 1540 (2004)’.[^31]

Outreach to states through the electronic sharing of information from open sources is no longer used in the second and following mandate periods. Resolution 1810 addresses for the first time the issue of visits to countries[^32] by requesting coordination with the UN Security Council Committee established pursuant to Resolution 1267 (1999), concerning al-Qaeda and the Taliban, and the UN Security Council Committee established pursuant to Resolution 1373 (2001). Resolution 1977 reiterates the need to coordinate visits, and adds that visits may be a part of a dialogue with states.[^33] However, the resolution restricts the role of the Committee to ‘visits to States at their invitation’[^34] and ‘visits to States, at the invitation of the State concerned’.[^35] Although none of the resolutions mandates the committee to play an active role in planning and conducting these visits, the number of visits to states and participation
in international, regional and subregional meetings are impressive, peaking in 2013 and 2014 with more than 80 activities per year. The majority of the visits are one- or two-day stays by usually one committee representative or expert. Longer visits or visits with the participation of more 1540 experts are rare. However, visits lasting one to two days cannot go far beyond awareness raising.

Proposals for the way forward

The tendency of the international community to avoid pillorying states for not or not fully implementing the provisions of Resolution 1540 makes the matrix approach the most sensible way to highlight national shortcomings. Most of the legal and organisational provisions regarding WMD non-proliferation have been in place for a long time or were improved just after 9/11 to increase national and international security. Since then, continuous chemical, biological, radiological and nuclear (CBRN) risk and threat assessments and technological progress have occasionally led to updated or additional legal and organisational security provisions. The framework of the matrix needs to be reviewed and, if necessary, amended from time to time to reflect such developments.

In principle, it does not matter if the matrix is broken down into separate CBRN sub-sections (as in its original structure) or used in the crosscutting structure of today. It is mostly a matter of convenience to have separate sub-sections, for the possible use of the matrix to provide background information for international organisations in preparing and conducting their outreach activities. These organisations usually cover only specific areas (chemical, biological or nuclear/radiological) of implementation and do not follow a holistic approach of 1540 implementation.

Transferring information from first reports or additional information provided by states to the matrix without proving the validity of that information means accepting the judgement of states in how they assess fulfilling their 1540 provisions. A perusal of first reports shows that a reasonable number of these are not first-hand accounts but compiled from different sources. Contradictions and misunderstandings within the reports are a common problem. Clarifying such problems requires access to the original documents, i.e. laws and regulations. The experts of the first mandate period therefore established a legislative database to get access to such documents, either in hardcopy or via the Internet. The internal YES/NO assessment in the respective columns of the matrix was based on this review of original documents. However, the legislative database shows that this data has not been updated since 2008.37 Most of the data originates from the first mandate period of 2005/2006.

There are three reasons why the database requires continuous updates. First, the database is the tool the experts use to compare statements in reports or additional information with the plain, legal text reality. Second, an updated compilation of laws and regulations gives international governmental and non-governmental assistance providers a tool to prepare for discussions with states on national needs and requirements. Third, visits by 1540 experts to states – 14 visits from 2011 until the time of writing – and participation in national action plan or national roundtable activities require proper knowledge of national legislation and regulations. An updated database is needed in order to prepare properly for participation in such activities. The resuscitation of the 1540 legislative database is thus recommended.

There are some arguments that an update of the legislative database may not be necessary, as the information about relevant laws and regulations can be taken from the matrices. However, the matrices published on the 1540 website today represent the situation as at November/December 2010 and lack the additional information provided to the committee by more than 50 states after
that date. Providing pertinent current information on the 1540 website is also an issue that should be considered in future, as the committee claims to be transparent.

Matching assistance requested with the assistance offered is one of the activities where, for obvious reasons, no progress can be expected in the near future. The committee members from the beginning refused all attempts to directly connect a state requesting assistance with a state offering such assistance. In this respect, the committee acts in the same manner as other global attempts to assist states in improving national, regional and international CBRN security, such as the G8/G7 Global Partnership against the Spread of Weapons and Materials of Mass Destruction. States that can offer assistance prefer taking decisions based on their own political agendas, instead of making the best use of their financial resources and expertise through better coordination. Sufficient financial resources are available, but the lack of coordination causes duplication of work and wastage.

A cautionary tale of uncoordinated parallel activities is to be seen today with national action plans, national implementation action plans, road maps or similarly named activities. Resolution 1810 also addresses national action plans. Many international, governmental and non-governmental organisations are involved in assisting states that are willing to develop such action plans to improve national CBRN capabilities and contribute to regional and international CBRN security. However, no coherent concept exists on how to develop such plans or a unique structure/template for these plans, to help avoid duplicating work at the national level. States complain about the parallel activities of international organisations and other assistance providers and the need to establish different national response teams for each of these activities. The response teams also often lack national coordination. An internationally coordinated attempt to combine the activities of 1540/CBRN national action plans could lead to more states making use of this tool to implement the provisions of Resolution 1540 along with CBRN prevention, detection and preparedness and response activities.

**Conclusion**

Resolution 1540 fills – with a special view to non-state actor activities – the WMD non-proliferation gap caused by countries that are not states parties to the NPT, BWC, CWC or other international treaties and conventions combating terrorism. The UN Security Council equipped the ‘Committee established pursuant to resolution 1540 (2004)’ with a strict mandate. The follow-up Resolutions 1673, 1810 and 1977 broadened this straitjacket to some extent.

The matrix developed for collating information provided by states and/or collected by the 1540 experts from open sources has proven to be a valuable tool for examining the extent to which a state has implemented the resolution’s provisions. However, the matrix framework may need regular reviews and updates to reflect recent legal and organisational developments in WMD non-proliferation activities.

Losing sight of the committee’s legislative database after the first mandate period should be remedied by revitalising the database to support the preparation of future outreach activities, especially visits to countries and participation in the development of national action plans.

The approach of the committee to assistance is a sensitive area. It has been marking time for more than 10 years. The assistance template established by the committee does not allow the direct active matching of states requesting with states offering assistance. A change in the positions of the committee members cannot be expected in the near future.
Lastly, short visits of one to two days by one or two 1540 experts and/or committee members to countries or meetings of international, regional or subregional organisations cannot go far beyond raising awareness. To assist states in implementing Resolution 1540’s provisions the organisation of, or participation in, regular and repeated workshops with countries is necessary to implement their respective 1540 or CBRN national action plans. This requires a coordinated concept for action plans to avoid overburdening countries with different types of action plan activities.

Notes

4 China, France, the Russian Federation, the United Kingdom and the United States.
5 Dual-use items are goods, software and technology normally used for civilian purposes but that may have military applications, or may contribute to the proliferation of weapons of mass destruction. See European Commission, Trade, Dual-use controls, http://ec.europa.eu/trade/import-and-export-rules/export-from-eu/dual-use-controls/index_en.htm.
6 Democratic People’s Republic of Korea, India, Pakistan and allegedly Israel.
10 Ibid., OP 3.
11 Ibid., OP 4.
15 Personal communication with an anonymous source.
17 Ibid., OP 3.
22 Ibid.
25 S/RES/1810(2008), OP 8(c).
30 Ibid., OP 11.
34 Ibid.
35 Ibid., OP 15.
36 1540 Committee, Event list and related documents, http://www.un.org/en/sc/1540/transparency-and-outreach/outreach-events/events.shtml. The number of visits to other countries or for participation in meetings with international, regional and subregional organisations between 2006 and 2015 is more than 400.
39 Status as of mid-June 2015.
Brad Howlett

The 1540 machinery: how to make best use of the group of experts

United Nations (UN) Security Council Resolution 1540 (2004) was unanimously adopted in April 2004. Resolution 1540 was the first formal decision by the UN Security Council to affirm that the proliferation of nuclear, chemical and biological weapons and their means of delivery constitute a threat to international peace and security.

The resolution imposes binding obligations on all states to refrain from providing any form of support to non-state actors that attempt to acquire, manufacture, transport or use weapons of mass destruction (WMD). In the furtherance of these binding obligations, states are required to adopt and enforce domestic controls to prevent the proliferation of such weapons, their means of delivery and related materials.

Through its operative paragraphs, Resolution 1540 sets out an array of measures that states are required to implement. These include measures for accounting for, securing and physically protecting WMD-related materials and facilities, as well as measures related to the implementation of national export, transit and trans-shipment controls. All these measures have been designed to limit proliferation among, and by, non-state actors.

Subsequent UN Security Council Resolutions 1673 (2006), 1810 (2008), 1977 (2011) and 2055 (2012) all reaffirmed the work of the 1540 Committee in continuing to promote all states’ full implementation of Resolution 1540. In reference to the purpose of this paper, Resolution 1977 specifically requested the establishment, in consultation with the 1540 Committee, of a group of up to eight experts (extended to nine experts by Resolution 2055). This group should be composed of individuals with the appropriate experience and knowledge to provide the committee with the expertise to assist it in carrying out its mandate under Resolutions 1540, 1673, 1810 and 1977, including through the facilitation of assistance to improve implementation of Resolution 1540. The 1540 Committee was further requested to consider, inter alia, recommendations for the group of experts based on expertise requirements (these recommendations would make a necessary adjunct to this paper).

In determining the expertise needed in the group of experts to assist the 1540 Committee with its mandate, it is necessary to look briefly at the work completed to date and understand the future direction and priorities of the committee. This paper analyses the way in which support is provided by the group of experts to the 1540 Committee. It also examines how certain functions have evolved over time and, as a consequence, altered the skills and experience necessary within the group of
experts required to provide continued support to the 1540 Committee in its efforts to promote the full implementation of the provisions set out in Resolution 1540.

Principally, the work of the group of experts has focused on two key areas:

• The identification, verification and reporting of measures adopted by states in the fulfilment of their obligations as set out in Resolution 1540

• The promotion of states’ obligations through attendance of, and participation in, events relevant to Resolution 1540

While this focus has been reaffirmed through subsequent resolutions, the following will examine these two key areas and look at how each has evolved over time and, as a consequence, altered the skill set necessary to support the ongoing work of the 1540 Committee.

Identification, verification and reporting of measures adopted by states in fulfilling their obligations under Resolution 1540

In accordance with Resolution 1540, states were called upon to report to the 1540 Committee on their current situation and future plans regarding the obligations set out in the resolution within six months of its adoption. A total of 129 UN member states and one organisation had submitted their first national reports at the time of the committee’s 2006 report, with the greatest number of reports being provided within eight months of adoption of the resolution. In addition, 79 states submitted supplementary information to their first report.

By February 2005, the committee had appointed three experts, and examination of the reports could begin. To examine these reports and reflect all elements of the resolution, the group of experts developed a matrix in an effort to harmonise the manner in which they extracted information from each report. The matrix reflected the requirements set out in the resolution in the form of about 380 questions dealing with membership to international instruments through to domestic measures to secure WMD and border control.

While the reports submitted varied considerably in length and substance, the experts were responsible for coding each state’s matrix vertically against all the questions and were not required to focus their efforts on discrete aspects relevant to their expertise. In short, each expert was required to have a comprehensive understanding of international non-proliferation instruments, regulations and enforcement measures and be able to interpret legal documents, policies, procedures and legislation to determine the extent to which states had demonstrated compliance with the obligations set out in Resolution 1540.

A general set of ‘rules’ was developed in mid-2005 to guide the experts in coding the matrices. However, it was not until early 2008 that a comprehensive set of ‘rules’, covering all questions in the matrix, was drawn up. These rules established a means for consistently coding the matrices and, to some extent, alleviated the need for the experts to be universal in their expertise. However, while the comprehensive set of coding rules has continued to be updated, it is considered that a horizontal rather than vertical deployment of each expert’s expertise would ensure their expertise is fully utilised against their qualifications and experience, which in turn would ensure a more consistent approach to updating the matrices and attenuating any potential geographic bias.

Given the tools and approved sources of information currently available to the group of experts,
the ongoing work of updating the matrices and the legislative database could be undertaken more efficiently, and at lower cost, by managerially and administratively separating these relatively routine tasks from the task of drawing analytical conclusions from their study and the additional information provided by states from time to time.

In short, the continued maintenance of the matrices and updating of the legislative database with information provided by states can be performed adequately by personnel with some degree of legal background and good computer skills. It will, of course, be necessary for the work of these staff to be guided by the group of experts. As such, the requirement remains for experts to exhibit a broad understanding and knowledge of the international non-proliferation regimes on the prevention or proliferation of WMD, their means of delivery and related materials, as well as of existing non-proliferation undertakings and implementation measures, and the ability to assess their efficacy.

Promotion of states’ obligations via events relevant to Resolution 1540

In its 2007 assessment of the previous outreach activities conducted by the 1540 Committee, the group of experts considered that the 1540 Committee had adopted a phased approach to its outreach activities with the principal focus of the initial phase centred on:

- Raising awareness of states’ obligations, as described in the resolution
- Sharing experiences and lessons learnt among participating states
- Enhancing support toward the full implementation of the resolution from regional and subregional organisations
- Enabling potential assistance providers to better focus their efforts by, inter alia, promoting opportunities for states requiring such assistance to communicate their needs

In general, it was considered that the 1540 Committee and its experts’ participation in outreach activities had achieved the intended results and enabled the primary focus of the outreach strategy for the majority of states to be shifted from awareness raising to the promotion of implementation of Resolution 1540.

While it may be considered that the 1540 Committee had achieved its objectives during this initial phase, with no formal process in place within the group of experts to determine priorities or relevance, attendance of outreach events was considered ad hoc. Individual experts engaged, to varying degrees and with varying results, with relevant international, regional, subregional and non-governmental organisations. However, with no consistent strategy for engagement, dialogue tended to be reactive rather than proactive and personality, rather than process, driven. Further, with no long-term view on how to assist states in meeting their obligations to implement the requirements of the resolution, attendance by the experts at outreach events was, to this point, undertaken in a participatory or passive capacity rather than a coordinating or active role.

As part of the second phase of outreach activities, and in accordance with Resolution 1673 which, among others, called on the 1540 Committee to intensify its efforts to promote full implementation, the group of experts encouraged a greater emphasis on delivery of the practical measures envisaged in the resolution, specifically in those areas where higher returns to such efforts could be expected (i.e., customs and border controls). Furthermore, the group of experts also encouraged less focus on obtaining initial reports than on gathering additional information and otherwise
promoting full implementation of the resolution by states. In short, the distinction between reporting
and non-reporting states was no longer considered a major driving force for these activities.

For the second phase of outreach activities, the strategy aligned states according to region and,
as necessary, by subregion, according to their capability to implement multilateral instruments and
international non-proliferation and disarmament commitments within the parameters set out in
Resolution 1540. It also aligned states according to their interest in functional activities. In doing
so, this strategy recognised the disparity among states with regard to capabilities and interests.
Consequently, the strategy used a two-tiered approach in this phase of outreach, as follows:

• Outreach to states on the development of appropriate regulatory frameworks, underpinned by
  relevant laws and criminal penalties for infringement

• Outreach to states on special topics, to help build capacity, especially in the areas of
  implementation and enforcement regulation

Workshops in this new phase were intended to be tailored to the requirements of the specific states
and focus, inter alia, on assisting states to further develop their cross-governmental or interagency
processes to implement Resolution 1540. In addition, the role of industry in assisting states to meet
their obligations under the resolution formed an important aspect of the outreach effort.

In accordance with this second phase, in mid-2008 the UN Office for Disarmament Affairs
(UNODA) called on the group of experts to start developing training material for the first of several
implementation-focused workshops. This approach created a point of divergence within the group
of experts and afforded those experts with the relevant expertise to contribute to the practical
implementation of the resolution. This was a significant step forward from the generally reactionary
and opportunistic contributions hitherto provided.

Through its Resolution 1977 the UN Security Council requested the 1540 Committee to continue
to organise and participate in outreach events on the implementation of Resolution 1540 at
the international, regional, subregional and, as appropriate, national levels, and to promote the
refinement of these outreach efforts to focus on specific thematic and regional issues related to
implementation. This degree of specificity with regard to the 1540 Committee’s outreach activities
further underscored the direction taken in mid-2008 to develop implementation-focused and
capacity-building workshops. 2 It also served as an important juncture highlighting the evolution
and future direction of 1540-related outreach activities and the skill set required within the group of
experts to support the ongoing work of the 1540 Committee in promoting full implementation.

**Making best use of the resources within the 1540 Committee, the group of experts and the UN Secretariat**

In fulfilling its future objectives, the committee has at its disposal a considerable depth of experience,
both broad and topic specific, to draw on in terms of current and previous experts, as well as
significant institutional knowledge retained by the UN Secretariat.

While efforts have been made to simplify the matrix, knowledge and a broad understanding of
international non-proliferation instruments, regulations and enforcement measures, and an ability
to interpret legal documents, policies, procedures and legislation is still required for the continued
identification, verification and reporting of measures adopted by states. In contrast to this is the
need for topic-specific experts who can work with states in a more hands-on capacity as well as
develop and drive the implementation-focused workshops. Clearly there are two distinct skill sets required within the group of experts in order for it to appropriately support the ongoing work of the 1540 Committee.

The future role of the current and former experts will be dictated by the 1540 Committee and the direction it wishes to take following its review. However, as noted previously and reflected in the committee’s 2008 and 2011 reports on the status of implementation, while the number of reporting states and states submitting additional information has increased, almost half could still be considered to have submitted responses relevant to less than one-third of the data fields in the matrix. This lack of detail could be attributed to several reasons, among others the complexity of the matrix; an inability to interpret the questions and information being requested; a lack of appropriately qualified personnel able to provide a coordinated response, or a lack of resources altogether; conflicting priorities; or simply a lack of measures that can be reported on. Any or all of these could be the reason for the lack of measures reported on by a sizeable portion of UN member states. However, given the fact that the group of experts has had the consent of the 1540 Committee to research and identify additional measures from approved sources, one could be forgiven for thinking that, after 10 years of research, all measures taken to date have been reflected in states’ matrices and that the work of the 1540 Committee and its experts should now shift to assisting states in the adoption and implementation of the relevant measures.

While it is necessary to continue to engender an ethos of non-proliferation among and within states, the ongoing requirement to identify and record measures taken by states in compliance with the requirements set out in Resolution 1540 can be assumed by a reduced number of experts or their proxies, acting under the direction of the experts and in accordance with the agreed matrix-coding rules currently in use. States need only be consulted and invite relevant authorities to examine, clarify, update or amend the information presented in the matrices, as is current practice. In short, the requirement for states to invest resources statically to fulfil their reporting obligations, which for the most part is completed reactively in response to requests from the committee, is largely alleviated.

In contravention of the agreed norm, it is also necessary to acknowledge that not all states need to implement all the measures set out in the resolution. In due course, all the requirements of Resolution 1540 are necessary. However, the process of prioritisation will vary from state to state depending on specific national, regional and subregional circumstances. Prioritisation will also increasingly be affected by international circumstances.

Some factors that may be considered when determining priorities could include whether or not the state imports, exports or manufactures materials that require regulation. In determining what items should be regulated, the control lists established by the multilateral export control regimes could serve as a useful guide. However, if a state does not import, export or manufacture these materials, the greatest vulnerability may be in the area of transit or trans-shipment controls. States could also consider aligning their import and export regulations for certain materials to ensure that their movement can be tracked both into and out of the country. It may also be worth considering harmonising or developing complementary controls between neighbouring states to strengthen the effectiveness of these controls and reduce the overall burden on individual states.

Previously, the 1540 Committee has worked with states on a regional or subregional basis in providing assistance programmes. However, by acknowledging that not all states need to implement all the measures, the 1540 Committee may seek to cluster states with shared needs
and implementation gaps, irrespective of their geographic location. States with no manufacturing capability will have no need to seek assistance with the implementation of measures designed to address the requirements set out in operative paragraph 2. Those states would benefit more from assistance programmes and workshops focusing on operative paragraphs 3 (c) and (d).

By focusing on the skill set necessary to continue to update the matrices and reducing the overall resources among the group of experts required for this task, the 1540 Committee – with the assistance of topic-specific experts – can work strategically to identify gaps in legislation, processes and procedures between states. The 1540 Committee can then apply these topic-specific experts to the development and/or coordination of assistance programmes designed to enhance states’ capabilities specific to their circumstances. Further, by clustering states with shared needs and implementation gaps, the committee is providing a level playing field for all attendees and an environment in which states can share experiences relevant to all participants.

On the role of former experts, the experience and knowledge available through these individuals should be considered as an additional resource available to the 1540 Committee and one that can form part of the committee’s assistance to states. In offering this resource to states, the 1540 Committee may wish to empower UNODA to confer with states that are short on capacity and will require assistance over an extended period. This type of approach may be of greater interest to particular states as the expert(s) then act as an additional topic-specific resource and are able to focus their efforts on achievable outcomes such as:

- Drafting procedures, policy, legislation or regulations
- Assisting with the implementation of procedures, regulations, administrative and/or technical measures consistent with national governmental structures
- Training administrators, regulatory and enforcement officials, inter alia, on the use of equipment, commodity identification, licensing procedures and outreach

Recommendations

The following recommended improvements are provided on the basis of the aforementioned analysis of the principal work of the group of experts and is specific to the tenure of the author:

- The 1540 Committee may wish to direct the group of experts to undertake a review of the measures identified in each state’s matrix, in an effort to paint a clearer picture of common gaps among states.
- While undertaking the review, the group of experts should be encouraged to apply their expertise horizontally across all matrices rather than the current vertical state-based assessment. This deployment would ensure their expertise is fully utilised against their qualifications and experience, which in turn would ensure a more consistent approach to updating the matrices and attenuating any geographic bias. Furthermore, the 1540 Committee may wish to have the group of experts consider ways in which the measures adopted by states can be categorised into:
  - Those that are of specific relevance to the implementation of Resolution 1540
  - Those that are of a more general (non-specific) nature
This categorisation would provide a clearer picture of the status of implementation and form the basis on which tailored assistance could be provided to states.

- In revisiting the number and format of questions in the current matrix, the 1540 Committee may wish to draw on the expertise of the current and former experts and, as necessary, additional topic-specific experts, to draft a more user-friendly matrix. The reformatted matrix could then be distilled into a set of leading questions, the answers to which would lead the user to successively detailed questions.

- The continued maintenance of the matrices and updating of the legislative database with information provided by states are tasks that can be performed adequately by personnel with a legal background and good computer skills. It will, of course, be necessary for the work of these staff to be guided by current or former experts.

- Following the identification of common gaps among states, the 1540 Committee may wish to direct its current or former experts to develop implementation-focused workshops intended to help build capacity, especially in the areas of implementation and enforcement regulation among states considered to be at a similar level of implementation. In developing implementation-focused workshops it is appropriate and necessary to complement the objective of preventing proliferation with the benefits of ensuring the secure transfer of technologies and promotion of trade.

- In fully utilising the knowledge and skills available through the former experts, the 1540 Committee may wish to empower UNODA to confer with states that will require assistance over an extended period on the availability of former experts with relevant expertise. Once interest has been established, states would negotiate directly with the expert on the scope of work to be completed and remuneration for services rendered.

- A process of determining priorities for attendance by 1540 Committee members, current or former experts needs to be established to ensure a consistent approach to outreach is maintained and the greatest return on the investment of resources achieved.

- A mechanism to ensure former committee members and experts are kept up to date needs be developed to make sure their skills, expertise and relevance is maintained for future utilisation. Further, the contact details of all former committee members and experts available and considered relevant for attendance at 1540-related events, should be maintained.

Notes

1. The perspective, analysis and recommendations in this paper are personal to the author.

2. The first of these was held in late 2008 in Brazil for MERCUSOR states and was designed specifically for enforcement and regulatory officials involved with border and export controls. Its focus was on sharing experiences to help build capacity.

3. States with limited or non-existent manufacturing capabilities have no need, and as a consequence, may lack the willingness to implement all measures required through operative paragraphs 2 and 3 (a) and (b).

4. It is worth bearing in mind, however, that an expert’s expertise in a certain field does not necessarily confer applicability across all regions for that expertise.
TOWARDS THE 2016 COMPREHENSIVE REVIEW

Olivia Bosch

UNSC Resolution 1540: effective practices to facilitate states’ implementation and assistance

This chapter focuses on ‘effective practices’ that have evolved since the adoption of the United Nations (UN) Security Council Resolution 1540 (2004), to facilitate states’ implementation of the resolution and provide relevant assistance as needed. These effective practices, and associated experiences and lessons learnt, have evolved in successor resolutions to facilitate the implementation of Resolution 1540 by states. As precise or prescriptive definitions of what constitutes the practices are not provided in the resolutions, this chapter reflects upon what the 1540 Committee and states have suggested as effective practices, and which can be seen to support both ‘top-down’ and ‘bottom-up’ approaches to implementing Resolution 1540.

Resolution 1540, adopted unanimously by the UN Security Council in April 2004 under Chapter VII of the UN Charter, requires all states to:

- Refrain from supporting activities associated with the proliferation of WMD to non-state actors (operative paragraph (OP) 1).
- Adopt and enforce legislation prohibiting proliferation activities related to nuclear, chemical and biological weapons, and their delivery means (OP2).
- Adopt domestic controls to prevent illicit trafficking of such weapons and related dual-use materials, with such controls comprising accounting, physical protection, border and law enforcement, and the export, transit, trans-shipment and financing services thereof (OP3).

The wide scope and cross-governmental reach of these requirements, together with each state’s differing national circumstances, means that it is difficult to prescribe a standard, one-size-fits-all way of implementing the requirements. The 1540 Committee, set up in accordance with the resolution and supported by consultant experts to monitor states’ implementation, has acknowledged this.1 The wide scope of the resolution distinguishes it from the more singular thematic or functional focus of the multilateral nuclear, chemical or biological arms control conventions, and of security guidelines on, for example, customs (e.g. the SAFE Framework2 provided by the World Customs Organization) and health (e.g. the International Health Regulations of the World Health Organization). Additionally, Resolution 1540, along with UN Security Council
Resolution 1373 (2001) on counter-terrorism, also adopted under Chapter VII, is thematic and applies to all states, contrary to almost all other UN Security Council Chapter VII resolutions, which are designed to be country- or conflict-specific. Resolution 1373 on counter-terrorism is the only, and preceding, thematic resolution under Chapter VII similar to Resolution 1540. Implementing Resolution 1540 with its across-the-board set of requirements thus raises different challenges of implementation for states’ governments.

Types of effective practice

Recognising these implementation challenges, successor resolutions to Resolution 1540 have suggested various ways to facilitate the implementation of the main requirements set out in Resolution 1540, primarily in the operative paragraphs in which the UN Security Council decides a provision. These general activities in successor resolutions include:

- Cooperating with international, regional and subregional organisations
- Using an assistance template and the 1540 Committee matchmaking process
- Preparing voluntary national implementation action plans
- Conducting country visits
- Sharing experiences, lessons learnt and effective practices – the topic of this chapter

This chapter suggests two types of effective practice that can be seen to emerge from various sources, in particular what states have submitted or what the 1540 Committee (also comprising states) has suggested. Effective practices also include those from intergovernmental organisations (IGOs), but these, too, often reflect the practices of, or within, their member states. This chapter is not meant to prescribe effective practices but rather to set out a framework to understand possibilities, as several practices may reflect a combination of approaches and achieve multiple objectives. The two types of practice are posited below, with the focus of this chapter being on Type 2. By way of observation, there has also been mention of generic processes and activities as ‘effective practices’. These appear as general activities, as mentioned above, and also include adopting regional approaches, developing a media strategy, using government-industry relations conferences (for example, the Wiesbaden process), and attending seminars and meetings. For this chapter, these are not considered as ‘effective’ practices that pertain to Resolution 1540 per se, but nonetheless are useful activities to reinforce implementation.

Type 1: Sector-oriented guidelines, technical guidance and standards

These tend to be compiled by sector-oriented IGOs and reflect how their members (primarily states) have, over time, undertaken activities to facilitate the usually singular thematic or functional focus of an IGO. IGOs have played a long-standing role, initially primarily from a public safety point of view, in providing guidelines (and related assistance programmes) which reflect how their members implement IGO measures and facilitate a level playing field among members in the achievement of IGO objectives.

Type 2: Strategic and intra-governmental processes

These can include intra-governmental and national coordination processes, e.g. through multi-departmental/ministerial committees and entities, to facilitate obtaining an overview or conducting
a strategic examination of how a government implements Resolution 1540, including in the areas of capacity building and assistance. Governments also obtain such an overview to identify gaps or areas for further development and, from this more holistic approach, can address these in a manner which may also complement achieving other national priorities.

Type 2 strategic practices reflect a top-down approach to implementation that can complement the necessarily thematic or sector-based bottom-up implementation facilitated by Type 1, mainly IGO-related, guidance and practices. Many of the more well-established Type 1 guidelines and effective practices have predated Resolution 1540 and, being more easily identifiable in the first instance, were collated by the 1540 Committee experts in Annexes XVII and XVI, respectively, of the 2008 and 2011 reports to the UN Security Council on the implementation of Resolution 1540.4 By way of background, the explanatory texts to these two annexes are reproduced in Appendices I and II of this chapter. Examples of such Type 1 sectoral guidance include codes and guidelines on:

- Nuclear security – the International Atomic Energy Agency (IAEA)
- Bio-safety and bio-transportation security – the World Health Organization (WHO) and the International Maritime Organization (IMO)
- Customs security – the World Customs Organization SAFE Framework
- Combatting proliferation financing – recommendations of the Financial Action Task Force (FATF)

In some cases, states have also developed their own guidelines, reflecting the technology and circumstances of their country. These are also useful to share, especially with states that are receiving assistance comprising such technology and related knowledge and for which such guidelines could contribute to better ‘absorption’ of such assistance.

Practices – definition

Given widely differing national circumstances, it has been seen to be more appropriate to use the term ‘effective practices’ than ‘best practices’. The latter has been perceived to suggest that there may be only one way to achieve a desired result or, politically, privileging or favouring one state or industry over another. ‘Effective’ appears to be less judgemental or politically charged, even if the qualitative dimension of what is effective can be open to interpretation. Additionally, practices currently described as ‘best’ may eventually become obsolete or ‘second-best’ as new technologies and threats, risks or vulnerabilities emerge.

It should be noted, however, that an ISO standard’s notion of best practices, while helpful as activities that have, over time, proven to be effective and efficient, includes that implementation should be in accordance with the particular contexts and circumstances of an entity, and would also evolve over time as changes and review are required. Such defining attributes align with the Type 1 sector and technical guidance compiled by IGOs, which can be seen to embody the sharing of good experiences and lessons learnt while taking into account states’ differing customs and circumstances when implementing those guidelines.

ISO is the International Organization for Standardization and, atypically, is not an acronym. It derives from the Greek *isos*, meaning equal, thus not only minimising the challenge of translating its name in different languages but facilitating a level playing field of free and fair global trade among countries.5
Strategic processes

National implementation and reporting to the 1540 Committee implies governments would take a strategic approach to understanding the legislation and measures their countries already have in place and which additional new items or amendments might be considered for future implementation. Generic activities of reporting, holding country visits and roundtable, and drafting voluntary national implementation action plans also imply the adoption of a strategic approach.

Such activities are usually supported by using and referencing the 1540 Committee’s main tool for monitoring implementation – the matrix. This is a table or chart listing the requirements of Resolution 1540, against which are placed the steps – legislation, measures and their respective enforcement – a state has in place or has recently taken to implement the resolution. A state can thus see in one document what it has done in the various thematic and functional sectors of government and then identify where further implementation is required.

A state’s first 1540 report submitted to the 1540 Committee can, in effect, play a role in baselining which steps already contribute to implementing the wide range of the resolution’s requirements. Also, the intra-governmental communications that were used to obtain information for reporting can be used or adapted subsequently for future implementation. Internal government mechanisms to ‘budget for implementation’ can also be important to highlight.

Paragraph 10 of UN Security Council Resolution 1977 (2011) refers to ‘experience, lessons learnt and effective practices, … drawing in particular on information provided by states as well as examples of successful assistance’. While the annexes of the 2008 and 2011 reports to the UN Security Council focus on the Type 1 sector-based guidance and technical guidelines mentioned above, the 1540 Committee chairman’s letters of 2007 to states (and IGOs) had even then requested, among other things, Type 2 intra-governmental processes that states might use or adapt to facilitate their implementation of Resolution 1540. It is recognised that, just as national reports have no prescribed format or structure, there is no structure for what constitutes an ‘effective practice’ of Type 2. While reporting formats for Resolution 1540 can be seen to follow the numbered paragraphs of Resolution 1540 – or the ordering of the matrix – these, too, vary in accordance with the differing national circumstances of states.

Nevertheless, over time, Resolution 1540 does deal with a particular type of security objective and, over time, states can more thoroughly explore and identify their strategic approaches and associated intra-governmental processes to facilitate implementation of the resolution in a way that complements similar security objectives in related conventions and treaties. While there are successor resolutions, to date only Resolution 1540 contains the basic requirements states are obliged to implement. The 2016 or 2021 Comprehensive Reviews could lead to successor resolutions with new requirements if these are considered necessary to keep abreast of emerging or changing political, security and economic issues and technological innovation that affect achieving the objectives of Resolution 1540.

Successor UN Security Council Resolutions 1673 (2006), 1810 (2008) and 1977 in the first instance dealt primarily with extending the mandate of the 1540 Committee and its experts beyond the initial period of no longer than two years (for two years, three years and 10 years (to 2021) respectively) as well as continuing to encourage states to submit first reports or additional reporting. As mentioned above, these successor resolutions notably provide suggestions for
how states can facilitate the implementation of Resolution 1540, including the provision of information through:

- The submission of, for example, voluntary national implementation action plans
- Experiences
- Lessons learnt
- Effective practices
- Templates and guidance
- National points of contact on 1540 implementation and assistance

The extension of the 1540 Committee’s mandate for ten years is in recognition of the length of time needed for states to implement such a wide-ranging resolution, one that reaches across many government ministries and departments in terms of functions (e.g. law enforcement, legislative drafting) and has varying themes (e.g. nuclear, chemical, biological, and means of delivery). Thus, during the ten-year period when two major comprehensive reviews are mandated to be undertaken at five-year intervals, the 1540 Committee and its experts have an opportunity to carry out a sustained process of identifying, compiling and examining patterns and trends that can be benchmarked. For example, Type 2 mechanisms – which nearly every government has – might be examined more systematically for identification of intra-governmental structures and entities, and of inter-departmental and ministerial communication and management processes. States could consider and implement Resolution 1540 from a holistic or strategic point of view that includes how implementation of the resolution can fit into or complement other national priorities.

While the sector-oriented Type 1 practices that tend to focus on technical guidance within a sector or theme can continue to be updated by the 1540 Committee, the Type 2 practices can eventually also be compiled and reviewed to lead to ‘benchmarked’ strategic practices of states. These might include:

- Identifying the ministries (e.g. foreign) most frequently listed as points of contact, and therefore effectively responsible for or coordinating implementation of Resolution 1540 across government.
- Identifying and using, or adapting, existing intra-governmental communications and committees to facilitate the sharing of information for reporting as well as to coordinate and monitor further implementation across government; this also implies budgeting for such, whether from domestic sources or external assistance.
- Identifying and developing areas where assistance and capacity building for one purpose might also contribute to implementing Resolution 1540 – and vice versa.

Such processes would reflect the diversity among states but, over time, say by 2021, these or other processes might emerge as significant patterns that can be identified as a Type 2 practice with the regularity of a Type 1 sectoral or thematic practice but is strategic and inter-departmental, and possibly including management methods such as the ISO 9000 series and PRINCE2, the latter adopted worldwide to facilitate project or enterprise management and is based on a lessons-learnt methodology. For example, most countries have some type of multi-ministerial national security committee to deal with security risks and threats, and their meetings might include the implementation of Resolution 1540 on the agenda. States with less capacity might use...
interministerial committees that deal with natural disasters, epidemics and the security of hosting major sporting or annual religious events alongside the more traditional security concerns of terrorism, illicit trafficking and WMD proliferation.

Thus, given how IGOs benchmark and share more technical guidelines primarily on sector and thematic bases, the 1540 Committee can identify and compile over the period to 2021 the national strategic and coordination practices of states to facilitate top-down implementation of Resolution 1540. The 2007 letters from the 1540 chairman requested information from states on such intragovernmental practices and the 2013 letters broadened that scope to cover 14 areas. These areas can be placed into something like an ‘effective practices list’, to be further fine-tuned and used accordingly in structured dialogues with states on 1540 implementation and assistance.

Submissions to the 1540 Committee

To date, information on practices and experiences has been submitted and received from states’ national reports, national action plans, regional and sector-based workshops, and then, as part of sharing such experiences, posted as appropriate on the 1540 Committee website. Effective practices that have been submitted directly are found in the following documents:

a) ‘Letters’ to the 1540 Committee on states’ effective practices

To date, seven letters from states regarding practices have been submitted to the 1540 Committee from Australia and Germany (jointly); Colombia; Croatia and Poland (jointly) on their peer-review process; Iraq; the United Arab Emirates; United Kingdom (UK) and United States. An examination of these letters indicates what states have considered to be effective practices. In most of these submissions, the practices listed can be categorised as Type 1, on sector and technical guidance, but there are other practices reflecting general activities and of Type 2. For example, the peer review may be seen as a general process but which also identifies Type 2 strategic practices of national strategies and interministerial committees regarding WMD non-proliferation.

The Colombia letter tends to refer to general activities, such as holding seminars and meetings, as well as the following, which seems to reflect practices of Types 1 and 2 to implement national measures in one or more departments or entities:

- The Colombian police have established a unit to respond to incidents involving weapons of mass destruction in order to provide a timely and effective response to criminal acts involving chemical, biological, radiological and nuclear defence (CBRN) agents.
- The response unit includes personnel that specialise in the detection, identification and mitigation of incidents involving CBRN agents.
- Given the need to respond to terrorist acts involving CBRN agents and the importance of coordinating the work of the various institutions involved in the response, training programmes have been organised for response personnel in the armed forces, the fire brigade and other entities.

The UK submission endorses practices compiled or developed by academia and non-governmental organisations (NGOs) to facilitate implementation in the area of legislative model laws, and security or protection measures to mitigate the adverse effects of the unauthorised transfer of sensitive information and knowledge within UK universities.
b) Reports

Several other submissions include effective practices that had been identified or for which ‘the objective of gaining first-hand knowledge of the measures taken … ’ had been achieved. These are identified, for example, in a conference report (posted on the 1540 Committee website) on the Identification of Effective Implementation Practices workshop organised by India’s Institute for Defence Studies Analyses (February 2014, India) and by another workshop on sharing effective practices for countries in Asia (October 2014). The Institute’s workshop report identifies what seem to be practices of a generic or general nature that could be used for implementing Resolution 1540, in, for example, the areas of industry engagement, catch-all controls, enforcement and high-level political commitment. Additionally, a Type 2 practice regarding an intra-governmental process is noted in Cabo Verde’s first 1540 report in January 2015.10

c) National dialogues

Since 2014, there appear to have been relatively more tailored national dialogues providing opportunities to discuss strategic practices adopted by states. These include country visits (Malawi, Zambia) and consultations, workshops and national roundtables (by various Caribbean countries; by China in March and May 2014), as well as points-of-contact meetings (Organization for Security and Co-operation in Europe (OSCE), April 2014; African Union (AU), November 2014). From the above and in a preliminary exploration of information in other reports and dialogues, Type 2 practices can additionally include the following, which also embody practices to facilitate (low-cost) assistance options:

- Ways in which prohibitions are legislated:
  - A 2009 comprehensive review paper by experts indicates OP2 type provisions tended to be included in one of three types of legislation: existing anti-terrorism legislation, legislation that implements each of the multilateral non-proliferation treaties or a stand-alone non-proliferation act.
  - Model law provisions by the Verification Research, Training and Information Centre (VERTIC) and the United Nations Office on Drugs and Crime (UNODC).
  - Knowledge of legislation undergoing amendment might also provide an opportunity for officials to insert provisions for Resolution 1540.
- Intra-governmental or ‘whole of government’ communications processes to facilitate information sharing for reporting and implementation (use of existing inter-ministerial committees; national emergency committee crisis mechanisms; national budget preparation and allocation processes).
- Building security into or alongside existing safety processes and training.
- Sustaining awareness raising and adopting low-cost assistance options by incorporating Resolution 1540 into existing training programmes, for example those of legislative drafters and customs officials.
- Bureaucratically, as most countries which are states parties to the Chemical Weapons Convention (CWC) have established a national authority mandated by the treaty to facilitate implementing the CWC, expanding the powers of this authority to additionally implement the
Biological and Toxin Weapons Convention (BTWC) and the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) forming what is sometimes called a weapons of mass destruction (WMD) committee.

- Some developing countries go further than the above and also include, or are in the process of adding, powers to a national authority for controls on conventional small arms and light weapons, as mandated by the Arms Trade Treaty (ATT), which opened for signature in June 2013. This also reflects an objective of the EU Council decision supporting the treaty to recognise mutual benefit and complementarity when implementing the treaty and Resolution 1540 to further reduce administrative and staffing burdens:

  (8) In addition to the specific assistance in arms export control, controls developed for the implementation of UNSCR 1540 (2004) and under the [European] Union dual-use export control assistance programmes contribute to the overall capacity to effectively implement the Arms Trade Treaty since, in many instances, the laws, administrative procedures and agencies in charge of dual-use export control overlap with those in charge of conventional arms export control. Assistance provided in the area of dual-use goods therefore supports arms export control capacities. It is thus crucial to ensure close coordination between activities carried out in dual-use goods export controls and activities supporting the implementation of the Arms Trade Treaty.

- Transferring Resolution 1540-related assistance after a time (e.g. a year) to a related purpose deemed more widely useful by the recipient. For example, a state envisaged receiving computers for customs purposes. After a certain time, their original contractual use might be ‘released’ and redefined so the computers could be used more widely than was previously the case. In the meantime, end users also received related training.

### Budgeting and assistance practices

This phrase ‘budgeting for implementation’ has not been widely used to date in discussions of implementing Resolution 1540. So far, much attention by the 1540 Committee and its experts as well as states has necessarily focused on raising awareness of the resolution so states understand what they need to do before putting in place budget line items to finance new measures. However, once implementation actions are identified, the 2016 Comprehensive Review might provide an opportunity to highlight the next decisions states might make and the processes they may undertake to finance such actions. Examples include:

- Drawing upon and reallocating existing personnel and financial resources within a department, or between departments and ministries.

- (Re)allocating new financing of measures from central government (via treasury or finance ministries) on an annual or other periodic basis.

- Seeking assistance from external sources, whether obtained through existing bilateral aid channels or IGOs with well-established assistance delivery programmes, or mediated through the 1540 Committee, perhaps via a new initiative to use the UN Trust Fund for Global and Regional Disarmament Activities. The latter is also noted in the Fourteenth Programme of Work of the 1540 Committee.

- Considering adopting low-cost ways to implement a measure by adding it to an existing process
(or practice), or slightly modifying an existing policy to incorporate in its purpose contributing to implementation of Resolution 1540.

An example of low-cost implementation is introducing the topic of Resolution 1540 into existing training courses. Examples include training for the following:

- Legislative drafters, enabling them to:
  - Identify the prohibitions and penalties of implementing existing arms control treaty obligations and where those are duplicated – and thus reinforced – by Resolution 1540.
  - Further amend counter-terrorism legislation, where many laws prohibit at least the use of WMD for the purposes of terrorism.

- Customs officials, who need to add WMD dual-use related materials to the long list of other items they monitor. So as not to overburden them, training should highlight using their existing processes to draw on customs labs or other expertise when a new item of concern crossing their borders requires expert identification.

- Public health officials, such as those who are responsible for implementing the mandatory WHO 2005 International Health Regulations, as some of the provisions also contribute to the implementation of Resolution 1540; for example, the designation of ports capable of handling sensitive materials.

In other cases, capital outlay may be needed for e.g. port modernisation. The installation of radiation portals or X-ray monitors that incorporate new screening, or computerising customs processes and associated training, can also contribute to implementing Resolution 1540. Particularly for larger implementation projects, countries’ requests for foreign assistance for such outlays and related training should also include plans and resources for longer-term sustainability, a factor often underestimated or neglected. The undertaking of voluntary national action plans can contribute in this regard. So can innovation in the assistance process, introducing a section on follow-up to go beyond the current focus on specifying requests and matchmaking to include when the assistance was actually delivered and what plans there are for maintenance, and reviewing outcomes and benefits.

In addition to the better-known practices devised by IGOs within a sector or thematic area, other assistance practices can be undertaken to implement Resolution 1540 holistically or strategically. The 1540 Committee and experts could improve their understanding of the level of development of a country requesting 1540 assistance and note existing projects in areas like development, safety and modernisation to which assistance for Resolution 1540 can be added. This strategic direction would complement the sector-oriented programmes delivered by IGOs. In cooperation with IGOs, the 1540 Committee and experts can identify the ‘when’, if not the ‘what’, of assistance delivered by an IGO to a state, and then liaise with the recipient state to align assistance with the further implementation of Resolution 1540 by the state.

IGOs usually indicate that, for confidentiality reasons, their mandates preclude passing on the details of assistance they provide to a state, but a state can pass those details on to the 1540 Committee, which can then see what capacity is being developed and what still needs to be addressed. A speaker in the above-mentioned February 2014 workshop on practices indicated that more cooperation between assistance providers was needed to allow assistance projects to piggyback
on or complement each other, rather than be delivered in isolation. The last page of the revised 1540 Committee matrix for each state could be used as a type of checklist for tailored dialogue initially, and for the assistance template. Whether such information is subsequently published on the 1540 website can be determined later, as states, for reasons such as pride or national security, may not wish to reveal all the details of assistance received or provided.

Assistance delivery necessitates the capacity for assistance to be absorbed, so it is important to take into account a recipient country’s individual circumstances and the status of its economic growth and development programmes. The final document of the 2009 Comprehensive Review states in paragraph 20 that the 1540 Committee should consider ‘to integrate the implementation of resolution 1540 (2004) obligations with the pursuit of broader national objectives convergent with the resolution’.

The 1540 Committee and experts can, through tailored dialogue with a state, put together a fact sheet that lists the shape and status of assistance a state has in place or otherwise receives from IGOs, other entities and other states. Assistance from multiple sources might then be sequenced, or programmed, after other assistance is delivered, particularly to improve a deficient or inadequate core capacity. A new or modernised core capacity might even involve an advance or leapfrog in technology and thus be better suited to accommodate more complicated assistance related to Resolution 1540 after all.

Assistance developments within the G8/G7 Global Partnership (GP) framework suggest that while competition for assistance can be expected to remain a feature, even a positive one, between state providers, the GP process now has four sub-working groups and the regular participation of relevant IGOs to enable better programme assistance delivery, involving multiple providers. In general, recipients of assistance also vary considerably: some prefer staying with traditional aid providers, while others take any and all assistance offered and thus possibly hinder interoperability between entities within government, each of which might use a technology or process that might not be compatible with another. Furthermore, most or all states are trying to better understand the nature and impact of incorporating and rolling out new information and communication technologies to develop or modernise their economies and improve social and political conditions and relations.

**Keeping effective practices up to date**

The preambles of Resolution 1540 and its successors can be seen to indicate an evolution of new security concerns. The preamble of Resolution 1977 indicates a new area of concern not expressed previously; it emphasises:

… the need for States to take all appropriate national measures in accordance with their national authorities and legislation, and consistent with international law … 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 …

The preamble provides specificity of the emerging security risk of intangible transfers of technology and information, which can include computer software, design knowledge and weaponisation know-how, among other forms of information, implied as part of ‘technology’ defined within ‘related materials’ for purposes of Resolution 1540:

… 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.
Effective practices in this area include those of Type 1. For example, the IAEA’s Security of Nuclear Information document (Nuclear Security Series No. 23-G, 2015)\textsuperscript{16} gives ‘[g]uidance … developed with the active involvement of experts from the IAEA member states, which ensures that it reflects a consensus of good practices in nuclear security’. This guidance document defines sensitive information as ‘information, in whatever form, including software, the unauthorised disclosure, modification, alteration, destruction, or denial of use of which could compromise nuclear security’. Such a definition is broad enough to apply to the chemical and biological areas as well, but the document itself focuses on securing aspects unique or relevant to the civil nuclear field. Securing such sensitive information may perhaps be approached through a framework of knowledge management rather than cyber or critical information infrastructure protection, and is an area that might be included when the 1540 Committee and experts next update the Type 1 practices of interest, which are derived mainly from IGOs. Additionally, there are implied measures to be taken to prevent proliferation through illicit trade, some of which are listed in the country matrices but are not explicit in the resolution;\textsuperscript{17} many also require coordination among different governmental entities. Thus, states can continue to be encouraged to submit Type 2 practices, which highlight top-down comprehensive approaches they can consider in implementing the various components of the resolution.

Conclusion

Resolution 1540 can be seen to have two general objectives:

- To reinforce states parties’ existing obligations to the main multilateral non-proliferation and arms control treaties concerning nuclear, chemical and biological weapons controls. This is largely reflected in operative paragraphs 1 and 2 of Resolution 1540, which adds enforcement to related legislation.

- To go beyond such traditional treaties to additionally require measures that address the significance of Resolution 1540 to prevent illicit trafficking of WMD-related dual-use items. This is largely reflected in operative paragraph 3, identifying controls such as accounting/security, physical protection, border and export controls, including on transit and trans-shipment, and the services and financing thereof.

These latter measures are not explicitly or fully required in the traditional multilateral arms control and non-proliferation regimes, as the nature of threats, risks, global trade and technologies has evolved since their negotiation. Thus, Resolution 1540 is an evolution of non-proliferation and security controls through the UN Security Council. By mandating the resolution for all states, it is also incumbent on the UN Security Council to facilitate states’ implementation of the resolution. The identification and sharing of effective practices therefore aids states’ long-term implementation and in turn assists the UN Security Council in monitoring states’ compliance (through their implementation of the resolution), to prevent threats of nuclear, biological or chemical weapons being used by non-state actors, thereby contributing to its role of maintaining international peace and security.

As threats and risks change regionally and globally, and states’ strategic, political, economic and technological circumstances change, so will the practices. The 1540 Committee chairman’s letters of 2013 requesting states and organisations to submit effective practices and even suggesting practices (see Appendix III), which was also an evolution from the chairman’s letters of 2007, can be seen to reflect a more considered approach of the UN Security Council’s role to give effect to
Resolution 1977’s provisions on practices. While including the work of the United Nations group of experts in compiling practices – which mainly reflects a continued and necessary updating of the Type 1 practices – the 2016 Comprehensive Review provides an opportunity to examine what might be further considered or regarded as effective practices in the realm of the Type 2 strategic practices for the purposes of fully implementing Resolution 1540. Such a consideration of strategic-level practices also reflects the gradually maturing understanding by all states of implementing Resolution 1540. A top-down approach and improved understanding at a strategic level can enable identification where, in effect, much implementation occurs – existing legislation, measures or practices, even the generic ones of ‘customs frontline officials reaching back or calling expertise in other departments’ – but most officials do not (yet) know that their work is already contributing to implementing Resolution 1540. Clearly, such measures might not meet all requirements of Resolution 1540. However, a good understanding of the measures that do exist means new implementation can fit better into existing structures and policies, rather than a whole new technology and infrastructure being dropped from somewhere without understanding how local and unique circumstances are likely to affect its useful implementation.

In the context of the 2016 Comprehensive Review, the following suggestions for better determining effective practices and the further scope for keeping up to date with emerging threats and risks as well as changing technologies can be considered:

• As the 2016 and 2021 Comprehensive Reviews of Resolution 1540 are at five-yearly intervals – similar to the time period between review conferences of the major multilateral non-proliferation treaties – the reporting undertaken for one review can be useful for another when similarities or complementarities exist between legislative prohibitions and control measures. Recognition of such complementarity at review-conference level would also contribute to a state’s strategic holistic perspective on the implementation of non-proliferation obligations and policies embodying Resolution 1540 as well as the singularly focused nuclear, chemical and biological treaties and related regimes.

• The 1540 Committee and experts can develop a plan to identify and examine experiences and lessons learnt in the Type 2 area. These might evolve to become effective practices of a more strategic nature, perhaps equating more to governance and management system standards (e.g. the ISO 9000 series) and frameworks (e.g. Projects in a Controlled Environment version 2, or PRINCE2). Initially prompted by the 1540 Committee chairman’s letters of 2007 and 2013 to states (and relevant IGOs), taking into account the provisions of Resolution 1673 and Resolution 1977, states are encouraged to submit experiences, lessons learnt and effective practices. While Type 1 sectoral practices have been more easily identifiable, it is suggested in this chapter that more effort can be made by the 1540 Committee, experts and states to identify Type 2 strategic practices in dialogues, reports and national action plans. Nearly all states have some kind of multi-departmental or inter-ministerial communication and budgeting practices, some of which could be used, and have already been used, to think more strategically and holistically about states’ implementation of Resolution 1540. Examples include the following:

  – The use of existing intra-governmental communications to obtain information across government for reporting to also be used and adapted for further implementation.

  – The expansion of national coordination mechanisms, such as national authorities required by the CWC, to include the implementation of Resolution 1540 as well as the main multilateral arms control and non-proliferation treaties.
- National security mechanisms, committees and reviews that incorporate the implementation (and assistance) of Resolution 1540 in parallel with or complementary to other pressing national priorities.

- High-level or centralised governmental financing and budget allocation or appropriation processes to finance the further implementation of Resolution 1540.

While the implementation of Resolution 1540 can be planned holistically at a strategic level (facilitated by reporting and voluntary national implementation action plans, including budgeting cycles), the actual implementation of specific requirements can be done at a functional and thematic-oriented, or department level. Recommendations to facilitate top-down and bottom-up practices include:

- List suggested Type 2 experiences and effective practices on one page – an ‘options list’ that can be used in tailored dialogues with states to assist in identifying and confirming practices over time (to 2021). This informal list would differ from the long compilation of practices currently presented in the 2008 and 2011 reports. Such a starter list exists in the 1540 Committee chairman’s letter of 2013 (see Appendix III to this chapter) that was circulated to all states. After any modifications during the 2016 Comprehensive Review, such a list of Type 2 practices can be considered alongside those of Type 1 in the report annexes, and contribute to tailored dialogue with states.

- Continue to collect Type 1 sector-oriented and technical guidelines and guidance, as previously collated in the annexes of the 2008 and 2011 reports to the UN Security Council on the implementation of Resolution 1540, with updates to include practices to secure information on sensitive materials (e.g. Security of Nuclear Information, IAEA Nuclear Security Series No. 23-G, 2015), and governance and management system standards and frameworks.

- Consider whether any new experiences, lessons learnt or effective practices that are identified can serve to signal or reflect where new or emerging threats and risks of concern to states have emerged to give rise to such a practice and can, in turn, be a useful preventive step available for adoption by states in another region should the issue move or arise there. Lessons on dealing with illicit trafficking in one area may be useful for consideration and adoption elsewhere.

Like the reviews of the main multilateral arms control and non-proliferation treaties, the comprehensive reviews of the implementation of Resolution 1540 are mandated at five-yearly intervals (forthcoming reviews are in 2016 and 2021). These reviews can be conducted to identify the complementarity of new threats, risks, concerns and technologies that arise or challenge how the treaties are implemented and, therefore, how Resolution 1540 is implemented. The preambles of Resolution 1540 and its successors reflect the generic threats and challenges that have emerged or evolved over time: initially the proliferation of nuclear, chemical and biological weapons and their means of delivery to non-state actors as well as the illicit trafficking of such weapons and related materials, and with Resolution 1977, the concern of access to intangible transfers of technology and information that could be used for WMD and their means of delivery.

The identification of Type 2 strategic-level practices, including an understanding of budget cycles, can be seen to reflect a growing understanding among states of the resolution and its implementation in relation to its other priorities and circumstances. From this more holistic and strategic perspective, states can identify gaps in implementation as well as the finance and resources needed to fill them – the latter including not only the domestic (re)allocation of resources within and between government departments but also the employment of low-cost options, such
as adding a lecture on Resolution 1540 to existing, regular training programmes for legislative
drafters, law enforcement and customs officers, and health officials, or, bureaucratically, expanding
the powers of the national authority, required by the CWC to facilitate its implementation, to include
implementing other proliferation and armaments treaties – and Resolution 1540.

A strategic perspective can also identify where foreign assistance might be needed and how
partners could complement wider strategic priorities, coordinating the timing of actual delivery
and its absorption domestically into existing or adapted policies and practices that improve the
chances of longer-term sustainability. While Type 1 technical practices and guidance continue to
remain essential to implementing the more detailed sector- and function-specific requirements of
Resolution 1540, the 2016 Comprehensive Review can explore opportunities to further identify Type
2 strategic, intra-governmental and multi-departmental practices and associated entities, which
most governments have and which can be compiled and shared to further boost full implementation
in a more administratively and resource-efficient manner.

A challenge for effective practices is to remain constant for stability and efficiency while also being
subject to review to keep abreast of changes in new technologies and security threats. Such art
and practice are often at the core of senior-level and strategic management approaches such that
governments can provide favourable economic, social and political conditions for stability, fostering
economic growth and technology innovation and, together with the UN Security Council, address
emerging and re-emerging threats and risks to both states and the international community.

APPENDIX I

1540 Committee Report of 2008

Section V: Experience-Sharing (including lessons learnt), paragraphs 78 to 86 (and refers to
Annex XVII for specific sector-and function-oriented guidelines and practices).

V. Experience Sharing

78. At the same time, in resolution 1673 (2006) the Security Council invited the Committee
to explore with States and international, regional and subregional organizations experience-
sharing and lessons learned in the areas covered by resolution 1540 (2004), and the availability
of programmes which might facilitate the implementation of resolution 1540 (2004). In paragraph
11 (d) of resolution 1810 (2008) the Council encouraged the Committee to engage actively with
States and relevant international, regional and subregional organizations to promote the sharing
of experience and lessons learned in the areas covered by resolution 1540 (2004), and to liaise on
the availability of programmes which might facilitate the implementation of resolution 1540 (2004).

79. The identification of effective and efficient practices for experience-sharing promotes
the implementation of resolution 1540 (2004) and improves the quality of measures taken by
States. By focusing on appropriate practices, States can conserve resources and avoid losses.
More effective policies will attract greater international support, essential to the capacity-
building required by most States, and, more likely, also domestic support, upon which the
implementation of the resolution depends.

80. One of the challenges that the Committee faces in helping Member States that seek to
share experience and exchange lessons learned is that very few practices have undergone the
rigorous analysis, testing and consensus-building that goes into identifying a truly ‘best’ practice.
81. To facilitate the sharing of experience, the Committee has prepared a list of relevant examples which States may wish to refer to in implementing resolution 1540. In compiling the list, the Committee used certain criteria to narrow down the list of possible examples to those that might be most relevant and useful in implementing that resolution. They were examples that (i) addressed at least one common problem related to the implementation of one or more obligation under resolution 1540 (2004), (ii) were recognized by an authoritative international body to have been shown to be effective or efficient and (iii) a significant number of States had adopted. In assembling the list, the Committee used three possible sources: first, those international organizations named in resolution 1540 (2004); second, other international bodies mentioned by States in their national reports; and lastly the Committee drew on its own experience in preparing the matrices for all States for additional potential sources of appropriate experience to share. Many of those other bodies have developed model laws, programmes or practices which form the basis of the experience-sharing addressed in the present report. The set of practices for experience-sharing appears in annex XVII.

82. Two caveats need mentioning. The Committee emphasizes that it does not endorse any of the materials set out in annex XVII but provides them as a service to Member States in their efforts to implement resolution 1540 (2004). In addition, that annex does not constitute an exhaustive set of examples and the Committee looks forward to suggested additions, modifications or deletions from any Member State or intergovernmental body.

Lessons learned

83. As part of its review of the implementation of resolution 1540 (2004), the Committee has begun to draw up some ‘lessons learned’. The first lesson learned is that implementation of the resolution takes place within the context of many conventions, treaties, laws, regulations, standards and practices that were in place prior to the adoption of the resolution. While States have so far modified only a few of those instruments with the resolution in mind, they have begun to review and reconsider how those instruments relate to the problem of non-state actors acquiring weapons of mass destruction and their means of delivery. This process of sorting out the roles of different instruments into a more coherent network to combat this problem has gained some momentum, although it remains far from mature.

84. While annex XVII includes many examples relevant to sharing experience relating to the implementation of resolution 1540 (2004), the second lesson learned is that those examples do not cover every obligation found in the resolution. The Committee would be interested to learn of steps that relevant international, regional and subregional organizations are taking or considering taking to develop practices in areas where none exist at present. For example, little is known about the intersection of two dimensions: brokering and proliferation of weapons of mass destruction. The Committee could contribute by helping to identify such gaps in knowledge.

85. A third lesson learned is that many States created new or adapted existing intra-governmental processes to implement resolution 1540 (2004). Consequently, the Committee included requests for information on such processes in presentations by the Chair and in letters to all States in October/November 2007.

86. Finally, the Committee concluded from its examination of matrices that it was clear that there was no one-size-fits-all way of implementing the resolution. There were many examples of different approaches to its implementation in response to, among other considerations, different national and regional priorities, levels of development and threat levels.
APPENDIX II

1540 Committee Report of 2011

Section VII: Exchange of information and sharing experience, paragraphs 93 to 98 (and refers to Annex XVI for specific sector- and function-oriented guidelines and practices).

VII. Exchange of information and sharing experience

93. The identification of effective and efficient practices for sharing experience promotes the implementation of resolution 1540 (2004), improves the quality of measures taken by States, conserves their resources and can prevent unnecessary duplication of effort. More effective policies will attract greater international support, essential to the capacity-building required by most States and, more likely, also domestic support, upon which the implementation of the resolution depends.

94. To facilitate the sharing of experience, the Committee has prepared a list of relevant examples to which States may wish to refer in implementing resolution 1540 (2004). The set of practices for sharing experience appears in annex XVI.

95. Bearing in mind that implementation depends on national discretion in what States devise as appropriate and effective policies, the usefulness of sharing experience is limited, inter alia, by a lack of capacity or resources. The results of the comprehensive review amply demonstrated that the implementation of resolution 1540 (2004) continues to take place under different conditions at the national, regional and international levels. When reviewing the process of implementation of the resolution, it was observed that some States face more favourable conditions for implementation of the resolution than others.

96. Several relevant conventions or protocols have been adopted or come into force since the 2008 report (see annex XVI). In addition, some international bodies have introduced at least 23 new standards, codes, guidelines or similar practices of relevance to resolution 1540 (2004) since 2008, which also appear in annex XVI.

97. The Committee emphasizes that it does not endorse the information set out in annex XVI, but provides this information as a service to States to facilitate their efforts to implement resolution 1540 (2004). In addition, the annex does not constitute an exhaustive set of examples and the Committee looks forward to suggested additions, modifications or deletions from any State or intergovernmental body.

98. While annex XVI includes many examples relevant to sharing experience relating to the implementation of resolution 1540 (2004), they do not cover every obligation found in the resolution. However, the Committee can report that several international, regional and subregional organizations or bodies have become more engaged in addressing these gaps in the traditional non-proliferation infrastructure, for example, the increasing interest shown by OPCW in security for chemical facilities, or the European Union and G-8 in considering assistance. The Committee will continue to contribute to such work and promote new efforts by helping to identify gaps.
APPENDIX III

1540 Committee Chairman Letter 2013: explanatory note of suggested experiences, lessons learned and effective practices

II. Guidance

For the purpose of the objectives set in operative paragraph 12 of resolution 1977 (2011), States and international, regional and subregional organisations are invited to share with the 1540 Committee any relevant experiences, lessons learnt and effective practices, in the areas of resolution 1540 (2004). States and international, regional and subregional organisations can consider sharing experiences, lessons learnt and effective practices including in, or related to, the following areas:

- measures taken to ensure that no support is provided 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 accordance with operative paragraph 1 of resolution 1540 (2004);
- adaptation of the legal framework to prohibit proliferation activities in accordance with operative paragraph 2 of resolution 1540 (2004);
- accounting and securing measures in accordance with operative paragraph 3 (a) of resolution 1540 (2004);
- physical protection measures in accordance with operative paragraph 3 (b) of resolution 1540 (2004);
- border control and law enforcement measures in accordance with operative paragraph 3 (c) of resolution 1540 (2004);
- export and related control measures in accordance with operative paragraph 3 (d) of resolution 1540 (2004);
- national coordination mechanisms;
- initiatives, programmes and tools to work with and inform the private sector, in accordance with operative paragraph 8 (d) of resolution 1540 (2004);
- mechanisms to adopt and review national control lists;
- measures to prevent proliferation financing;
- assistance and capacity-building;
- awareness-raising;
- initiatives and mechanisms to review the implementation of resolution 1540 (2004) and decide appropriate actions;
- initiatives, programs and tools to foster the implementation of resolution 1540 (2004) in an international, regional or subregional context.

Possible contributions by relevant international, regional and subregional organisations may also include any supporting or guidance material such as model laws, legislative or implementation guides and compendiums of practices which have a direct relevance to the implementation of resolution 1540(2004) by States...
Notes


13. See Note 9.


Richard T Cupitt

Lessons learnt on effective practices for UNSC Resolution 1540 implementation

In United Nations (UN) Security Council Resolution 1977 (2011), the UN Security Council urged the 1540 Committee “to promote the sharing of experience, lessons learned and effective practices” to facilitate the implementation of UN Security Council Resolution 1540 (2004).1 This built on similar provisions in Resolution 1810 (2008) and Resolution 1673 (2006).2 For the first time, the UN Security Council also requested the committee “to identify effective practices, templates and guidance, with a view to develop a compilation….3 While not obliging the 1540 Committee to act, the repeated charge and the new task certainly creates a solid mandate for the 1540 Committee to identify effective practices in implementing Resolution 1540.

At the same time, the resolutions provide little guidance to the 1540 Committee on how to approach its tasks. Beyond directions to work with UN member states and relevant international, regional and subregional organisations (IROs) in these endeavours, the UN Security Council left how to execute this mandate to the discretion of the 1540 Committee. As a first step in promoting experience sharing, the 1540 Committee has attempted to identify experiences, lessons learnt and effective practices, with mixed success.4 Developing a more robust process that reduces duplication of efforts by states and IROs speeds creation or improvement of effective practices, enhances cooperation among various implementing bodies, and increases awareness of the existence of effective practices. Not only would this move the 1540 Committee closer to fulfilling its tasks, but it also holds great promise for fostering full implementation of Resolution 1540.5

In this paper, the author reviews how the 1540 Committee has identified effective practices so far and what it might ideally seek to achieve. The paper closes with a few recommendations on how the 1540 Committee might improve its approach to identifying and sharing effective practices.

How the 1540 Committee identified effective practices

In response to Resolution 1673, the 1540 Committee included a section on effective practices with an associated annex in its 2008 report to the UN Security Council on implementation of the resolution. Stemming from an initiative of the 1540 Committee experts, the exercise rested on several underlying understandings, including:
• The UN Security Council had not challenged the 1540 Committee to establish or endorse a set of effective practices.

• The 1540 Committee already had named (more than 30) IROs as relevant to the implementation of the resolution, many of which had specific functional or regional expertise to share.

• Several states included references to effective practices identified by these or other IROs in their reports to the 1540 Committee.

• The 1540 Committee experts had some personal experience in the development of effective practices, both at a national level and with these and other IROs.

• The 1540 Committee did not have an agreed process for identifying effective practices at the national level.

As a result, the 1540 Committee looked to the IROs it had named, others named by the states and any others known to the experts as sources for relevant practices that such IROs had identified as effective or efficient, further narrowing the search to those practices implemented by a ‘significant’ if undefined number of states.6

In Annex XVII of the 2008 report, the 1540 Committee listed at least 43 specific model or actual laws, decrees, regulations, legal compilations, guidance material, codes of conduct and other materials containing effective practices as identified by 21 IROs in their public materials. The content of these materials covered some obligations of Resolution 1540, with most practices involving prohibited activities, safety measures that impinged on security of facilities and the transport of hazardous or dangerous materials, and export controls.

The 1540 Committee noted in its 2011 report to the UN Security Council that states had adopted or brought into force several relevant conventions or protocols since its 2008 report. The 1540 Committee also found that IROs had introduced at least 23 new standards, codes, guidelines or other practices. These included some measures in fields not previously covered by any effective practices, most notably in combating the financing of proliferation.

As Resolution 1977 added the task of building a compilation of effective practices, the 1540 Committee took a more proactive and broader approach to its collection. In particular, the 1540 Committee chairman sent letters to 32 IROs in November 2013 requesting submissions of effective practices. It also expanded its search by sending a similar letter to all UN member states, with the same request. With each letter, the 1540 Committee attached guidance material suggesting IROs or states might contribute effective practices on 14 topics, reflecting rough groupings of the major obligations and recommendations. The letter further suggests that states and IROs might contribute ‘any supporting or guidance material such as model laws, legislative or implementation guides and compendiums of practices that have a direct relevance to the implementation of Resolution 1540 (2004) by states’.7 The 1540 Committee and its group of experts continue to reinforce these requests in their public presentations and private discussions.

This approach has produced limited but significant results. As of May 2015, the 1540 Committee has received six submissions from the states – including two joint submissions, each from two states – and four submissions from IROs.8 Although this constitutes a disappointing rate of response, the approach and these contributions do represent progress for the 1540 Committee. By sending letters about effective practices to states and IROs, the 1540 Committee raised awareness about its efforts to collect
such practices and increased the transparency of its approach to collection, including clarifying the characteristics of the contributions it seeks. The actual submissions themselves also contain many national and international practices not captured previously, such as an informal and voluntary process for evaluating practices bilaterally, i.e. the Croatia-Poland peer review.

**Challenges in identifying and sharing effective practices**

Over the years, the 1540 Committee has gathered many effective practices on the topics suggested in its 2013 guidance document. Despite such improvements, the process remains far from perfect. Its efforts continue to face several challenges in at least three areas: content, compilation and dissemination.

**Content**

As the 1540 Committee noted in its 2011 report, implementation of the resolution takes place within the context of legal instruments that preceded the adoption of Resolution 1540 in 2004. By implication – and as the 1540 Committee observed in practice – most national measures, especially those associated with standards and guidance developed under those pre-2004 instruments, do not align precisely with the obligations or recommendations of Resolution 1540. Although the prohibitions in laws designed to implement the Biological and Toxin Weapons Convention (BTCW), for example, overlap with many of the prohibitions in the resolution, Resolution 1540 has additional prohibitions against transporting biological weapons, acting as an accomplice or financing any of the prohibited activities. Similarly, the International Convention for the Suppression of Terrorist Bombings (ICSTB) makes use of a chemical, biological or radiological weapon a terrorist offence, as well as covering deeds as an accomplice or in financing such activities, but it does not clearly cover many other activities prohibited under Resolution 1540.

Many states indeed adapted their existing measures to meet the new requirements of Resolution 1540, and some IROs developed new guidance materials to address the obligations of Resolution 1540, e.g., Recommendation 2 of *The FATF Recommendations or Strategic Trade Control Enforcement (STCE) Implementation Guide* by the World Customs Organization (WCO). Nonetheless, the current compilation appears to fall short of ideally identifying effective practices, either national or international, for all 14 topics in the guidance material, much less every specific obligation and recommendation found in Resolution 1540. In some instances, such as effective practices identified by the International Atomic Energy Agency (IAEA) International Physical Protection Advisory Service, the state or IRO limits public access to the information. Institutions also may not make such information available on their websites for far more banal reasons, such as a lack of resources; or make such information virtually inaccessible, such as through poor website design.

Making a direct request to states and IROs to submit relevant information helps overcome some of these issues, but these institutions also face many internal challenges to gathering such information. As the 1540 Committee reported in 2011, for example, many states had to create new or adapt pre-existing interagency groups and processes in their efforts to implement Resolution 1540. Simply gathering information for a report on implementation, much less reaching internal agreement in identifying effective practices, requires unusually demanding levels and types of interagency cooperation.

Even if the 1540 Committee did get contributions for each topic, one might seek to have a continuum of such practices from high level policy frameworks to low level ‘how to’ guidance, and include several alternatives to attune to different circumstances, e.g. size of the economy or legal system. Certainly, the 1540 Committee has found that states take many routes to implementing their obligations, which
suggests the importance of identifying a range of effective practices in the spirit of ‘no one size fits all.’ So far, the committee does not have such breadth of information or resources at its disposal.

Finally, as the 1540 Committee noted in its 2008 report, ‘[v]ery few practices have undergone the rigorous analysis, testing and consensus-building that goes into identifying a truly ‘best’ practice’. Just as the 1540 Committee has chosen not to assess what constitutes ‘appropriate effective’ measures by states, it does not assess nor endorse particular practices identified by states or IROs as effective. Consequently, the 1540 Committee relies on those states and IROs producing and sharing such practices – and those states implementing them – to assess their quality.

Compilation

As the history of its efforts demonstrates, the 1540 Committee also faces difficulties in the process of compiling effective practices. While incorporating a wealth of information, for example, mining the public materials of IROs as the primary source for identifying effective implementation practices surely misses important practices. On some obligations, IROs may not have developed any relevant practices, especially where the obligations (or the potential practices) lie near the edge of their traditional mandate or beyond their mandates altogether. Even if IROs made all their information available, the experts have to use considerable skills and invest significant time to research systematically the thousands of pages of materials IROs make public. Even among the few direct contributions by states and IROs submitted to the 1540 Committee, the practices are presented in very different formats, which also can create a formidable obstacle to compilation.

So far, the 1540 Committee also has neither a regular process for systematically updating its collection of effective practices, nor does it have a way to ensure currency in its collection. While increasing the clarity of what information it wanted in its requests to states and IROs in 2013, that initial request’s low response rate gives no assurance that the process has become more systematic and comprehensive. Why did so few states and IROs respond to the request by the 1540 Committee? The 1540 Committee essentially depends, both for initial identification and subsequent updating of its effective practices, on multiple outside compilers, or different states and IROs, and their compilation processes, so this question deserves some attention.

Even though the 1540 Committee has seen evidence of states and IROs producing and sharing effective practices, usually among states on a particular issue, it seems likely that most states and IROs have no regular internal mechanism for identifying and sharing effective practices. These multiple compiling bodies, moreover, do not seem to cooperate on effective practices on producing, compiling and sharing effective practices. This leaves room for much unnecessary effort, both substantively and procedurally, which certainly impedes the development of new or improved effective practices, especially in a situation where resources are scarce. This disaggregated approach to compilation also likely impedes the dissemination of effective practices, as potential users are bombarded by claims that are uncoordinated and difficult to verify.

Dissemination

Historically, the 1540 Committee has developed neither specific strategies for disseminating the effective practices in either annex – or a strategy for raising awareness about the reports for that matter – nor a mechanism where users might easily access and search the effective practices it has identified. Experts and members of the 1540 Committee do regularly refer to the annexes in their outreach activities. Nonetheless, the public materials of the committee did not coherently highlight these effective practices
until recently. For example, the 1540 Committee website did not have an ‘Experience Shared, Lessons Learned and Effective Practices’ section despite an update in April 2012, during which links were provided to the annexes on four different pages. Not until another website update in September 2014, during which the committee merged and augmented its content, including that on effective practices, did the website provide a link to a separate effective practices page in the area-specific content menu on the home page. As yet, however, users must search for effective practices by going through the two annexes and 10 submissions by states and IROs individually, and, certainly in the case of the annexes, use the title found there as the basis for another search among the materials of the state or IRO that generated the practice.

The 1540 Committee also has no reliable way of knowing if any states (or IROs) have used the effective practice materials contained in its report or on its website. Currently, at best, users might provide some examples of where the committee made them aware initially of the practices generated by others that then resulted in changes in policies and behaviours. In future, the committee could specifically solicit feedback on the value of effective practices from users, encourage use of effective practices and solicit feedback on their value. The ‘Effective Practices’ sections on its website had 5 139 page visits in 2014, with 1 326 visits occurring after the merger into a single section in September 2014, which does not seem to have markedly increased access. This number ranks ‘Effective Practices’ 15th on a list of the most visited pages on the 1540 Committee website and comprises less than 10 percent of the total visits.

From a more pedagogical perspective, the potential audience may not find the compilation easy to use. The heavy reliance on written material to describe effective practices runs against current research that argues for delivering material in multiple learning formats – including audio and video material, interactive sections and so forth – in order to effectively reach audiences with different learning styles. Written materials are also not necessarily ideal as they may not always capture the ‘tacit knowledge’ that helps implementers move from the abstract to the practical, particularly in the task of tailoring content to the specific circumstances of each state.

**Next steps**

Institutions seriously committed to promoting continuous improvement use effective practices. Several United States government entities, for example, have ‘lessons learned’ programmes precisely to promote more – and more frequent – desirable outcomes while reducing or preventing less desirable outcomes. Although the 1540 Committee itself might benefit from a process that would incorporate and use effective practices, its task more accurately encompasses identifying and sharing practices developed by others. Within the constraints of its existing mandate and current budget, what then can the 1540 Committee do that will improve its efforts to promote and compile effective practices?

*Develop a framework of overarching objectives.* Resolution 1540 and its associated resolutions do not make explicit any specific objectives behind promoting and compiling effective practices, although one can presume doing so fosters implementation of the resolution. This framework could answer some of a rather long list of questions. Does the 1540 Committee seek to foster the development of effective practices for every obligation of the resolution? Does it seek to coordinate the development of effective practices, and if so, how central a role should it play? Does the 1540 Committee want all states to adopt effective practices and to contribute to the sharing of effective practices? Does it see effective practices largely as a matter of implementation or of assistance? The framework does not need to answer every possible question but could develop some basic parameters for 1540 Committee efforts. Following such
development, the 1540 Committee should pursue a marketing strategy designed to encourage states to experiment with effective practices, make them more aware of their availability and achieve the objectives outlined in the framework.

Establish written guidelines for identifying, obtaining, compiling and sharing effective practices. The framework makes clear what goals the 1540 Committee wants to achieve; the principles and procedures establish how to achieve them. Here the 1540 Committee already has some guidance in its current programme of work, which states that the principles of transparency, equal treatment, cooperation and consistency should underscore committee work. One might also draw guidance from the existing patterns of committee activities. For example, assuming the 1540 Committee continues to harvest the effective practices produced by others rather than generating its own, the procedures might make clear on which outside sources it can draw and when, how to classify and organise such practices, and what different methods it might use to share them. The complexity of this task suggests that the group of experts should devote at least some effort to stay up to date by participating in professional associations in their fields of expertise, as these groups often give birth to, nurture and evaluate new practices.

Establish a searchable online database. All action need not wait on the development of a framework and guidelines. The committee will clearly benefit from making it easier for potential users to find examples of effective practices. It may also have the added benefit of helping the 1540 Committee see some issues they might address in creating a framework and guidelines. For example, the 1540 Committee relies on the work of others to generate effective practices, so it does not ‘own’ them. As a result, the 1540 Committee will need to consider who then should have the ability to edit the effective practices in the database and when. Similarly, if the entity that produces the effective practice develops an improvement, how does that best get reflected in the database?

Identify the gaps. Even if the 1540 Committee does not seek to identify effective practices for every obligation and recommendation in the resolution, which is a question that the framework might address, it seems reasonable to determine where such gaps exist, as a prompt for future action by others. This will prove a demanding task. Even where the 1540 Committee has identified an effective practice related to an obligation, for example, the obligation might more appropriately require states to adopt a set of effective practices – e.g. controlling exports typically requires an effective system of export controls – the absence of which might also constitute a gap in the compilation. Furthermore, the diversity found among all states means that, normally, users would need to tailor these practices to their own special circumstances, such that the absence of several effective practices or sets of practices for each obligation might constitute a gap.

Conduct regular evaluations. The 1540 Committee should regularly evaluate its efforts, including its development of the database and its gaps, against the overarching framework and guidelines. In particular, this should begin to address the question of how useful states have found the work of the 1540 Committee in this field. To do so, the 1540 Committee will need to work closely with users to get feedback on its principles, procedures and products, e.g. the way it compiled the information. The annual report on implementation of the resolution could provide the 1540 Committee a regular opportunity to highlight what effective practices states and IROs have produced and which states have adopted them and when, as well as to encourage other states to use these practices.

Conclusion

It seems unlikely that the 1540 Committee or its group of experts will ever have the resources, skills and legitimacy to become a mechanism like the International Organization for Standardization for establishing
even voluntary effective practices in the implementation of Resolution 1540. As discussed above, the current compilation of effective practices has its shortcomings, and the process the committee uses to collect them has its drawbacks. Nonetheless, since 2006 the 1540 Committee has acquired a large corpus of effective practices related to the implementation of Resolution 1540. This includes getting specific contributions from states and IROs, however few in number, to augment those effective practices collected independently by the 1540 Committee.

If widely used, this database could perhaps become the most important assistance tool available to the 1540 Committee and the international community regarding Resolution 1540. It certainly has the potential to reduce unnecessary duplication and speed up and improve implementation of the resolution on a global scale. Even an analysis of the existing compilation might help improve how the 1540 Committee fosters implementation of the resolution. One might use it to answer or start to answer several important questions: Have more states taken steps to implement obligations covered by well-developed and widely disseminated sets of effective practices? Why are there more effective practices in some domains – e.g. nuclear or chemical, border security or finance – than in others? This paper does not answer the important questions. It does contain, however, some suggestions on steps – some ambitious, some more moderate – that the 1540 Committee might take to realise the full implementation of the resolution.

Notes

1 See Paragraph 10 of UNSCR 1977 (2011).
2 See Paragraph 5(b) of UNSCR 1673 (2006) and Paragraph 11(d) of UNSCR 1810 (2008).
4 For purposes of this paper, effective practices will include lessons learned and experiences for sharing, with the recognition that they constitute distinct concepts in practice.
6 The criteria for examples of effective practices had to address an issue related to at least one obligation, to be recognised as effective or efficient by at least one authoritative international body and to be used by a significant number of states. See 1540 Committee, Report of the Committee Established Pursuant to UN Security Council resolution 1540 (2004), S/2008/4932008, New York: United Nations, 2008, 18.
8 The submissions by states include Australia and Germany (jointly, 6 May 2014), Colombia (3 March 2014), Croatia and Poland (jointly, 25 June 2014), Iraq (4 February 2014), United Arab Emirates (11 March 2014) and the United States (29 September 2014). The contributions by IROs include the Association of South East Asian Nations (12 March 2014), International Atomic Energy Agency (3 April 2014), League of Arab States (24 December 2013) and the Nuclear Suppliers Group (27 August 2014).
10 1540 Committee, op. cit., 18.
11 See, for example, the United States (US) Department of Energy’s Corporate Lessons Learned Program, the US Centers for Disease Control and Prevention’s Unified Process Practices Guide, and the National Aeronautics and Aerospace Administration’s web-based Lessons Learned Information System. The US army goes even further as it has the Center for Army Lessons Learned.
The 1540 Committee’s capacity-building function set for increased efficiency

When the United Nations (UN) Security Council adopted Resolution 1540 in 2004, it recognised that some states might need assistance to meet the requirements of the resolution, while others might be in a position to provide assistance. In doing so, the UN Security Council set the foundation for the role of the 1540 Committee to facilitate assistance and capacity building. As Resolution 1540 became a permanent feature of the non-proliferation landscape, the committee gave continuous attention to developing and strengthening its efforts in this regard. It has now reached a point where further efforts must be made to meet growing expectations.

Maturation of the 1540 Committee’s framework and assistance facilitation

The first steps (2004–2006)

The role of the 1540 Committee in the area of assistance and capacity building is to a large degree the result of a step-by-step build-up. Significantly, only two of the 14 UN Security Council members that took the floor at the meeting to adopt Resolution 1540 in 2004 addressed the matter of assistance.1 A few days earlier, the matter of assistance had also been a marginal issue at the UN Security Council meeting open to the whole UN membership to collectively examine the draft resolution.2

Resolution 1540 recognises 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 infrastructure, implementation experience and/or resources for fulfilling the above provisions’.3 Strictly speaking, it did not immediately establish a role for the 1540 Committee in this area except indirectly as part of its general monitoring function.

In the initial period that followed the adoption of Resolution 1540, most commentators and observers focused mainly on the modalities of negotiation, on the contribution of this new instrument to the non-proliferation architecture, and on its nature. Little attention was given to assistance in the context of the resolution. The resolution provisions dealing with assistance were at the time considered as belonging to the ‘outer circle’ of the resolution, rather than its ‘core’.4 It should be
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noted though that the bipartisan Task Force on the UN, mandated by the US Congress in December 2004, properly identified that the effectiveness of Resolution 1540 – a ‘potentially powerful tool’ – inter alia depended on how the question of determining ‘who will fund the assistance required to bring national controls up to acceptable standards’ will be answered.5

The report to the UN Security Council submitted on 16 December 2005 by the first chairman of the 1540 Committee, Ambassador Motoc, did not elaborate on concrete measures to facilitate the delivery of assistance. However, it did establish important foundations and indicated that the committee would ‘continue to act as a clearinghouse’, ‘keep up-to-date information on the issue of assistance’ and continue to request that states be designated as points of contact for assistance.6

The April 2006 report to the UN Security Council reflects clearly that the matter of assistance had not been considered as a high priority during the first two-year mandate of the 1540 Committee. Achievements in the areas of outreach and assistance are covered in the same section, despite the fact that those two topics are very distinct in nature.7 It must be recognised though that the 1540 Committee and its experts had been heavily burdened by the need to examine the more than 150 implementation reports received between the date the resolution was adopted and April 2006. This task took up most of their working time and was important for asserting the committee’s role. In addition, the group of experts reached full capacity only in August 2005, more than one year after the adoption of the resolution, when Patrice Palanque joined as the eighth expert.

The 2006 report highlighted developments and achievements related to assistance provided by the 1540 Committee as follows:

• The systematic gathering and compilation of assistance-related information: the committee posted on its website information related to offers of assistance by 46 states and circulated to these states a list of requests by 32 states.

• Points of contact: the committee requested states to designate points of contact for assistance, which was an important step towards engaging members in dialogue.

• Division of work within the group of experts: at a time when the allocation of tasks among the experts had not been established formally and it had as a result not yet been made available to the committee and other partners, the identification of one of the experts as the point of contact for assistance (see Annex I), as confirmed in the 2008 report,8 was a step towards improved working methods.

In its recommendations section, the 2006 report called for a more proactive approach. However, the way it was phrased was quite limiting as it referred to such an approach ‘on a bilateral basis between states making offers of and states making requests for assistance, including making use of offers by international organisations. In other words, the states rather than the committee and its experts were compelled to be proactive.

Raising the role of the 1540 Committee (2006–2008)

Resolution 1673, which was adopted on 27 April 2006, opened new avenues on matters of assistance by encouraging ‘the pursuit of the dialogue between the 1540 Committee and states on the full implementation of resolution 1540 (2004), including on […] technical assistance needed and offered’ (paragraph 5(a)), and by inviting the 1540 Committee ‘to explore with states and international, regional and sub-regional organisations experience-sharing and lessons learned
in the areas covered by resolution 1540 (2004), and the availability of programmes that might facilitate the implementation of resolution 1540 (2004)\(^1\) (paragraph 5(b)). The 1540 Committee was therefore mandated to play a more active role, including in the direction of international, regional and subregional organisations.

Under the leadership of Ambassador Peter Burian, who served as chairman from 2006 to 2007, the 1540 Committee geared up on assistance-related matters. From April to July 2007, several meetings were held that raised awareness of, and enhanced cooperation on, assistance, as follows:

- In April 2007, the 1540 Committee organised, with support from Norway and the UN Office for Disarmament Affairs (UNODA), a meeting that gathered states offering and requesting assistance. Although the meeting remained limited in scope and in attendance, a step was made by the committee for a more active matchmaking role.
- In May 2007, the committee held a thematic discussion on assistance.
- In July 2007, at the initiative of the chair of the 1540 Committee, UNODA organised a first meeting of providers of assistance, including states and international, regional and subregional organisations. This was followed by a meeting open to non-governmental organisations.\(^9\)

In July 2007, the 1540 Committee agreed to a series of decisions related to processes concerning assistance:\(^10\)

- To work with states that offer assistance, including circulating a letter explaining the role of the committee as regards assistance, information-sharing about points of contact for national assistance efforts, making offers more specific and developing an assistance template.
- To work with states requesting assistance to make more effective requests, particularly through the development and use of an assistance template; a letter would be sent to explain the role of the committee with regard to assistance efforts.
- To post requests for assistance on the 1540 Committee’s website.
- To facilitate enhanced coordination of assistance efforts.

In accordance with the first decisions, the experts prepared an assistance template, which was approved by the committee in November 2007 and sent to all states together with a letter of explanation. The assistance template represented an improvement as it provided a channel to facilitate dialogue between states in need of assistance and the committee.

The 2006 to 2008 period saw the 1540 Committee raising its profile on assistance in a significant manner. Some of the initiatives taken during that time, i.e. organising a meeting of assistance providers, organising a joint meeting of requesters and providers of assistance, engaging civil-society entities that could contribute assistance services, and making more aggressive use of the committee’s website, were promising initiatives that would eventually be replicated and amplified with meaningful results.

However, the 2006 to 2008 period also had its failings:

- The assistance template was of limited value in assisting states with their efforts to assess and evaluate their assistance needs. It is no surprise, therefore, that only a very small number of states used it to submit an assistance request, even though it was heavily advertised in the letter.
issued to all UN member states and by 1540 Committee delegates and experts at many outreach activities. The fact that the assistance template is still not available in the six official UN languages more than seven years after being officially approved by the committee, is a clear symptom of the state of disarray.11

- Interaction between the 1540 Committee and states regarding assistance relied mainly on formal communication, for instance Notes Verbales, which is obviously not a fast or direct way to engage into interactive dialogue. The situation was aggravated by the fact that formal letters from or to the committee were channelled through labyrinthine UN processes, resulting on many occasions in lengthy delays combined with archiving challenges. The UN Secretariat made efforts to remedy the situation but, somehow it remained a systemic issue for many years.

- Not only was the committee examining and deciding on proposals of political nature, it was also involved in vetting proposals of merely technical nature. As the committee takes decisions by consensus, there were lengthy delays in agreeing even on issues of minor importance. This is reflected, for instance, in a statement by Ambassador Burian, the exiting chairman of the 1540 Committee, in December 2007 when he expressed the wish that the committee would ‘finalise the discussion on how its website can be better used to facilitate the initial contacts between assistance providers and countries requesting assistance and how it can help the flow of information when assistance is offered’.12

- Reliance on the website to facilitate matchmaking was also not the most effective way to do so, while information posted on the website was relatively scarce.13

The 2008 report of the 1540 Committee to the UN Security Council14 states that ‘the committee identified a slight increase in the number of offers of assistance, but much larger increases in requests for assistance and in states partnering in ongoing assistance projects related to implementation of the resolution’. The role of the 1540 Committee on assistance matters was thus recognised and expectations were growing. The 2008 report also highlighted that several international organisations had started integrating the objectives of Resolution 1540 into their capacity-building programmes; this represented an important development with regard to the direction of a solid network of providers of assistance.

**Focusing on the improvement of working methods (2008–2011)**

In a relatively short time, the 1540 Committee dramatically improved its work on assistance. This was made possible by the right combination of factors. Firstly, a longer-term perspective on the work of the committee, as reflected in resolution 1810 (2008), extended its mandate for three years, against two years previously. Secondly, a growing understanding that Resolution 1540 was in the process of becoming a permanent instrument in the non-proliferation landscape and, thirdly, new working methods introduced by the Mexican chairman of the committee, Ambassador Heller, who set the principle of monthly committee meetings to facilitate exchanges among delegates and expedite tasks assigned to the experts.

In terms of the committee’s working methods, a breakthrough was made with the 9th Programme of Work of the Committee, adopted in February 2010, which established a system of working groups mandated to ‘focus on important and recurring issues’.15 From that time, the 1540 Committee has relied on four working groups, including one whose task is dedicated to assistance.
One of the first coordinators of the working group on assistance, Ms Céline Jurgensen, actively liaised with the experts and the UN Secretariat to prepare revised procedures aimed at rationalising, improving and accelerating responses to assistance requests and facilitate matchmaking.16 These were adopted by the committee in 2010. The revised procedures were to ensure that assistance requests were circulated to assistance providers in a timely manner, that they were advertised on the committee’s website with the consent of the state concerned, and that the follow-up was effectively conducted by the committee and experts at the formal and informal levels.

Ms Jurgensen also led efforts by the experts to obtain a user-friendly, accessible and comprehensive list of assistance requests. This would prove to be of great help in dialogue with the providers of assistance. A consolidated list of assistance requests was approved by the 1540 Committee and shared with participants at the Paris meeting of the G-8 Global Partnership Working Group (GPWG) on 10 October 2011. It was an important development in the effort to provide the donor community with up-to-date and exhaustive information. Subsequently, the consolidated list would be updated and shared with assistance providers on a regular basis.

While the 1540 Committee was steadily improving its working methods on assistance, it also became apparent that there were inescapable limits in its ability to coordinate assistance and capacity-building programmes effectively, especially as the committee was supported by only a low number of experts and UNODA staff.17 Furthermore, the necessity to reach consensus on every decision, be it of a political or of technical nature, be it of strategic or of minor importance, overhung the committee like the sword of Damocles.

**Longer-term extension of the 1540 Committee’s mandate**

The adoption of Resolution 1977 in 2011 represented a landmark in the history of Resolution 1540 as it provided for a ten-year extension of the 1540 Committee’s mandate. This is the longest mandate ever agreed on for a subsidiary body of the UN Security Council. It did not meet the wishes of those in favour of an indefinite extension, but was long enough to allow for long-term planning by the committee and other stakeholders, including the providers of assistance.

Resolution 1977 also addressed organisational challenges by requesting the committee to identify recommendations 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’.18 The subsequent submission of recommendations to the UN Security Council included a proposal for the appointment of a coordinator, designated by the Secretary-General, responsible for synchronising the work of the group of experts, prioritising and delegating tasks, and coordinating with other stakeholders.19 This opened the perspective of a major improvement in the working methods of the group of experts, which had been characterised until then by a strong sense of collegiality and of equal responsibilities without any clearly-defined division of labour, which tended to make the decision-making processes unnecessarily lengthy and complicated.

In spite of the new perspectives offered by Resolution 1977, structural limits remained and it was obvious that if the committee were to fulfil its mandate on assistance matters efficiently, there was no choice but to strengthen the cooperation with providers of assistance, in particular the bodies with coordination functions.

The GPWG established by the then Group of Eight, is of major importance in this regard. As a gathering of the main providers of assistance on non-proliferation matters, it is in essence better
equipped than the 1540 Committee to coordinate assistance and capacity-building programmes in a concrete way.\textsuperscript{20} For this reason, the GPWG can play a major role in complementarity with and support of the committee. The decisions taken by the G-8 during the 2011 French Presidency represent a breakthrough, preparing the ground for increased synergies between the GPWG and the 1540 Committee. By identifying Resolution 1540 as an area in which Global Partnership’s partners can consider to provide assistance, the May 2011 Global Partnership Assessment and Options for Future Programming confirmed the geographic expansion of the initiative, which, until then, had been restrictively limited to activities in Russia and few other states of the former Soviet Union.\textsuperscript{21} The document also allowed for more sustained cooperation with the 1540 Committee.

The 2012 US Presidency of the G-8 built on these positive developments and closely involved the committee and its experts in the meetings of the GPWG. Although the group of experts was then facing severe challenges of attrition,\textsuperscript{22} it had been possible to shape a framework conducive to enhanced cooperation between the committee and the GPWG. In November 2012, the committee approved an informal paper on opportunities for collaboration between the Global Partnership and the 1540 Committee, sent out to the Presidency of the G-8, which recognised that ‘the 1540 Committee and the Global Partnership support the shared goal of preventing by any means non-state actors from developing, acquiring, manufacturing, possessing, transporting, transferring or using nuclear, chemical or biological weapons and their delivery systems’. The paper identified the following specific actions needed for increased cooperation:

- The 1540 Committee would welcome a regular sharing of information with the Global Partnership on matters related to assistance and capacity building. The committee is willing to continue sharing with the Global Partnership the assistance requests it received from states with a view to facilitating their consideration by Global Partnership members.

- A number of states have adopted, or are considering adopting on a voluntary basis, national action plans identifying priorities and plans to implement Resolution 1540. The committee would advise the Global Partnership about the plans, as appropriate, should they be related to assistance and capacity building. This would apply to past, present and future projects and programmes.

- Experts supporting the 1540 Committee are willing to continue briefing the Global Partnership on the status of assistance requests and matchmaking activities with a view to facilitating the delivery of assistance related to Resolution 1540 in a timely and effective manner. In response to a request, the 1540 Committee and its experts would pass on to the Global Partnership relevant information on states that expressed their intent to deliver assistance.

- The committee would welcome briefings by the Global Partnership on developments that were relevant for Resolution 1540. It appreciates efforts by the Global Partnership to promote the submission of points of contact on assistance by states and relevant international, regional and subregional organisations to the committee.

- The UN Security Council, through Resolution 1977 (2011), encourages states 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. The committee and its experts were looking forward to discussing in concrete terms possible proposals from Global Partnership members, for instance in the areas of legal and technical training and expertise.\textsuperscript{23}
Important foundations for strengthened cooperation between the 1540 Committee and the Global Partnership were laid and these were expanded by the 2013 UK presidency of the G-8. In 2014, the suspension of the Russian Federation from the G-8 over the latter’s annexation of the Crimea, disrupted the development process. Nonetheless, the G-7 reiterated its support for the 1540 Committee and confirmed its commitment to the Global Partnership. Ipso facto, this implied that previous arrangements and orientations remain valid. Participation by 1540 Committee experts in the meeting of the GPWG hosted by Germany on 22 and 23 April 2015 under its presidency was confirmation of the uninterrupted cooperation between the GPWG and the 1540 Committee.

In addition to strengthening its cooperation with the GPWG, the 1540 Committee also tightened ties with other international bodies, such as the International Atomic Energy Agency (IAEA), INTERPOL, the Organisation for the Prohibition of Chemical Weapons (OPCW), the UN Office on Drugs and Crime (UNODC), the Biological Weapons Convention–Implementation Support Unit (BWC–ISU), the World Customs Organization (WCO) and the EU Centres of Excellence on Chemical, Biological, Radiological and Nuclear Risk Mitigation (CBRN CoE) Initiative, all of which have incorporated Resolution 1540 in their assistance and capacity-building programmes. The 1540 Committee strove to facilitate coordination with all relevant partners.

The new momentum initiated by the adoption of Resolution 1977 allowed for the launch of new tools and methods with a strong potential as regards assistance and capacity building:

- Visits to states at their invitation (‘country visits’), which had been envisioned for quite a while, became a reality with the visit to the United States from 12 to 16 September 2011 and on 9 February 2012. The model of such visits was carefully crafted by the 1540 Committee experts, under the guidance of the working group on assistance, to ensure that relevant aspects of implementation would be addressed in a thorough manner, without intruding on the sovereignty of states. The visit to the US focused on implementation efforts and on the assistance it provided. Subsequently, many visits to states would also address assistance needs.

- Facilitating the development of national implementation action plans also became an important area of effort for the 1540 Committee experts, on some occasions in cooperation with other partners such as UNODA and the Organization for Security and Co-operation in Europe (OSCE). By 18 May 2015, 15 national implementation action plans have already been submitted to the committee. Implementation plans aimed at mapping out priorities and plans to implement Resolution 1540 are useful for highlighting specific assistance needs and areas for capacity building.

- Consideration was also given by the 1540 Committee’s working group on assistance to the possibility of organising assistance conferences attended by states that have submitted assistance requests or are providers of assistance. The aim of such conferences is to facilitate matchmaking.

**Appraisal of the clearinghouse function of the 1540 Committee**

Since the adoption of Resolution 1540, the clearinghouse function of the 1540 Committee has been steadily developed and improved. Many positive achievements can be noted:

- The assistance function of the committee is now recognised as a core function. The committee benefits from the ongoing support of a dedicated working group. In the group of experts, assistance tasks have been allocated to specific individuals. Some of the experts are now in charge of facilitating processes in this area under the overall purview of the team and the coordinator.
• Important international partners, such as the GPWG, the IAEA, the OPCW, INTERPOL, the UNODC, the BWC–ISU, the FATF, the WCO and the EU CBRN CoE Initiative, have integrated Resolution 1540 in their capacity-building programmes and serve as de facto coordination platforms.

• Many states and some international, regional and subregional organisations have designated a point of contact. This was an important step towards facilitating the flow of information, assistance matters included.

• An important number of states, as well as some international, regional and subregional organisations, have now been formally identified as providers of assistance to the 1540 Committee.

• Tools, such as visits to states and the development of national implementation action plans, contribute to more concrete appraisals of implementation efforts and the identification of assistance needs.

• A thorough revamping of the 1540 Committee’s website in 2010 and 2011 with the efficient technical support of UNODA, led to a redesigned webpage that now provides more detailed information on assistance.29

In spite of these positive achievements, the clearinghouse function of the committee remains contrasted, as indicated by the following:

• The status of assistance requests submitted to the committee, some of which date back to 2004, is often difficult to assess.

• While the committee is informed about general aspects of available assistance programmes, there is a lack of visibility with regard to concrete aspects and the technicalities of the programmes.

• In 11 years of implementation of Resolution 1540, only a few assistance requests can categorically be assessed as having met an offer thanks to the clearinghouse function of the committee. There is a growing gap between the visibility given to the assistance function of the 1540 Committee and measurable achievements. This has the potential of undermining the credibility of Resolution 1540.

• The 1540 Committee experts are assigned so many tasks that it is a challenge for them to conduct sustained assistance efforts. In addition, recruitment modalities tend to regularly create situations that leave the group of experts at less than full capacity.30 The support provided by UNODA helps to alleviate matters, but the help is limited in scope, as UNODA is also facing capacity challenges.

• While some UN bodies, e.g. in the counter-terrorism area, are efficiently supported by implementation agencies, the 1540 Committee has not yet reached this point. It has to rely almost exclusively on its group of experts, and the limited staff and resources of the UN Secretariat.

Recommendations

In striving to continue to improve the efficiency of its clearinghouse function, the 1540 Committee could consider the following:

• Encourage the holding of assistance conferences and events on a regular basis, including regional assistance conferences.

• Outsource tasks in support of the 1540 Committee in a spirit of complementarity with UNODA. Many tasks could, for instance, be delegated to civil society entities.
• Empower the group of experts to advise the committee chair on the use of the 1540 Trust Fund, including responses to specific assistance requests.

• Rely more regularly on former 1540 Committee experts and other sources of expertise (for instance in the civil society) to conduct analytical work and to participate in outreach events in support of the current experts.

• In the longer-term, consider establishing a Non-proliferation Executive Directorate, following the precedent set by the Counter-Terrorism Committee Executive Directorate. The mandate of the Non-proliferation Executive Directorate would cover all non-proliferation matters addressed by the UN system, providing the 1540 Committee and other relevant UN entities with more sustained support.

Notes

1 Spain emphasised that ‘technical assistance to states should be one of the (1540 Committee’s) key components’. The United States (US) stated that ‘we stand ready, as do others as well, to assist countries, as appropriate, that require technical assistance and we encourage others that are able to do so to provide assistance as well’. 4956th Meeting of the UN Security Council, 28 April 2004, S/PV.4956.

2 4950th Meeting of the UN Security Council, 22 April 2004, S/PV.4950.

3 Resolution 1540, operative paragraph 7.

4 The distinction between the core of the resolution and its outer circle is borrowed from one the most authoritative articles in French literature dedicated to Resolution 1540, namely Serge Sur, La Résolution 1540 du Conseil de sécurité (28 avril 2004) entre la prolifération des armes de destruction massive, le terrorisme et les acteurs non étatiques, Revue Générale de Droit International Public, 2004, 855–882.


10 See the background papers prepared by 1540 Committee experts with reference to the document on modalities for the consideration at a comprehensive review (S/2009/170), in particular with regard to the specific element (d): ‘Generate new tools, such as sample action plans or assistance requests, and develop practical means to address the most commonly found or dangerous ‘gaps’ in implementation’, http://www.un.org/en/sc/1540/comprehensive-review/pdf/CR%20paper%28Element%20D%29.pdf (accessed, 2 May 2015).


12 5806th Meeting of the UNSC, 17 December 2007, S/PV.5806.

13 A snapshot of requests for assistance on the 1540 Committee’s website back to 13 January 2008 is available at https://web.archive.org/web/20080130114156/http://www.un.org/sc/1540/requestsforassistance.shtml (accessed, 9 May 2015). As can be observed, not many details were provided for each assistance request. It was not possible, for instance, to date the request, to know its status or its origin.


17 Up to eight experts and some five UNODA staff at that...


22 At one point in 2012, only two experts were serving. This was partly the result of the entry into force of revised guidelines on the recruitment and administration of consultants serving as experts on groups and panels established by the UNSC, as well as lengthy processes to select the new experts.


25 See, for instance, paragraph 12 of resolution 1810 (2008).


30 The 2014 Annual Review notes that “Throughout 2014, the experts were understaffed”. The same observation could be made from May 2011 to December 2012 and also in the first half of 2015.
It is a personal perception that knowledge about weapons of mass destruction (WMD) and their prohibitions and controls is restricted to high-level governmental officials, civilian or military, and skilled professionals of certain national and international organisations or non-governmental organisations. This group of people may be wider in developed countries, but a vast amount of basic knowledge related to WMD remains beyond the reach of the general public, and is especially absent from the general academic disciplines at universities around the world.

This personal perception may be biased, due to the fact that in developing countries this issue is far from being among the priorities determined by policies and politics. On the other hand, in the early 1990s it was also difficult to find academic literature on this subject. Fortunately, this is an easier task nowadays, but various educational systems still lack a formal discipline on the issue of WMD and related matters. Fortunately, the media and the Internet are paying increasing attention to conflicts where agents of concern or WMD are used or alleged to have been used. Of course, this kind of information, although essential, is not sufficient to provide university students with a critical view of the subject matter.

In issues related to WMD there is a huge gap between the technical and political knowledge of those who deal professionally with this matter and the curricula content at universities.

The undergraduate discipline

Against this background, a formal discipline on ‘prohibitions and controls of sensitive technologies and dual-use material’ was introduced at the Federal University of São Paulo, Brazil in 2011.

The main objective of the discipline is to familiarise students with the major international and national instruments that prohibit and/or control sensitive technologies and dual-use material, and to discuss ethical aspects involving science and technology.

Initially a 20-hour course was established, but this was increased to 40 hours after feedback from the students and the board of the department.

Introductory classes provide an overview of the basic concepts and definitions of common terms.
such as dual-use, sensitive goods and technologies, WMD, disarmament and non-proliferation, as well as of treaties, conventions and arrangements, states and the United Nations (UN) system, its agencies and affiliates, including the UN Security Council.

This is followed by a presentation on the main relevant international instruments of prohibition and/or control. This includes the multilateral arrangements related to export controls and UN Security Council Resolution 1540 (2004), as well as the relevant Brazilian legislation, regulations and governmental agencies.

The subject is then divided into sections and presented according to the materials and technologies applied to WMD and their means of delivery – nuclear, chemical, biological, and missiles.

On each of these topics the following issues are presented and discussed in more detail: definitions; characteristics; history of the most important programmes in the past; instruments of prohibition and/or control, including lists of materials and technologies; and the main Brazilian national laws, regulations and government agencies dealing with the subject. Emphasis is placed on past national programmes, with particular focus on the Manhattan Project, as this topic is considered to be a cornerstone of cooperation among government, ‘big’ science, industry and the military. Attention is also given to examples of major recent incidents of terrorist use of agents related to WMD. The diversion of dual-use material, particularly nuclear, and the illegal traffic therein are stressed, as are the efforts of the International Atomic Energy Agency (IAEA) and other international bodies to control these illegal activities.

Table 1: Summary of the course structure

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<th>Unit (time allocation)</th>
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<td>Unit 1 (8 hours)</td>
<td>Context, concepts and definitions</td>
<td>• State</td>
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<td>• Western historical highlights from Austerlitz (1805) to World War Two (1945), including the Manhattan Project</td>
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<td>• Disarmament and non-proliferation</td>
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<td>• Sensitive technologies</td>
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<td>Unit 2 (6 hours)</td>
<td>Prohibitions and controls related to chemistry</td>
<td>• Geneva Protocol</td>
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| Unit 4 (4 hours) | Prohibitions and controls related to vectors | • Missile Technology Control Regime  
• Resolution 1540  
• National legislation and regulations |
|-----------------|---------------------------------------------|-----------------------------------------------------------------------------------|
| Unit 5 (6 hours) | Prohibitions and controls related to nuclear | • IAEA  
• Non-Proliferation Treaty  
• Nuclear Suppliers Group  
• Resolution 1540  
• Examples of use/past programmes (states and non-state actors)  
• National legislation and regulations |
| Unit 6 (8 hours) | Technology and ethics | • U Galimberti, *Psiche e techne – o homem na idade da técnica*, São Paulo: Paulus, 2006  
• D Charles, *Between genius and genocide: the tragedy of Fritz Haber, father of chemical weapons*, London: Jonathan Cape, 2005  

The bibliography used for preparing classes, relevant Internet links and videos are carefully selected, with the criteria being factual rather than opinion-based content directly related to the subject under discussion, as well as documentary value. Official Internet addresses of links to the texts of treaties or conventions, such as the UN database, are also provided.

Box 1 shows the main references used according to the subject areas around which the course is organised, and Box 2 lists the videos used.

### Box 1: Context, concepts and definitions

Peace of Westphalia (1648)  
Immanuel Kant, *Toward perpetual peace – a philosophical sketch*, 1795  
Concert of Europe (Vienna system of international relations) (1815–1914)  
World War One (1914–1918)  
Treaty Of Versailles (1919)  
World War Two, including the Manhattan Project  
UN (1945)  
The disarmament system
Basic references and texts are used to introduce and present the subject on the prohibition and control of dual-use material and sensitive technologies


Nuclear threat initiative tutorials: http://tutorials.nti.org/

Basic references and texts are used to introduce and present topics on technology and ethics


D Charles, *Between genius and genocide: the tragedy of Fritz Haber, father of chemical weapons*, London: Jonathan Cape, 2005


Box 2: Videos presented

Science and the First World War (26 June 2014)

America’s nerve gas arsenal (NBC documentary)

US–USSR biological weapons part 1 of 5

US–USSR biological weapons part 2 of 5

US–USSR biological weapons part 3 of 5

US–USSR biological weapons part 4 of 5

US–USSR biological weapons part 5 of 5

Historic, unique Manhattan Project footage from Los Alamos

Triumph and tragedy: Manhattan Project

The moment in time: the Manhattan Project (University Of California Television)

Documentary full missiles and rockets + weapons of World War II + military history document

The 60-year history of Raytheon’s standard missile family


Full documentary HD + cruise missile – BBC documentary 2014
Preliminary evaluation of the course

Students have shown considerable interest in all the subjects presented. This interest could be explained by the fact that the conflict in Syria, where chemical weapons were used and have been investigated by the UN and the Organisation for the Prohibition of Chemical Weapons, and the nuclear programme in Iran have appeared almost every day in media headlines, including on the Internet. Students are involved in lively discussions and ask for more information on the subject. While they are not necessarily interested in pursuing a career in a related field, they argue that someone could become involved involuntarily if he/she were not aware about the dual-use of materials or technologies. Students have also commented that it was interesting to learn that important scientists have been involved in WMD programmes. An intense discussion follows about the ethical dilemmas scientists face and their personal ethical and moral beliefs during warfare, particularly relating to the use and development of WMD.

Presenting this course to undergraduate students has been a very positive experience, although some adjustments are still evolving. The main reason why the length of the course was increased from 20 to 40 hours was because the topic on technology and ethics had to be explored more intensively. This was as a result of the interest shown by the students and the need to present the philosophical background to this particular topic.

Other adjustments relate to the list of goods, materials and technologies subject to prohibition and/or control. These lists are cumbersome in a class presentation, but it is important that they be known and used as a working reference. One possibility would be to group the items according to their application in industrial activities, but this may require the involvement of various specialists according to the areas involved, in order to be done properly. The other possibility is to present the most sensitive industrial/scientific activities that are related to the materials/technologies of concern.

Another adjustment has to do with the order of the topics and the proper amount of information provided on each topic. The topics most affected are historical information on the international political background of relevant aspects of the use or establishment of programmes for the development of WMD, and on the international agreements that have led to the prohibitions and controls currently in place. ¹

Conclusion

One of the reasons for the difficult ‘dialogue’ between the body of knowledge related to WMD and academic undergraduate disciplines is the lack of university lecturers who have the proper background and training to give an overall appraisal of WMD and related matters. This lack of trained educators is related to educational systems that focus on specific areas of knowledge without emphasising the linkages among disciplines, especially between the technical sciences and humanities, as well as the siloed group of specialised experts who work on the subject. In addition, diplomats usually deal with the political background to WMD, pursuing a career that is enclosed outside the universities, but they tend to lack knowledge of the technical aspects of the issues discussed. In developing countries in particular, these technical aspects are neglected or have a low priority on university curricula. Consequently, there are only a few experts on the technical aspects related to disarmament, particularly WMD.
The challenge of designing a university undergraduate course that gives students an overview of WMD and related matters is mostly the need to integrate information from several technical disciplines with that from other disciplines related to political science and history. Without this interdisciplinary approach, it is difficult to achieve meaningful results, and to consolidate an entire body of knowledge that provides students with the information and tools needed for a basic understanding of the complex issues involved.

Notes

1 All the presentations and related material were made available (in Portuguese) to the students under ‘curso dis/unifesp 2014’ at http://monteleo.wordpress.com/.
1540 cooperation in the developing world: international, regional and subregional organisations

Under United Nations (UN) Security Council Resolution 1540 (2004), member states are responsible for implementing its binding provisions. They are to take the required actions to prevent the proliferation of weapons of mass destruction (WMD) to non-state actors, in accordance with their national processes. The obligations set forth in the resolution are intended to be complementary to the roles of the International Atomic Energy Agency (IAEA) and the Organisation for the Prohibition of Chemical Weapons (OPCW) and to reinforce the obligations undertaken by states under the Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention and the Biological Weapons Convention. These obligations are meant to fill the gap in regulatory and enforcement dimensions by including the terrorism-related proliferation activities of non-state actors. Because of the complementarity of Resolution 1540 and these instruments, the need for effective cooperation with the organisations listed above was evident from the outset. In subsequent resolutions, i.e. Resolutions 1810 (2008) and 1977 (2011), the UN Security Council acknowledged the progress made and recommended that this cooperation be enhanced in specific terms to promote full implementation of Resolution 1540 by states.

The UN Security Council also expanded the number of intergovernmental bodies for such cooperation. It included additional international organisations and regional and subregional organisations, as well as its own counter-terrorism committees – the Committee established pursuant to Resolution 1373 (2001) on threats to international peace and security caused by terrorist acts and the Al-Qaida and Taliban Committee established pursuant to Resolution 1267 (1999).

It is the purpose of this paper to contribute to the broader theme of cooperation with international, regional and subregional organisations in the implementation of Resolution 1540 by focusing on the nuclear security and counter-terrorism dimensions of the effort, particularly in the developing world. Some developing countries may wonder why Resolution 1540 should matter to them as small states that have no capacity to produce or acquire nuclear, chemical or biological weapons, and that have in any case renounced such weapons. Another relevant question is what impact the implementation of the resolution would have on their national priorities. In addressing these issues it is not enough merely to reiterate that the resolution is binding on all states – it is also
necessary to stress that no one is safe from danger. Terrorists may seek to exploit the territory of any state, using it as a safe haven, for instance, for the smuggling and financing of WMD-related goods. Moreover, effective implementation of the resolution can only enhance security, which is an important prerequisite for improved trade and development. Furthermore, improving border controls and strengthening the domestic control of WMD-related goods will improve the national system of control to prevent various other illicit activities.2 However, these general explanations will not be sufficient to persuade states to focus on Resolution 1540 unless the specific challenges they are facing are taken into account.

This paper will thus first attempt to outline those challenges in specific terms and look at the institutional responses in three regions: Latin America and the Caribbean, Africa, and South-East Asia. Not included are the Middle East and South Asia, which face distinct political and security obstacles to creating WMD-free zones and thus warrant a separate analysis. The Pacific Islands area of the Rarotonga Nuclear-Weapon-Free Zone Treaty is also not included due to lack of space, but the conclusions may apply to it in general terms.

The second section will focus on the issue of counter-terrorism: specifically on the UN in-house cooperation between the 1540 Committee and the counter-terrorism committees of the UN Security Council, at the regional, subregional and country levels. The third section will look at the issue of nuclear security by addressing cooperation with the IAEA, both at the level of the respective headquarters and at the regional and subregional levels. The issues of chemical and biological security are addressed elsewhere in this volume. Finally, the conclusion will include suggestions for the way ahead.

Challenges to the effective implementation of Resolution 1540 in the developing world

Patterns of 1540 implementation

It can be generalised that, with a few exceptions, the states of the Global North have dominated in reporting on the relevant measures they have in place, or in the pipeline, for the implementation of Resolution 1540. Most of the developing countries in the Global South have had fewer measures of direct relevance to report. However, after a decade not all the provisions of the resolution have been fully implemented by any member state. A graph in the 2008 report of the 1540 Committee to the UN Security Council3 gave a comprehensive statistical picture of implementation measures already in place or under way, four years after the adoption of the resolution. Globally, the lower end of implementation showed that about 60 states (almost one-third of UN members) reported measures that accounted for less than 10% of the requirements of the resolution – a ‘low’ rate as calculated in terms of 313 applicable cells of the committee’s matrix. At the higher end, only 10 states had reported having implemented over 90% of the requirements – a ‘high’ rate. The performance of most reporting states fell between these extremes – a ‘medium’ rate. A similar calculation done in 20114 showed some improvement in the rate of implementation, as it also reflected additional information from many states containing previously unreported or new measures. Unfortunately, no regional breakdown of these statistics has been done, as there was some resistance to doing such an analysis. A close look at all the matrices suggests that while most states in the Global North registered medium to high rates of implementation, most Global South states had low to medium rates of implementation.
This impression of implementation difficulties is reinforced when one looks at the nature and periodicity of reporting as at June 2015, by states in Africa, Latin America, South-East Asia and the Pacific islands. In Africa, only 37 states have thus far submitted a first report on the implementation of Resolution 1540, of which 10 have updated their reports by providing additional information. As of that date, 18 states are yet to submit a first report. In Latin America and the Caribbean, all except one of the 27 states of the region have submitted a first report and 18 have submitted additional information, including the six more economically advanced states (the countries of the Mercado Común del Sur, or MERCOSUR, namely Argentina, Brazil, Paraguay, Uruguay and Venezuela – and Mexico). The breakdown shows that the 18 countries that have submitted new information include four of the 14 reporting Caribbean states; four of the seven Central American states; and four of the five Andean states. In South-East Asia, all 10 of the Association of Southeast Asian Nations (ASEAN) states have submitted a first report, with seven having submitted additional information. In the Pacific area, 12 of the developing-country members of the Pacific Islands Forum (PIF) have submitted a first report, with two yet to report. None of them has provided additional information. Australia and New Zealand, also members of the PIF, have submitted both first reports and additional information.

These variations in the pace, periodicity and pattern of reporting in the three regions, combined with the earlier indication of a low-to-medium implementation rate, suggest the need for a region-by-region analysis of the nature of the challenges that have slowed implementation.

**Cooperation with the OAS and subregional organisations**

The main organisations that have collaborated with the 1540 Committee are the Organization of American States (OAS), and the Andean Group, the Caribbean Community (CARICOM) and the Central American Integration System (SICA).

**Cooperation with the OAS**

As a major continent-wide, intergovernmental organisation in the Americas, the OAS has made sustained efforts to facilitate the implementation of Resolution 1540 by its members. Since 2005 its highest organ has adopted several resolutions supporting the implementation of Resolution 1540. As successive chairs of the 1540 Committee have stressed in their addresses to OAS organs, this ongoing effort to secure high-level political support within the organisation and to integrate 1540 implementation into its relevant programmes may serve as a good example for other regional and subregional organisations.

Considering that all but one of its member states have submitted at least one report to the 1540 Committee and have taken a significant number of measures to implement Resolution 1540, the OAS’s efforts have now shifted to encouraging its members to address the remaining gaps in implementation, including adopting new measures in legislative frameworks and related enforcement actions. As will be explained below, these efforts have encouraged subregional organisations in Latin America to take complementary practical steps, especially with regard to coordinating assistance requests to the 1540 Committee for the benefit of their members.

Going beyond supporting the full implementation of Resolution 1540, the OAS is well placed to take appropriate decisions, not only by referring to its holistic concept of ‘cooperative security’ but also by focusing more sharply on the new security dimension represented by Resolution 1540, namely the nexus between non-state actors and the threat of WMD proliferation. This would mean expanding its counter-terrorism agenda by paying greater attention to its WMD dimension.
It appears as though the OAS Inter-American Committee against Terrorism (CICTE) is still largely focused on terrorism issues, even though it has been authorised to subsume the WMD dimension (but without changing its name).

**Challenges faced and responses by subregional organisations**

*Cooperation with CARICOM and SICA*

The location of the Caribbean Basin and Central America – hugging the Panama Canal shipping gateway between the Atlantic and Pacific oceans – demonstrates that the whole area is of strategic importance. This has increasingly made the small countries of the two subregions vulnerable to various forms of organised crime, the illicit trafficking of drugs and weapons, and even the risk of being used as safe havens for terrorist groups. After the 9/11 terrorist attack there has been growing concern that the inadequate capacity of these subregions will attract transnational terrorist operations and illicit activities related to the development of, or trafficking in, WMD-related materials, with possible connections to global terrorism. Thus building adequate capacity to secure ports and the subregions’ porous borders has become a priority for all the governments.

By 2005, as the UN Security Council and other UN bodies placed a higher priority on counter-terrorism, WMD security, and halting trafficking in drugs and weapons, the governments in the two subregions viewed those threats in the broader context of challenges to human security, poverty and development. The pervasive influence of organised crime was not only alarming in terms of regional security and stability but was also becoming detrimental to their economic development. It was then that the ‘Beyond Boundaries’ pilot project of the Stimson Center and the Stanley Foundation, with the government of Finland, brought together the 14 members of CARICOM to agree on a comprehensive strategy to address the security and socio-economic challenges facing those countries, thus putting capacity building at the centre. In terms of the objectives sought, the approach also became known as the ‘Dual Benefit Model’.

The requirements of close coordination necessitated the establishment of a dedicated regional focal point. It also meant the designation of a full-time regional coordinator funded by external sources. Thus, with such funding, CARICOM welcomed the ‘1540 Resolution Regional Coordinator’ to synchronise activities aimed at building non-proliferation capacity within the subregion. One of the functions of the coordinator is to increase awareness among Caribbean states of the scope of the threat posed by WMD proliferation – at both the policy and operational level within governments – in order to ensure their commitment to national action.

The success of this approach in the Caribbean encouraged the two innovative non-governmental organisations, joined by the OAS and the 1540 Committee and its experts, to also involve the eight Central American states in fine-tuning this approach for their own collaborative requirements. SICA was mandated to provide intra-regional coordination and serve as a point of contact with the 1540 Committee. This integrated approach thus emerged as a model for active governmental engagement and the coordination of assistance for the implementation of Resolution 1540, particularly in a subregion facing similar interrelated problems. As in CARICOM, SICA appointed a full-time 1540 Resolution Regional Coordinator to facilitate the implementation of the resolution. This was done in close cooperation with the national focal points and inter-ministerial groups, by articulating and synchronising governmental needs and helping to manage the available resources for capacity building. Both security and development objectives were to be met from a regional
perspective. For the 1540 Committee, an important aspect of the role of the regional coordinator is to help coordinate the preparation of national action plans.8

**Cooperation with the Andean Group**

In 2012, the Stimson–Stanley ‘Beyond Boundaries’ project was also introduced to the five states of the Andean Group, most of which had also experienced widespread violence and rampant crime. Some of these countries had seen sustained organised insurrections with pervasive economic and social disruptions. As they emerged from this situation, the difficult task of achieving a peaceful, democratic and prosperous society was complicated by new challenges to national security. This included the potential spread of global terrorism into the area with the possibility of illicit activities threatening safety and security, including in commercial shipping. The Andean Group thus welcomed the new approach of addressing as a package issues relating to the rule of law, underdevelopment and regional security – and to do so by adopting a collaborative approach, including building capacity to prevent WMD-related proliferation. Although the Andean Group has not appointed a dedicated regional coordinator, the task of coordinating the policies and activities of this relatively small group of states is carried out satisfactorily by its secretariat. In order to enhance the scope and quality of the implementation of the provisions of Resolution 1540, a coordinated effort is being made to encourage legislative reforms to narrow the gaps in implementation.9

**Cooperation with the African Union and challenges facing the region**

**Relations with the African Union**

Cooperation between the 1540 Committee and the African Union (AU) was initially spearheaded by the African Group at the UN, whose members were canvassed by the chair of the 1540 Committee, mainly to encourage them to intercede with their governments for the timely submission of their initial reports on the implementation of Resolution 1540. The campaign had limited success as regards the submission of reports, but the office of the African Group continued to serve as a helpful point of contact, both with African capitals via its member ambassadors and, more importantly, with the secretariat of the AU Commission in Addis Ababa.

The efforts of the African Group and of the chairmen of the 1540 Committee, especially those of South Africa’s Ambassador Baso Sangqu, were instrumental in persuading the AU to adopt a policy of support for Resolution 1540 and for the work of the 1540 Committee. Following a conference hosted by the South African government in collaboration with the AU, and supported by the United Nations Office for Disarmament Affairs (UNODA) and the Institute for Security Studies (ISS) in 2012, the AU adopted in 2013 a decision at the level of its supreme organ to have the AU Commission take the necessary steps to cooperate with the 1540 Committee. In December 2013, the AU, again with the support of UNODA, organised an additional workshop in Addis Ababa to further strategise on how best its member states can implement Resolution 1540.10

A good beginning has thus been made to involve the AU headquarters directly, now having an active point of contact in place, but in order to consolidate the cooperation, a special visit by the current 1540 chairman might be useful, as well as arranging for the current chairman of the AU Commission to address the 1540 Committee while visiting UN headquarters.

In terms of an Africa-wide legal framework to underpin the consultations, it should be noted that the Treaty of Pelindaba, which established the African Nuclear-Weapon-Free Zone,11 prohibits the
presence of any nuclear devices in Africa and requires each state party to prohibit, in its territory, the stationing of any nuclear device (Article 4) and to maintain the highest standards of security and effective physical protection of nuclear materials, facilities and equipment to prevent theft or unauthorised use or handling. To that end, ‘each party … undertakes to apply measures of physical protection’ (Article 10). Furthermore, the OAU Convention on the Prevention and Combating of Terrorism requires states parties ‘to develop and strengthen methods of monitoring and detecting plans or activities aimed at the illegal cross-border transportation, importation, export, stockpiling and use of arms, ammunition and explosives and other materials and means of committing terrorist acts’ (Article 4.2[b]).

Challenges and possible responses in the African region

It is evident from the quantitative assessments above that over one-third of African states have been unable to submit at least an initial report on the implementation of Resolution 1540. Most of the submitted reports are thin in content as to the range of required measures already in place. What are the challenges to be overcome and how can they be met effectively? With the notable exception of South Africa and the countries of Northern Africa, whose implementation performance rates are considerably higher, the following obstacles are often cited to explain the slow pace in other states:

- Threats to national and human security and safety: Some parts of the continent are beset with chronic conflicts and other disrupting catastrophes, such as the recent Ebola epidemic; porous and unsecured state boundaries, often vulnerable to illicit trafficking in goods, armaments and even people; and expanding terrorist operations affiliated to Al-Qaida and lately also the self-proclaimed Islamic State of Iraq and Syria (ISIS).

- Priority constraints: There is an understandable preoccupation with urgent development concerns in these countries, coupled with a chronic lack of human and financial resources to handle them unless the states receive adequate assistance for capacity building.

- Relevance of Resolution 1540: Despite the outreach efforts of the 1540 Committee, the resolution is widely seen as a legal obligation rather than an important tool to complement other mechanisms for state security.

The main challenge for the 1540 Committee is to convince high-level officials in African states that the effective implementation of Resolution 1540’s provisions would reinforce border controls against all forms of illicit trafficking, including materials related to WMD production or use. Ensuring control of any illicit transactions or activities that violate Resolution 1540 or the African Nuclear Weapon-Free-Zone Treaty would reinforce overall national and regional security to facilitate sustainable development.

The model developed by Stanley Foundation and Stimson Center staff in workshops with the participation of 1540 experts, could well apply in the Eastern African subregion and possibly in other subregions in Africa. Stressing the impact of recent catastrophic al-Shabaab incursions in his country, Ochieng Adala, an ambassador of Kenya states:

Building border security capacity in Eastern Africa is eminently important, not only to achieve broader regional security and development goals but also to create the framework necessary for implementing the ATT [Arms Trade Treaty], Resolution 1540, and other mandates. The
legally binding Nairobi Protocol for the Prevention, Control and Reduction of Small Arms and Light Weapons in the Great Lakes Region and the Horn of Africa bears a few similarities to certain global mandates, including Resolutions 1373 and 1540.13

The task of building synergy between the efforts to implement WMD non-proliferation measures and other measures aimed at enhancing national and human security and development can be facilitated by national focal points for the 1540 Committee and related bodies. Such a holistic approach would also sit well with most relevant regional and subregional bodies in Africa, such as the AU, the East African Community, the Intergovernmental Authority on Development, the Economic Community of Central African States, the Economic Community of West African States, and the Southern African Development Community.

**Challenges and responses in South-East Asia**

For the ASEAN countries, the progress made in socioeconomic development is accompanied by maritime security challenges, including piracy and trafficking in people, drugs and small arms, which necessitate strict controls. The security situation became graver as many of the countries were exposed to insurgencies. Thus, the issues of national and human security became intertwined and threatened the developmental objectives of many countries. By 2004, the region had a history of exposure to the illicit nuclear-related activities of the AQ Khan proliferation network and the activities of terrorist groups in some of the countries. It became evident that the demands of a growing economy would increasingly rely on advanced technology items that would expose countries to proliferation risks unless they reinforced and expanded their traditional control systems. As explained by a former deputy director general of the IAEA, recognition of these problems had to do with the region welcoming the integrated approach that is reflected in the ASEAN Vision 2012 comprising peace, security and development objectives, encompassing also the non-proliferation objectives of Resolution 1540.14 This is precisely the approach adopted in Latin America and the Caribbean in their ‘Beyond Boundaries’ model.

Although all the ASEAN countries are parties to the Southeast Asian Nuclear-Weapon-Free Zone Treaty and have a good record of submitting first and second reports on 1540 implementation, they recognise that their control measures need to be strengthened. Notably, the ASEAN Regional Forum, which addresses non-proliferation and disarmament issues, has arranged for the submission of a joint assistance request to the 1540 Committee, which could lead to the development of model legislation prepared by combined expertise from within and outside the region.

The threat of terrorism is a common thread among the challenges faced in the three regions discussed above. The next section will thus focus on the cooperation of the 1540 Committee with the other United Nations bodies dedicated to combating terrorism.

**Coordination and cooperation with UN counter-terrorism bodies**

Both Resolution 1977 and Resolution 1810 reiterate the need to enhance cooperation between the 1540 Committee, the Al-Qaida and Taliban Committee and the Counter-Terrorism Committee established pursuant to Resolution 1373, including through ‘enhanced information sharing, coordination on visits to States, within their respective mandates, technical assistance and other issues of relevance to all three committees’.15
Cooperative arrangements at headquarter level and results

The nexus between non-proliferation and counter-terrorism is inherent in the prohibition of various nefarious activities by non-state actors as outlined in Resolution 1540, to prevent proliferation-related activities in all WMD categories, with specific reference to activities by ‘non-state actors’ for terrorist purposes. The UN Security Council has used this notion to urge close cooperation among its relevant subsidiary bodies: the 1540 Committee, the 1267 Al-Qaida and Taliban Committee and the 1373 Counter-Terrorism Committee. As a result, the following mechanisms and arrangements for coordination have been developed:

1. Joint briefings by the chairs of the three committees to the UN Security Council twice a year, devoted to a progress report on the coordinated implementation efforts to enhance implementation. In addition to separate remarks on the progress made by each committee and its expert group, the chairs take turns to deliver a joint statement to underline their joint efforts. Since the three committees have identical membership, this arrangement has been useful in pressing their separate expert groups to cooperate closely.

2. Meetings among the expert groups have been held as needed and, occasionally, among their leaders to exchange information, agree on methods of collaboration, plan joint or coordinated country visits and plan and carry out a common strategy on encouraging reporting by states on the implementation of the respective resolutions. The electronic exchange of information and correspondence has enhanced collaboration, but this does not happen frequently enough and not to the extent expected by the UN Security Council, as reiterated by some member states.

Progress made

In a decade of cooperative efforts, the expert groups have not only cooperated in exchanging information but have also held joint meetings, attended each other’s meetings, cooperated on outreach activities and, notably, conducted joint regional meetings on reporting, based on a ‘common strategy’. They have also arranged a few joint training programmes and actively cooperated with other organisations and departments in the UN system under the umbrella of the UN Counter-Terrorism Implementation Task Force (CTITF).

Main challenge

First, the three groups still appear to have some difficulty in reconciling their predisposition to autonomy in carrying out their individual mandates. This is in contrast to their remarkably integrated approach to facilitate reporting by states based on the common strategy mentioned earlier. It has not helped that some UN Security Council members with separate departments dealing with non-proliferation and counter-terrorism are cautious about diluting the individual mandates of the three committees. This was evident when an attempt was made to expand the scope of the common strategy to other areas.

Second, the loss of the benefits derived from the initial co-location of the offices of the three expert groups at the Chrysler Building has been counterproductive. Co-location facilitated daily contacts and personal bonding and had the potential to allow participation in common services. It can reasonably be argued that proximity had facilitated the agreement on the initial common strategy on reporting.

A third difficulty is the workload of the small professional staff of each group. They are often preoccupied with substantive implementation tasks in their own areas, which involves a lot of travel.
and thus limits opportunities for more headquarter-based collaboration. However, nothing prevents the leaders of the three groups from meeting more frequently.

Cooperation within the CTITF

As member entities of the CTITF, the three expert groups benefit from this platform, both to enhance cooperation among themselves and interact with over 30 UN organisations, agencies and programmes concerned with various aspects of counter-terrorism. Of particular relevance to the 1540 Committee and its expert group is the CTITF working group on preventing and responding to WMD attacks. The working group on border management as regards counter-terrorism is of common interest to all three expert groups, as are the working groups on money laundering and combatting terrorist financing. A spin-off of this thematic cooperation has been the coordinated participation of the three expert groups in the meetings of the Financial Action Task Force and their contribution to the review of its standards and methodology. The cooperation within the CTITF has also spawned a number of regional workshops of interest to the three groups.

Cooperation at regional, subregional and country levels

The cooperation among the three UN Security Council committees at the regional and subregional levels has taken place in the context of outreach workshops and seminars for national officials from the various ministries concerned with non-proliferation and counter-terrorism. Those events consist of presentations by experts on the implementation requirements and how to overcome obstacles, but they also include brief one-on-one dialogues with each country delegation. These have been effective in terms of awareness raising and stressing the benefits of inter-ministerial coordination. However, the individualised dialogues have been too short to have much impact.

The occasional continent-wide regional meetings of the 1540 Committee have been useful for sharing lessons learnt. For example, the 1540 Seminar for Latin America and the Caribbean, held in Lima, Peru in October 2010, was innovative. In addition to the individual country dialogues, a roundtable session for all the country teams revealed the value of that format for horizontal dialogue and experience sharing, resulting in the cross-fertilisation of ideas. The dialogue between the larger MERCOSUR countries and the smaller Andean, Central American and Caribbean countries was of great value in this regard.

Country-level cooperation between the 1540 experts and regional organisations has generally been weak or non-existent, in contrast to the growing focus on strengthening cooperation with subregional organisations (except in the African subregions). The experience of the counter-terrorism committees is no different. It is now time to build on the country level as an adjunct to attracting relevant external assistance.

Cooperation with the IAEA for effective implementation of Resolution 1540

The complementarity of the non-proliferation mandates of the IAEA and the 1540 Committee is emphasised in both Resolution 1540 and the resolutions of the General Conference of the IAEA. In Resolution 1540, the UN Security Council

[calls upon all States: … To renew and fulfill their commitments to multilateral cooperation, in particular within the framework of the International Atomic Energy Agency, the Organisation
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.¹⁸

In its preamble the resolution mentions specifically the promotion of universal adoption, full implementation and, where necessary, strengthening of those multilateral treaties aimed at preventing the proliferation of nuclear, biological or chemical weapons. It also stresses the direct relevance of the requirements embodied in the Convention on the Physical Protection of Nuclear Material and those recommended by the IAEA Code of Conduct on the Safety and Security of Radioactive Sources. Furthermore, in Resolution 1810, the UN Security Council decided to encourage the 1540 Committee to engage actively with States and relevant international, regional and subregional organizations to promote the sharing of experience and lessons learned in the areas covered by resolution 1540 (2004), and to liaise on the availability of programmes which might facilitate the implementation of resolution 1540 (2004).¹⁹

Thus, an explicit basis for cooperation is provided in the two resolutions, which has been welcomed and reciprocated in successive resolutions of the IAEA General Conference. Recently Resolution GC(57)/RES/10 of September 2013 reiterated the policy to guide the Agency’s assistance and cooperation, stating that it:

[r]ecognizes and supports the Agency’s continuing work to assist upon request, States’ efforts to establish effective and sustainable national nuclear security regimes, to fulfill their obligations under United Nations Security Council resolution 1540 and to the 1540 Committee, provided that the requests are within the scope of the Agency’s statutory responsibilities.²⁰

These policy prescriptions have been put into effect through sustained cooperation between the 1540 Committee, assisted by its experts, and the secretariat of the IAEA.

Cooperative arrangements at headquarters level

At the level of their respective headquarters in New York and Vienna, the pattern and content of the 1540–IAEA cooperation has expanded during the past decade to include the following:

• Occasional special sessions of the UN Security Council dedicated to cooperation with the main intergovernmental organisations actively concerned with issues of WMD proliferation, initially the IAEA, the Organisation for the Prohibition of Chemical Weapons and the World Customs Organization

• Occasional reciprocal visits between the director general of the IAEA and the chair of the 1540 Committee, respectively to New York and Vienna, to hold consultations on priority areas for developing cooperation, especially in the IAEA’s fields of nuclear safety and security, legislative advisory services and other relevant programmes of assistance to member states

• Ongoing interaction and cooperation between the 1540 expert group and the ‘focal points’ at the IAEA, i.e. the director of the IAEA New York Office and the Vienna Office for External Relations and Policy Coordination, for ongoing liaison and contact with relevant IAEA departments

• Periodic visits to the IAEA headquarters by members of the 1540 expert group to consult with IAEA staff from the departments of Nuclear Safety and Security, and Technical Cooperation, as well as the Office of External Relations and Policy Coordination, the locus of the HQ Point of Contact, to exchange information and identify topics and procedures for cooperation in specific
areas (consultations were effectively combined with attendance by 1540 experts in the IAEA training workshops to explain the 1540 mandate, and participation in symposiums of high-level experts on nuclear security and the safety of radioactive materials).

Challenges and achievements

Despite these dialogues and collaborative efforts, the missions encountered some institutional and procedural obstacles inherent in the autonomous character of the IAEA and the nature of the 1540 Committee. Firstly, both the IAEA and the 1540 Committee are country-oriented, that is, they place primary responsibility for the implementation of their respective programmes on member states themselves, in accordance with national policies and procedures. They take action only upon the request or with the consent of member states. Secondly, full exchange of information is hindered by normal confidentiality rules on both sides, which applies to some of the information submitted by member states. Prudence suggests that ‘no short cuts’ be taken, but that creative ways be found to cope with the confidentiality issue. This has been possible thanks to the presence in each institution of personnel who had knowledge about and working experience in both institutions. Thirdly, meaningful collaboration appeared to be inhibited at first by the contrast between the IAEA's large and well-developed implementation capacity and programmes and the modest implementation capacity of the 1540 Committee. However, this imbalance has been corrected by two assets of the 1540 Committee:

- The centrality of the mandate of the UN Security Council as a custodian of the maintenance of peace and security and the overarching mandate of the 1540 Committee regarding the non-proliferation of WMD
- The 1540 Committee’s ability to attract both partners for collaboration and special funds from donors for workshops in all regions and also for some country projects

Overall, considerable progress has been made to advance a dialogue, but more needs to be done to optimise the depth of collaboration at the headquarter’s level.

Elements for further collaboration

- Identification of 1540-relevant IAEA programmes and activities to:
  - Provide legislative assistance and advisory services to enable states to adopt necessary laws
  - Train state officials on implementing the legal instruments and strengthening states’ systems for controlling nuclear material and related technology
  - Support states to ensure the development of high standards of physical protection of nuclear material and nuclear facilities
  - Support states’ efforts to upgrade border controls in order to detect illicit trafficking of nuclear material and related technology\(^{21}\)
- Informal exchange of information: After fully exploiting the growing volume of programme information available in open sources, to engage in dialogues on the possibilities for informal exchanges of information when confidentiality rules restrict formal exchanges.
- Ad hoc partner status: The 1540 expert group to make full use of the ‘partner status’ for secured access to the IAEA’s Nuclear Security Portal, a collaborative website for information exchanges among states and other IAEA partners.
• Assistance: As the IAEA confirmed that many of the 12 assistance requests from states referred to it by the 1540 Committee in 2010 were already covered by existing or planned projects, the Agency agreed to check future requests in the context of its Integrated Nuclear Security Support Plans, comprising information from states that had already subscribed to the agency’s nuclear security goals.

• Direct requests: As a matter of procedure, the IAEA has recommended that any state requesting assistance in the nuclear field should be encouraged to approach the IAEA directly, or apply simultaneously to the 1540 Committee, in order to make such a request actionable at the outset.

Useful concepts and practices

From the dialogues and the participation of the 1540 experts in IAEA symposiums, as well as from the Agency’s reports and website, it is possible to obtain useful lessons from the integrative approaches developed by the IAEA for the effective implementation of its programmes within member states. The main practices of relevance to the 1540 Committee are:

• Consideration of the state as a whole: The IAEA’s holistic approach began in the early 1990s when it adopted the concept of the ‘state as a whole’ in the implementation of comprehensive safeguard agreements. It was thus able to integrate and assess all the information available to it about a state’s nuclear activities and plans to compile state evaluation reports.22

• ‘One House Initiative’ on technical assistance: This is a concept of delivering assistance, under the coordinative umbrella of the Department of Technical Cooperation, as a packaged programme comprising elements of scientific and technological services by various departments, often combined with legal services.23

• Integrated Nuclear Security Plan: Now in its fourth phase (ending in 2017), this plan is a comprehensive approach to counter the danger from nuclear or other radioactive materials being used for criminal or otherwise malicious acts, including terrorism. The ultimate purpose is to assist states in their efforts to establish and improve nuclear security regimes. It is notable that the IAEA’s notion of the threat posed by WMD and related materials is broader than the scope of the definitions given in Resolution 1540, as it includes ‘other radioactive sources’ and ‘radiological weapons’.24 In a broader sense, nuclear security, safety and safeguards are viewed in an interrelated manner, emphasising the need for a seamless synergy among the components in both the planning and execution of programmes.

These integrative approaches have been welcomed by member states, especially the developing countries, as they reinforce the trade-off requirements of the IAEA’s ‘Atoms for Peace’ mandate. This effectively combines in a quid pro quo manner nuclear regulatory functions and development priorities within a country’s nuclear programme. This approach has also made programme implementation more efficient and less onerous for member states.

Cooperation with the IAEA at regional, subregional and country levels

Cooperation between the 1540 Committee and the IAEA at the regional and subregional levels has been mainly in the context of regional or thematic workshops, seminars and conferences, organised for the 1540 Committee by the UN Office for Disarmament Affairs (UNODA), some of which are sponsored by international, regional or non-governmental organisations. IAEA representatives
have been routinely invited to all relevant workshops focusing on Resolution 1540, and have attended most of them. Similar to the opportunities provided by the IAEA to the 1540 experts at its headquarters, the 1540 events offered opportunities to IAEA staff to brief country participants on the relevant country-level work of the IAEA within the region concerned. Often the staff members were also able to conduct informal dialogues with selected participants. This forum is valuable for raising awareness and serves as another venue for exchanging programme information.

What is lacking is country-level collaboration between the IAEA and the 1540 Committee. The IAEA has extensive and longstanding programmes at the country level, in the form of country missions and ongoing assistance projects. The 1540 Committee does not have such a presence and could benefit from the IAEA’s programmes.

The 1540 Committee has two new relevant activities: a recently launched set of invitational country visits and a campaign to encourage states to adopt national implementation plans for Resolution 1540, with technical advice if needed. These are promising forums for cooperation with representatives of the IAEA and other relevant organisations, but they require coordinated planning to ensure effective participation and mutually beneficial results. Even without achieving combined missions, separate but effectively coordinated country missions by any of the organisations would foster both efficiency and effectiveness, as well as alleviate the burden on host countries. Streamlining the cross-government coordination mechanisms and focal points relating to WMD non-proliferation and counter-terrorism can also ease the pressure of implementation, especially for developing countries with limited personnel resources. In both aspects the vast country experience and extensive implementation networks of the IAEA would be of great value to the 1540 Committee. The same is true of the OPCW’s experience and networks.

Conclusion and recommendations

This paper has addressed the issue of implementation of Resolution 1540 in the developing world, both from the regional and thematic perspectives. The UN Security Council leaves it to states to use ‘their national procedures … to enforce appropriate effective laws…’, without imposing any procedures on them. However, if this flexible approach is to be effective, it is necessary to develop further the analytical tools of the 1540 Committee to include typologies and models to assist the majority of states to take measures they consider most responsive to the totality of their threats, which may vary from state to state and from region to region. Effective implementation at the country level also requires close cooperation with those international, regional and subregional organisations that are implementing relevant programmes. Accordingly, the following observations and recommendations are presented for consideration.

In terms of enhancing cooperation between the 1540 Committee and intergovernmental organisations at the international, regional and subregional levels, procedures and arrangements for collaboration were well established by the time of the 2009 Comprehensive Review. They have since then served as a good basis for building further collaboration to achieve broader and deeper implementation of Resolution 1540. The description and analysis given in this paper outlined the possibilities for progress as well as the institutional constraints with respect to cooperation with the IAEA, the UN Security Council’s counter-terrorism committees and the regional and subregional organisations examined here.

Despite maintaining a high number of outreach activities with an increasing range of themes and innovative approaches, it appears that the rate of implementation by states has not accelerated, judging from the slow pace and usually scanty contents of new additional reports.
The approach of the 1540 Committee and its group of experts has so far been to assess the status of implementation in a quantitative and statistical sense, using the extent of filled matrix cells as an indicator. It would be worthwhile at this stage to do a systematic qualitative assessment of the contents of those cells to determine how far the regulations and enforcement measures recorded therein have gone in meeting the ‘full implementation’ requirements of Resolution 1540. Although the matrices have been used for dialogues with individual states to solicit reports and fill empty cells, the adequacy of the already filled measures has hardly been questioned in the dialogues.

As the serving 1540 group of experts is too busy, an analysis of country matrices is proposed, based on a qualitative review of states’ national reports, to be done by former experts and other outside consultants. The types of legislation and other measures reported, with the dates of adoption, may throw light on how remaining gaps in measures may best be addressed.

The analysis of the 1540 Committee’s cooperation with regional organisations in the developing world suggests that useful arrangements have been made with the OAS, whose concept of broad security, including WMD security and counter-terrorism, has resonated among subregional organisations in Latin America. The OAS’s approach to Resolution 1540 may be of interest to the AU.

The concept of broad security could be brought to the attention of the AU for possible endorsement in a resolution or a decision. The effort might require higher-level contact with the AU, since using the African Group at the UN as a point of contact has not been successful.

Within the OAS region, the broad concept of security has been elaborated by CARICOM, SICA and the Andean Group as subregional bodies responding to the particular interests of their member states. Thus the security requirements include not only the concerns of Resolution 1540 and threats of terrorism but also the trafficking of small arms and other organised crimes, and, synergistically, development-related alienation.

It is suggested that the concept of broad security in the sense of the ‘Beyond Boundaries’ (or ‘Dual Benefit’) approach elaborated in the Stanley Foundation/Stimson model be tested by the 1540 Committee and its expert group in subregional workshops in Africa and parts of Asia. The committee can also use the concept in dialogues with national officials to consider how best existing legislation and regulations can be modified to accommodate the requirements of Resolution 1540.

Cooperation with the 1373 Committee and the 1267 Committee had a good start, but closer cooperation is needed at the country level. The emerging broad concept of national security can also be helpful in this regard.

In this light, the three committees could revive efforts to design a new ‘common strategy’ to present the non-proliferation and counter-terrorism concerns in tandem, in accordance with the security priorities of smaller countries in particular. The strategy should include designating common points of contact and coordinating efforts regarding national implementation plans.

There is a potential for close cooperation in advising states on drafting relevant legislation on both counter-terrorism and non-proliferation. As a catalyst for closer day-to-day cooperation among the expert groups of the three committees, the idea of co-location of their offices deserves further consideration.
Cooperation with the IAEA has reached a high point at the headquarters level, but country-level cooperation is yet to be developed. The IAEA’s integrative nuclear security and ‘state as a whole’ approaches may provide useful concepts to frame dialogues on cooperative programmes.

It is suggested that country-level cooperation between the IAEA and the 1540 Committee be explored regarding legal advisory services, legislation and capacity building for nuclear security. It would be useful to use the outcome of the matrix analysis in this regard.

Notes

1 This paper is mostly based on unpublished internal documents and the experience of the author as a former member of the 1540 expert group and former IAEA staff member.

2 Based on the remarks of more than one chair of the 1540 Committee: initially Ambassador Peter Burian at an OAS Special Meeting in Washington DC on 11 November 2006; later by Ambassador Jorge Urbina at a discussion hosted by the Stanley Foundation and Henry L. Stimson Center on 7 May 2009. The latter spelled out three reasons why small states should be interested in Resolution 1540: to deny a safe haven to terrorists smuggling goods in transit, and financing and brokering sales of WMD-related items; to enhance security to promote trade and development; and to build capacity for border controls and robust accounting to prevent all types of illicit activities, including drugs, hazardous substances and small arms.

3 UN doc. S/2008/493, Annex V.

4 UN doc. S/2011/529, Annex V.

5 OAS doc.AG/RES. 2107 (XXXV-0/05), AG/RES. 2333 (XXXVI-0/07), AG/RES. 2358 (XXXVIII-0/08), AG/RES. 2534 (XL-0/10)/05.

6 The information on security challenges and some analysis on strengthening cooperation by the 1540 Committee and its experts with subregional organisations are partly drawn from a symposium publication: see Brian Finlay (ed.), Southern flows: WMD nonproliferation in the developing world, Stanley Foundation and Stimson Center, 2014; see especially 8–26.

7 The 1540 Resolution Regional Coordinator for CARICOM has done a great deal to articulate his functions through his public statements and in articles: see O’Neil Hamilton, Engaging whole community: the role of industry and intergovernmental organizations in furthering nonproliferation goals and implementing UNSCR 1540, Stanley Foundation, Policy Analysis Brief, June 2012; O’Neil Hamilton, Nonproliferation in the Caribbean basin, in Brian Finlay (ed.), Southern flows: WMD nonproliferation in the developing world, Stanley Foundation and Stimson Center, 2014, 31–49.

8 For an article written from the vantage point of a SICA regional coordinator for Resolution 1540, see Alexander Chacon, Nonproliferation in Central America, in Brian Finlay (ed.), Southern flows: WMD nonproliferation in the developing world, Stanley Foundation and Stimson Center, 2014, 53–65.


16 The mechanisms and arrangements for coordination and the practices of cooperation among the 1540 Committee, the 1267 Al-Qaida and Taliban Committee and the 1367 Counter-Terrorism Committee are explained and updated in semi-annual joint briefings by the chairs of the three committees to the UN Security Council. See United Nations Security Council, Subsidiary organs, http://www.un.org/en/sc/subsidiary/.
The UN Security Council stressed the need for strengthening cooperation among the three expert groups in its resolutions 1963 (2010), 1977 (2011) and 2083 (2012).

UN Security Council resolution 1540 (2004), op. para.8 (c).

UN Security Council resolution 1810 (2008), op. para.11 (d).

IAEA General Conference resolution GC(57)/RES/10, op. para.16, September 2013.


IAEA, IAEA safeguards serving nuclear non-proliferation, IAEA Department of Safeguards, 2015, 11–13.


Ibid., 30–32.
Patrice Palanque

Cooperating with international, regional and subregional organisations: achievements, challenges and the way forward

This chapter is based on examples from the Organisation for the Prohibition of Chemical Weapons (OPCW) and the European Union Chemical, Biological, Radiological and Nuclear Risk Mitigation Centres of Excellence (EU CBRN CoE) Initiative.

Introduction

Drafters of Resolution 1540, unanimously adopted on 28 April 2004 under Chapter VII of the United Nations (UN) Charter, took particular care to strongly stress its complementary role in respect of other treaties or conventions, such as the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), the Chemical Weapons Convention (CWC) and the Biological Weapons Convention (BWC).

Eleven years after the adoption of the resolution, the 1540 Committee has compiled a unique and comprehensive database of legislative and administrative measures related to the non-proliferation of weapons of mass destruction (WMD) and their means of delivery, based on the reporting of 174 member states.

The purpose of this chapter is to provide some practical suggestions for maintaining and enhancing cooperation at the working level between the committee and a number of relevant international and regional organisations, in particular on questions of national implementation. This chapter underlines the existence of tools, mechanisms and programmes that may be used by states to foster mutually reinforced national implementation measures that are compliant with the provisions of the 1540 Committee and other relevant international and regional organisations. Using resources already available in a country or in a region will also avoid unnecessary duplication. These objectives would be reached by enhancing internal coordination and cooperation at national, regional and international levels.

In this context, this chapter will discuss some of the resources developed by the Organisation for the Prohibition of Chemical Weapons (OPCW) for the implementation of national measures under Article VII of the CWC. It will also address whether some of the tools or mechanisms developed under Article X
(Assistance and Cooperation) and Article XI (International Cooperation) of the convention could be of any use to states in discharging their obligations in respect of Resolution 1540.

It will also discuss the functioning of the European Union Chemical, Biological, Radiological and Nuclear Risk Mitigation Centres of Excellence (EU CBRN CoE) Initiative and highlight a number of tools and projects that could be useful to the work of the 1540 Committee.

Finally, the chapter will present a number of possible ways of enhancing cooperation and coordination at the working level between the 1540 Committee and its group of experts, other relevant international and regional organisations, and states. These options, together with other suggestions emerging from the meeting in Cape Town, would need to be supported through the respective policymaking organs of these organisations for effective implementation.

Activities of the OPCW of possible relevance to the work of the 1540 Committee

After some 25 years of negotiations, the CWC was opened for signature in Paris on 13 January 1993 and came into force on 29 April 1997. The OPCW has been operating for some 18 years. As at 30 September 2015, there are 192 states party to the convention. One signatory state (Israel) is yet to accede to the convention, while three states (Democratic People’s Republic of Korea, Egypt and South Sudan) have yet to sign or accede.¹ In 2013, the OPCW was awarded the Nobel Peace Prize “for its extensive efforts to eliminate chemical weapons”.²

The CWC is now unanimously recognised as a unique and mature multilateral instrument that bans an entire category of weapons of mass destruction. However, combating terrorism involving the use of chemical materials is not within its mandate.

Cooperation between the OPCW and the 1540 Committee began in 2005, when the then director-general, Ambassador Rogelio Pfirter, addressed the committee at the invitation of its chairman on 13 April.³ Such cooperation takes place within the Relationship Agreement between the UN and the OPCW, dated 1 September 2000.⁴

The OPCW has put in place comprehensive programmes with a view to assisting its member states to enact the required legislation for the implementation of the CWC. The convention provides that all member states must incorporate its provisions into their domestic legislation. Under the provisions of Article VII,⁵ they have to report on steps taken to comply with the national implementation of the convention. In this regard, the director-general of the OPCW reports to the policymaking organs through two comprehensive and detailed statements on the status of the implementation of Article VII of the convention.⁶ Such information, which is available on the OPCW website, could be very useful to the group of experts of the 1540 Committee. These documents are quite complex and it is anticipated that their benefit would be significantly increased through cooperation, at the working level, with OPCW staff members. It could also be of great importance for implementers of the EU CBRN CoE Initiative, in particular when conducting projects related to the strengthening of the chemical legal framework. This work is complementary to the requirements of Resolution 1540 and to the work of the EU CBRN CoE Initiative.

Article VII of the CWC also provides for the designation or establishment of a National Authority. The National Authority serves as, among other things, the national focal point when liaising with the OPCW and other states party to the convention. As at 28 May 2015, 188 National Authorities had
been established.\textsuperscript{7} As one of the means of monitoring its activities, the OPCW convenes the Annual Meeting of National Authorities at the end of November, the week before the regular session of the Conference of the States Parties. The meeting is held at the Technical Secretariat in The Hague, the Netherlands. The annual meeting is generally well attended by representatives of National Authorities\textsuperscript{8} and is an opportunity to discuss questions related to national implementation.

The OPCW has also developed a number of tools and programmes that can be useful to the work of the 1540 Committee and its group of experts, as well as to national experts. Some of the tools can be found on the website of the organisation,\textsuperscript{9} and can be used by OPCW National Authorities to take the necessary steps to further their national implementation of relevant legislations and administrative measures.

The OPCW has set up an e-learning tool,\textsuperscript{10} which addresses topics such as the effective running of a National Authority or national legislation required under the CWC. It is available on the OPCW's website.

As for programmes, the OPCW has put in place an Internship Programme for Legal Drafters, a one-week drafting training course. Held at the Technical Secretariat in The Hague, the programme is available in English, French and Spanish. Trainees are given a thorough understanding of the convention as well as the opportunity to draft convention-related documents according to the situation of their country. The Technical Secretariat of the OPCW usually conducts four of these training courses per year.\textsuperscript{11}

In 2000, the OPCW launched the Associate Programme,\textsuperscript{12} a nine-week training course that provides opportunities for scientists to familiarise themselves with modern chemical plants and universities throughout the world. As at 31 December 2013, some 329 experts had been trained under this programme.\textsuperscript{13}

The Programme to Strengthen Cooperation with Africa\textsuperscript{14} was established in 2007 to address the specific needs of African member states, in particular on issues linked to national implementation measures. In 2013, the policymaking organs of the OPCW decided to extend the programme to 31 December 2016.\textsuperscript{15} This is another programme on which the 1540 Committee, the EU CBRN CoE Initiative, other international and regional organisations, and relevant states (through their OPCW National Authority) could build, in close coordination with the OPCW. Moreover, it is worth mentioning the recent establishment of a National Authority mentorship/partnership programme, in which African member states have expressed great interest with a view to developing their National Authority capabilities.\textsuperscript{16}

In its 2011 report, the 1540 Committee acknowledged the existence of some of the abovementioned tools, mechanisms and programmes, including the OPCW legislation database, the Handbook on Chemicals (which facilitates the identification of chemicals covered by the convention) and a model decree developed by the OPCW for the establishment of a National Authority.\textsuperscript{17}

Clearly, activities conducted by the OPCW with regard to national implementation under Articles VII, X and XI are opportunities on which both the 1540 Committee and the EU CBRN CoE Initiative could build for related activities at the level of the member states or partner countries. The extensive scope of training provided by the OPCW covers areas such as long-term capacity building projects for personnel involved in emergency response units, chemical sampling and analysis and chemical safety management, as well as assistance and protection against chemical weapons. Although some of these activities may not be directly relevant to the work of the committee, they should
significantly contribute to the setting up and development of national networks of qualified experts in a number of countries in different regions, on which both the committee and the EU CBRN CoE Initiative could also heavily rely. For ease of reference, a table summarising capacity-building activities found on the OPCW website is provided at the end of this chapter.

It should be mentioned that all tools, mechanisms and programmes developed by the OPCW are funded either by its regular budget and voluntary contributions from member states, or by funding provided by the European Union under the Joint Actions and Council decisions.18

**Activities of the EU CBRN CoE Initiative of possible relevance to the work of the 1540 Committee**

In 2010, the European Union launched the EU CBRN CoE Initiative, which aims to address the mitigation of risks posed by CBRN materials. The origin of these risks can be criminal, accidental or natural. The initiative also seeks to boost cooperation at national, regional and international levels, and to develop a common and coherent CBRN risk-mitigation policy at national and regional levels.

The initiative is implemented and funded by the European Commission Directorate-General for International Cooperation and Development (DG DEVCO) – with the support of the Joint Research Centre (JRC), in cooperation with the United Nations Interregional Crime and Justice Research Institute (UNICRI). The European External Action Service is also deeply involved in the follow-up of the initiative.

Consortia composed of a lead agency from European member states and other contractors implement the projects approved by the European Commission.

As at 28 May 2015, the initiative is present in 51 partner countries, in the following regions:19

- African Atlantic Façade (Benin, Côte d’Ivoire, Gabon, Liberia, Mauritania, Morocco, Senegal, Togo)
- Central Asia (Afghanistan, Kyrgyzstan, Tajikistan, Uzbekistan)
- Eastern and Central Africa (Burundi, Democratic Republic of Congo, Ghana, Kenya, Malawi, Rwanda, Seychelles, Uganda, United Republic of Tanzania, Zambia)
- Gulf Cooperation Council Countries (Qatar, Saudi Arabia, United Arab Emirates)
- Middle East (Iraq, Jordan, Lebanon)
- North Africa and Sahel (Algeria, Libya, Morocco, Niger, Tunisia)
- South East Asia (Brunei Darussalam, Cambodia, Indonesia, Lao People’s Democratic Republic, Myanmar, Philippines, Singapore, Thailand, Vietnam)
- South East Europe, Southern Caucasus, Moldova and Ukraine (Albania, Armenia, Bosnia and Herzegovina, Georgia, Moldova, Montenegro, Serbia, The former Yugoslav Republic of Macedonia, Ukraine).

Morocco participates in two regions: as a regional coordinator of the African Atlantic Façade and an observer in the North Africa and Sahel region.

Participation of partner countries in the initiative takes place on a voluntary basis. Ideally, once they have joined, one of their first tasks is to identify their needs for CBRN risk mitigation. This is achieved through a needs assessment process,20 conducted with the assistance of the JRC and UNICRI. Needs assessment questionnaires21 are normally used for the development of a National...
Action Plan,²² which will be instrumental in building or improving the partner country’s national CBRN capacities through a number of projects funded by DG DEVCO.

Each partner country is required to establish a national focal point to ensure coordination at a national level. It is also required to create a CBRN National Expert Team (NET), which is generally composed of representatives and experts from relevant ministries and agencies. The CBRN NET contributes to the assessment of the country’s needs, formulates project proposals, participates in the development of projects once approved by DG DEVCO, and promotes coordination of the CBRN policy among the relevant national institutions.

A regional secretariat operates within each of the regions mentioned above, with a view to developing and ensuring a high level of cooperation and coordination between partner countries, other partners, donors and international organisations. The regional secretariat is also responsible for coordinating and facilitating the implementation of the EU CBRN CoE projects at a regional level. Each regional secretariat is usually composed of a head (provided by the host country), a deputy head (provided by a partner country of the region), an assistant and CBRN experts. In addition, UNICRI usually provides a regional coordinator.


Since its establishment, the EU CBRN CoE Initiative has developed about 47 projects, some of which address areas covered by Resolution 1540. A number of the projects cover areas such as the strengthening of the CBRN legal framework. Others develop measures and training related to transit and trans-shipment controls, import and export controls, illicit trafficking and border controls. Another set of projects establishes or enhances the crisis management, first-response and post-incident-recovery capabilities of partner countries. The EU CBRN CoE Initiative has also developed several projects that address denial of support of both the misuse of CBRN materials and of terrorism, areas that fall within the scope of the 1540 Committee’s work.²⁴

Detailed information of the projects completed or under way is also available on the website of the EU CBRN CoE Initiative.²⁵ The page on projects provides detailed information, such as the title and the objectives of the project, the target regions, the allocated budget and the name of the lead agency or institutions responsible for its implementation. The EU Commission has allocated some €50 million for the implementation of projects 1 to 40 (project 20 was withdrawn).

For some projects, such as project 35,²⁶ a website has been set up that contains information about the project objectives, national focal points, and key experts and national experts involved in the implementation of the project. Project 35 also provides other resources, such as an online library of conventions and projects relevant to its work.

An analysis of the information found on the websites of the 1540 Committee, the OPCW and the EU CBRN CoE Initiative reveals that, whether mandatory or not, there is a need to establish specific mechanisms for communication and liaison. Further studies show that (with the exception of the
EU CBRN CoE, for which the composition of the national focal points is not available on its public
website) a majority of countries have opted for different entities that have little interaction. Only a few
of them are using the same entity to liaise with the OPCW and the 1540 Committee.

Possible ways of enhancing cooperation and coordination between
the 1540 Committee and relevant international organisations

There are a number of overlaps in the activities conducted by the 1540 Committee, the OPCW
and the EU CBRN CoE Initiative. There are also a number of complementarities, which could
be extremely useful to each other. The most obvious one covers national implementation. As
an example, implementers of the EU CBRN CoE Initiative may want to recommend that partner
countries use resources available on the website of the committee, such as its approved matrices.27
The committee’s approved matrices and national reports contain useful, publicly available
information on national implementation. EU implementers can take advantage of this information, in
particular for projects aimed at strengthening the legal framework of the partner countries. Similarly,
the activities carried out in the framework of the EU CBRN CoE Initiative’s needs assessment
questionnaires could benefit the work of the 1540 Committee and certain international organisations,
in particular in the area of national implementation.

Enhanced coordination and cooperation at the working level should be considered with a view
to fostering practical working procedures so as to, in particular, effectively draw on each other’s
relevant tools, mechanisms and programmes. In this regard, the 1540 Committee and its group
of experts could be invited by the OPCW to attend the plenary session of its Annual Meeting of
National Authorities and participate in the bilateral meetings. This could be a way to maintain close
working relationships and a focused dialogue, which will assist in ensuring effective coordination
between the two entities.

OPCW staff members could be invited by the EU Commission to contribute to the work of the
EU CBRN CoE Initiative. The purpose would be to draw more systematically on the OPCW’s
experience with regard to activities related to assistance and protection against chemicals, rather
than limiting the cooperation to exchanges of views.28 Member states could also share with the
1540 Committee and the EU Commission information on personnel with relevant training who could
be requested to help in their respective fields.

As for national focal points or National Authorities, states with scarce human and financial resources
may want to consider optimising the use of such resources, in particular with a view to avoiding
duplication of effort and seeking the best value for money. At least, the staff of these different entities
should know each other and be part of their CBRN national network of experts.

States should also consider drawing on the different tools, mechanisms and programmes that are
developed by international and regional organisations. As an example, the OPCW had trained a total
of 4,364 beneficiaries as at 31 December 2013, most of them in Africa (1,397) and Asia (1,358).29

It is plausible that other international organisations have trained a number of experts in other domains
relevant to the work of the committee. There is no doubt that these personnel are valuable assets
for their countries and can form part of a national roster of experts who can be called upon when
necessary. Such an approach would strongly contribute to one of the objectives of the EU CBRN CoE
Initiative, which is to strengthen a regional culture of safety and security by increasing local ownership,
local expertise and long-term sustainability.30 Some of the necessary human resources are already
there and probably ready to contribute! They could contribute significantly, at a national level, to the work and activities of their respective countries with regard to national implementation. This could also help to bring about the reinforcement of states’ commitment to multilateral cooperation.

The 1540 Committee could also benefit from the presence of former OPCW staff members within the group of experts. They could facilitate coordination and cooperation between the OPCW and the 1540 Committee at the working level.

**Conclusion**

One of the objectives of this chapter was to demonstrate that there are a number of tools, mechanisms and programmes that are complementary to the work of the 1540 Committee. The committee and its group of experts could use these in the framework of cooperation and coordination agreements endorsed by the policymaking organs of relevant organisations, thus avoiding unnecessary duplication, and reinforcing their work and activities.

Enhanced cooperation and coordination between the committee and these organisations would foster the effectiveness of the collective and mutual implementation of their respective objectives, in accordance with their mandates. In this regard, the 1540 Committee could encourage member states to establish or enhance coordination and cooperation between the different national focal points involved in CBRN activities, in particular for the NPT, the CWC and the BWC, and any other relevant international arrangements or regional organisations.

After 11 years of existence, the 1540 Committee has gained an excellent reputation thanks to the extensive and thorough work it has conducted since April 2004. The extension of its mandate for an additional 10 years in 2011 by Resolution 1977 was recognition that fully implementing the mandate of the committee is a long-term endeavour. The time has come to draw on the existing resources of international and regional organisations to collectively further the work of national implementation at a national level, avoiding unnecessary duplication and fostering effectiveness in achieving the global objective of international peace and stability.

**Annexure: International cooperation programmes run by the OPCW**

The following table lists the different international cooperation programmes run by the OPCW, and the number of beneficiaries, including a regional breakdown for each, since the Convention came into force in April 1997.

<table>
<thead>
<tr>
<th>Programme</th>
<th>Description</th>
<th>Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Programme</td>
<td>Established in 2000, it facilitates capacity building, industry-related</td>
<td>329 Associates from Africa (135), Asia (97), Latin America (60), Eastern</td>
</tr>
<tr>
<td></td>
<td>national implementation of the CWC and promotes good practice in chemical</td>
<td>Europe (32) and Western Europe and Other States (5) have participated.</td>
</tr>
<tr>
<td></td>
<td>manufacturing and safety.</td>
<td></td>
</tr>
<tr>
<td>Analytical Skills Development</td>
<td>Established in 2004, it assists qualified analytical chemists to acquire</td>
<td>This course has benefited 532 chemists from Africa (218), Asia (111), Latin</td>
</tr>
<tr>
<td>Course</td>
<td>further practical experience in the analysis of chemicals related to the</td>
<td>America (99), Eastern Europe (94) and Western Europe and Other States (10).</td>
</tr>
<tr>
<td></td>
<td>national implementation of the CWC.</td>
<td></td>
</tr>
<tr>
<td>Programme</td>
<td>Description</td>
<td>Beneficiaries</td>
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</tr>
<tr>
<td>Conference Support Programme</td>
<td>Established in 1997, it facilitates the exchange of scientific and technical information, provides financial support for the organisation of conferences, workshops and seminars on special topics relevant to the CWC and facilitates participation in such events.</td>
<td>2,058 participants from Africa (641), Asia (448), Eastern Europe (387), Latin America and the Caribbean (249) and Western Europe and Other States (333) have benefited from these events. In addition, the OPCW sponsored events in Africa (60), Asia (56), Eastern Europe (47), Latin America (21) and Western Europe and Other States (77).</td>
</tr>
<tr>
<td>Research Projects Programme</td>
<td>Established in 1997, it assists small-scale research projects in targeted countries for the development of scientific and technical knowledge in the field of chemistry for industrial, agricultural, research, medical and other peaceful purposes relevant to the CWC.</td>
<td>503 projects in Africa (179), Asia (163), Eastern Europe (9), Latin America (148) and Western Europe and Other States (4) have benefited from this programme.</td>
</tr>
<tr>
<td>Internship Support Programme</td>
<td>Scientists and engineers from developing countries conduct advanced research in laboratories in industrialised countries.</td>
<td>134 interns from Africa (79), Asia (24), Eastern Europe (9), Latin America (20) and Western Europe and Other States (2) have so far been supported by the OPCW.</td>
</tr>
<tr>
<td>Laboratory Assistance Programme</td>
<td>Established in 1997, it aims at improving the technical competence of laboratories engaged in chemical analysis and monitoring.</td>
<td>92 laboratories in Africa (48), Asia (19), Eastern Europe (8), Latin America (16) and Western Europe and Other States (1) have benefited from this programme.</td>
</tr>
<tr>
<td>Equipment Exchange Programme</td>
<td>Facilitates the transfer of used and functional equipment to publicly funded laboratories and other academic institutions in developing countries from institutions in industrialised countries.</td>
<td>75 transfers in Africa (32), Asia (9), Eastern Europe (13), Latin America (19) and Western Europe and Other States (2) have been undertaken.</td>
</tr>
<tr>
<td>Industry Outreach (Chemical Safety and Security)</td>
<td>Established in 2009, the programme consists on workshops to sensitise States Parties to modern approaches in safety and security management, safety culture and promote safety and management and handling of chemicals, in particular in a small and medium-sized enterprises.</td>
<td>641 participants from Africa (65), Asia (487), Eastern Europe (2), Latin America and the Caribbean (83) and Western Europe and Other States (4)</td>
</tr>
</tbody>
</table>
Notes


22. United Nations Interregional Crime and Justice Research Institute, Official approval of the Georgian


For a decade since the adoption of United Nations (UN) Security Council Resolution 1540 in 2004, both the 1540 Committee and its group of experts have undertaken activities to help countries with their commitment to fulfil the provisions of the resolution.

The main purpose of Resolution 1540 is to avert the proliferation of nuclear, chemical and biological weapons (NCBW) and their means of delivery by non-state actors, regardless of intent to commit acts of terrorism. Achievement of this requires states to refrain from activities that may lead to the proliferation of NCBW and their means of delivery, and to adopt and enforce such legislation and control systems as are deemed necessary and effective within their own legal frameworks.

Resolution 1540 appears, therefore, to be a means of deterring possible threats to world peace and security, notwithstanding the fact that the means by which the international community may put the provisions into effect to avert unsafe activities by non-state actors may lead to serious breaches of security in themselves.

While Resolution 1540 does not impose strategies or rules on member states on how or to what extent its provisions should be enforced, since these issues fall within the domain of their respective sovereignties, the UN Security Council does encourage states to identify and share experiences and effective practices on the resolution’s implementation.

Transparency and outreach are significant tools to bring the importance of Resolution 1540 to the attention of states and the public, including civil society, academia and the private sector, both of which can be called on by the state to assist in efforts to implement the resolution (para. 8d).

Transparency and outreach

Transparency and outreach are underscored in paragraphs 20 and 21 of UN Security Council Resolution 1977 (2011), one of several resolutions adopted since 2004 to support the implementation of Resolution 1540. Resolution 1977 has lengthened the mandate of the 1540 Committee for another ten years until 2021 in order to give it sufficient time to continue raising awareness about the resolution and for states to implement more fully the wide range of resolution requirements. This essential work is facilitated by the transparency and outreach activities of the 1540 Committee and its group of experts.
In operative paragraphs 20 and 21 of Resolution 1977, the UN Security Council stated the following:

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 organise and participate in outreach events on the implementation of Resolution 1540 (2004) at the international, regional, sub-regional, and, as appropriate, national level, and promote the refinement of these outreach efforts to focus on specific thematic and regional issues related to implementation;

Transparency through the 1540 Committee website

The 1540 Committee website, which is supported by the UN Office for Disarmament Affairs (UNODA), is a gateway for all states and civil society worldwide to explore and become acquainted with the scope and significance of Resolution 1540. The website gives comprehensive information on the goals of Resolution 1540, the committee’s activities and its annual programme of work, and the status of implementation in each country. It also provides guidelines on how states can request assistance and details of the types of assistance that is offered by states, as well as by international, regional and subregional organisations to facilitate implementation of the resolution.

The website also lists the steps states have taken to implement the resolution. National reports are posted on the website, as are the 1540 Committee-approved matrices for states that experts have recently updated in support of the 2016 Comprehensive Review on the Implementation of Resolution 1540. In addition, the website carries submissions by states and international, regional and subregional organisations about their experiences, effective practices and how delivery programmes can contribute to the implementation of Resolution 1540.

The website also allows interested parties to follow in a step-by-step manner the work and progress of the 1540 Committee. Summaries are provided of the committee’s formal meetings and its four working groups. One of these concerns transparency and media outreach. In July 2015, the working group on transparency and media outreach held two joint informal meetings. One of these was with the working group on cooperation with international organisations at which three panels of representatives of relevant international governmental organisations (IGOs) discussed issues of biological security. The other was with the working group on assistance, which featured a presentation from the Inter-Parliamentary Union (IPU) on the contribution of parliaments to activities related to Resolution 1540.

In 2015, the website began posting a ‘Quarterly Message from the Chair’. This was launched by the chairman of the 1540 Committee, Ambassador Román Marchesi. The website is also updated regularly with publications, videos and press articles to turn it into an effective wider publicity tool for the full understanding of Resolution 1540. For example, it carries the 1540 Committee’s annual report to the UN Security Council, as well as reports and comprehensive reviews on the implementation of Resolution 1540 worldwide. Other website content includes short video messages by the UN Secretary-General on the occasion of the Tenth Anniversary of Resolution 1540 and by the UN Messenger of Peace Michael Douglas on the importance of the
resolution. There is a documentary film on ‘WMD (weapons of mass destruction): threats and global responses’ and media coverage and UN press releases and briefings under the heading ‘1540 in the media’. These and other items on the website supplement the outreach activities of the committee and the group of experts in their efforts to assist the international community in achieving the full implementation of Resolution 1540 by states.

How to improve communication and transparency

In times of global challenge, national borders overflow with ever-increasing exchanges of goods, information and technologies. Under this scenario, efforts to achieve and maintain peace and disarmament should not lag behind, and should be brought up to date on a continuous basis to meet these challenges.

The following are some ideas that can be shared and discussed with the 1540 Committee and the group of experts to stimulate new avenues of communication and better relations among member states as might be found in links to analysis and databases that in turn can contribute to the improved implementation of Resolution 1540 by states.

Inter-state comparative legislation

It could prove useful to include on the committee’s website a comparative legislative examination of states’ compliance with their obligations as required by Resolution 1540. The achievement of an international level of security requires all states to acknowledge the importance of peaceful and harmonious global interaction. At the same time, states always need to respect the rule of law. Understanding their legal systems can contribute to mutual assistance arrangements for enforcement among states.

Network of legal experts

It is suggested that one legal expert is appointed per country to build what will initially be a virtual network that provides legal advice to states on issues related to the implementation processes. This network of experts could liaise with the committee and legal offices in related international organisations, such as the International Atomic Energy Agency (IAEA), the Organisation for the Prohibition of Chemical Weapons (OPCW) and the Biological Weapons Convention–Implementation Support Unit (BWC–ISU), which review legal frameworks within their respective mandates. In this manner, legal gaps could be identified and filled, and the objectives of Resolution 1540 clarified.

Such a legal network would also prove useful for providing legal assistance to countries with compatible legal systems, and to parliamentarians and assist the IPU to find practical solutions to national constraints and challenges with regard to adopting and enforcing Resolution 1540-related legislation.

A space for opinions

The creation of an open forum to submit and receive opinions would provide the general public with an opportunity to exchange ideas on how to address the worldwide proliferation of threats and encourage a better understanding of the problems facing states when attempting to comply with the obligations of Resolution 1540. Such a forum could be featured on the website under ‘1540 in the Media’, where selective but representative newspaper ‘op-eds’ might be posted.
Transparency of control lists

In its paragraph 6, Resolution 1540 draws attention to the usefulness of effective national control lists to assist implementation, and calls upon all states to pursue the development of such lists. Lists are already available on the websites of the respective organisations, but a compilation of these control lists or the organisations’ web links on the 1540 Committee website would provide a useful ‘one-stop shop’.

In addition, priority should be given to the gathering and comparison of all available data on the inter-state movement of commonly traded items related to nuclear, chemical and biological materials. Such data could be obtained from the World Trade Organisation (WTO) and the World Customs Organization (WCO). The WCO with its large Harmonised System (HS) database of items traded worldwide, has already identified several commonly traded chemical precursors of concern to the Chemical Weapons Convention (CWC), and thus also to Resolution 1540. The HS chemical codes can be used in the computerised customs control systems for risk profiling and assessment.

It is widely accepted that developing countries do not always have the necessary resources to develop national data systems to manage export control lists of materials related to nuclear, chemical and biological materials. It is therefore important to encourage donor countries and relevant organisations to provide adequate funding for programmes aimed at mobilising resources for building the means of overseeing the export of such materials.

Outreach

National outreach

Communication and transparency are key issues to be tackled by states. It is suggested that the actions include:

1) Promotion of domestic outreach among national industrial and technical associations.

2) Encouragement of state actors to create internal channels of interaction among the government entities involved in the implementation of Resolution 1540, i.e. a commission with pre-scheduled meetings.

3) Creation of links, either through the 1540 Committee website or by other means, between the committee, government entities and the industry involved to enable an exchange of information on relevant topics such as:
   – Technical advances in research and scientific domains related to the subject
   – Articles of interest from the media on the relevant industry
   – Annual conferences of industrial associations.

4) Underscoring the benefits of enhancing regional and subregional communication and transparency among different governmental entities for a better understanding of Resolution 1540, and the stimulation of joint action by regional entities such as, for example, the Latin American Integration Association (ALADI), the Southern Common Market (MERCOSUR), the Caribbean Community (CARICOM) and the Union of South American Nations (UNASUR), to overcome existing gaps in the internal administrative controls and legislative frameworks.
5) Strengthening national institutions in their fight against terrorism, drugs and the proliferation of small arms and WMD, and promotion of the interaction and cooperation needed for better prevention and response to such actions in ways suitable to national and regional circumstances.

6) Ensuring a coherent, effective and complete response to non-proliferation, and providing training to national personnel and entities through programmes supported by relevant international organisations and the 1540 Committee.

**Outreach at international, regional, and subregional levels**

Since the adoption of Resolution 1540, the committee has cooperated with relevant national, regional, international and non-governmental organisations, as well as civil society bodies to support the implementation of the resolution. The following proposals to reinforce the collaborative initiatives and complementarities between the work of the 1540 Committee and the cooperating organisations could be considered by the committee and experts:

1) Creation of a special page on the 1540 Committee’s website to present the latest data on the existing synergies between the committee and related international convention organisations, and the maintenance of a schedule of periodic meetings with such entities. To some extent this is already being addressed by the posting of summaries of working group meetings by various organisations, and the listing of assistance programmes or effective practices by international and regional organisations.

2) Development of more effective outreach initiatives to the international community to identify and compare new trends, e.g. in technology, and to highlight challenges to the implementation of Resolution 1540 and relevant treaties.

3) Improvement of the manner in which state policymakers (legislators, cabinet members, etc.) are informed of the benefits of complying with Resolution 1540 and related international treaties and conventions that contribute to national economic development and socio-economic stability.

4) Provide an indication of the capacity of states to fulfil Resolution 1540 obligations and commitments to other non-proliferation agreements. This would be of particular interest as the 1540 Committee does not assess how well states implement or accomplish the resolution’s requirements and cooperate with international organisations such as the OPCW, IAEA, BWC–ISU and other entities with regard to related international agreements and arrangements. Working plans or programmes should be designed for country visits and regional workshops, with the committee and the group of experts developing innovative approaches to serve the interest of state parties more effectively. This could take the form of a predesigned national outreach campaign, complete with a procedural guide that will help to identify existing work or assistance programmes with IGOs that complement the thematic requirements of Resolution 1540 and permits follow up on each subject and implementation process dealt with by the national expert.

5) Distribution of questionnaires to member states designed to provide useful data for a more effective approach to their requests for assistance. This would make it possible to create new opportunities for increasing cooperation among developed and developing countries, and between states within the same region.
6) Creation and identification of assistance programmes to comply with national accounting and administrative systems, e.g. capacity building for effective state control and accountability for related materials. To date, this requirement of Resolution 1540 has received less attention in outreach activities than other requirements.

**International communication**

The 1540 Committee could also in its international outreach and communications programme consider the following activities in support of requirements or areas of work that have received less attention to date:

1) Promotion of exchange of information and experience on investigative techniques and cooperation mechanisms for enforcement.

2) Consideration of how criminal law complements a framework of multidimensional security, and the creation of a common understanding to implement measures to keep nuclear, chemical and biological materials away from non-state actors.

3) Promotion of a security culture in nuclear, chemical and biological matters that aligns with IAEA, OPCW and BWC–ISU recommendations.

4) Consideration of how appropriate and effective measures for security and accounting can be provided.

5) Strengthening of effective international police and intelligence cooperation by providing tailored assistance programmes through joint action by the different entities involved.

**Education**

Building capacity and increasing preparedness can prove more cost effective than responding to events that have already occurred. A state’s educational system, from school to university, at professional organisations and in participating industries can play a key role in raising awareness of the many challenges that proliferation of NCBWs can pose to the population. The committee can consider ways that states may create a consciousness among its population of the perils that WMD may cause in the hands of non-states actors.

**Coordination workshops to build capacity**

Outreach can also include small workshops at regional and subregional levels for assistance providers to facilitate cooperation and coordination of assistance and capacity on programmes related to non-proliferation. These can complement or feed into development initiatives in each country of a region.

**Conclusion**

The meeting of former Resolution 1540 experts was an important opportunity to gather experiences and lessons so as to enhance cooperation with the 1540 Committee, create possible new avenues and coordinate efforts for the full implementation of Resolution 1540.

Conflict continues throughout the world, and individuals, terrorist groups and other non-state actors will achieve their objectives using any means available – be it via conventional weapons or WMD. The goal is to find cooperative ways to prevent the actions of third parties. Much has been
accomplished by the 1540 Committee and the experts but a substantial amount of work still needs to be done.

The meeting provided the opportunity for rich discussion on a range of proposals by the former experts in a variety of areas. An exchange of experiences that were seen from different perspectives and were related to various circumstances helped to identify challenges and opportunities for greater cooperation and better coordination. The two days of discussions may have proved a useful opportunity to explore activities that can support new scenarios to help the task of the 1540 Committee and its experts to prepare for the upcoming 2016 Comprehensive Review of the implementation of Resolution 1540. Further success will require a sustained high-level leadership in all countries.
Private sector engagement: lessons learnt from the Wiesbaden Process

Why is United Nations (UN) Security Council Resolution 1540 (2004) relevant to the private sector? When engaging directly with industry representatives, the resolution’s impact on them does not seem all that evident and often needs to be explained.

The resolution itself does not contain any direct obligations applicable to the private sector. It is directed at states and implemented by them. States are obliged to adopt relevant national legislation and enforce domestic controls. However, it is the private sector that has to translate these obligations in its daily business operations. Economic actors are the ‘addressees’ of the domestic legislation. The private sector may not be aware of it, but many national measures relating, for example, to the control of certain items in production, storage, use or transport, or the effort to secure the supply chain, may be motivated by their governments’ attempts to implement the obligations and recommendations of Resolution 1540.

Private sector actors may also be surprised to find out how many industry sectors are affected by the resolution. Contrary to first impressions, the resolution is not limited to nuclear, biological and chemical weapons – very few companies would even consider themselves as being involved in this ‘area of business’. However, with its coverage of ‘related materials’, the resolution also aims to establish certain controls on items that have a civilian nature and are used in various fields of industry. In addition, the resolution also covers a number of economic activities such as exports, transfers, financial services and transport. As a result, obligations regarding the physical protection of items related to weapons of mass destruction (WMD) may affect the day-to-day activities in laboratories, production sites, storage facilities, etc.

The private sector as a partner in non-proliferation efforts

Why engage with industry?

Private sector involvement in international and national non-proliferation efforts is important and beneficial. In the area of export or strategic trade controls, the private sector is often referred to as the ‘first line of defence’. Companies’ direct interaction with customers and their intimate knowledge of their products and the markets they operate in, put them in an ideal position to identify suspicious business activities: ‘[Industry] has the best overall vantage point on the entire transaction, the suitability of the product for the claimed end-use, and capacity to judge
its plausibility.” They can support governmental efforts to detect illegal procurement attempts. In fact, in view of ever-dwindling resources and an increasingly complex trading environment, governments are well advised to see industry as a partner in the fight against WMD proliferation. Since most of the essential dual-use materials needed for developing WMD are no longer under the control of governments and it has become easy for non-state actors to acquire even the most sophisticated materials, it could be argued that industry has become an indispensable partner in the fight against the proliferation of WMD — “Even in Western countries, no regulator can begin to keep track of, let alone control, the flood of transactions in dual use materials and technologies.” In the area of export controls, the value of internal compliance programmes within companies has long been recognised as an essential element in identifying and fighting illicit procurement attempts.

Private sector actors are thus the addressees of non-proliferation related legislation. By providing advice and insight, they can help to shape better and more efficient legislation. They can also help to inform legislators and regulators about trading patterns or new economic trends. If controls are needed, it is in the interest of both the private sector and governments to devise them in such a way that they have the minimum impact on national economies, i.e., that legitimate economic activity is not unduly hampered. Legislation needs to be easy to understand and easy to implement: the implementation of Resolution 1540, for example, will not be effective if companies cannot comply with cumbersome regulations. Early private sector engagement and self-governance can even help to avoid legislative action, e.g., when private sector actors establish their own codes of conduct in their field. These initiatives may be more flexible and more suited to their specific area of economic activity. Such bottom-up approaches may also be more widely accepted and help to promote a culture of compliance.

The private sector can also contribute in promoting non-proliferation efforts throughout the supply chain. Some companies have established non-proliferation-related standards that have to be met by their suppliers. Others have actively engaged in helping to create international standards. In some cases, the private sector has lobbied governments to adopt certain global standards, for example in the area of export controls. The private sector may also be in a better position than governments to convince their peers of the advantages of engaging in efforts to curb the proliferation of WMD.

A few projects or initiatives have sought to engage the private sector in the fight against WMD proliferation. For example, in 2008 the Carnegie Endowment for International Peace convened a meeting of representatives of the world’s major civilian nuclear power plant vendors with the goal of developing a common understanding of the parameters that should guide exporters of nuclear power plants. With the ‘Nuclear power plant exporters’ principles of conduct’, they created a voluntary industry code of conduct that contains norms of corporate self-management in the exportation of nuclear power plants. These principles reaffirm national and international governance and oversight, and incorporate recommended best practices in different areas, e.g. relating to safety, security and non-proliferation. The Managing Across Boundaries Program at the Stimson Center has initiated the Partners in Prevention (PIP) Programme. This project seeks to work with industry to ‘facilitate pragmatic, market-based steps that help align profitability and public security as mutually reinforcing goals in global business operations’. The PIP’s objective is to undertake ‘a complementary effort to engage relevant businesses, develop templates for self-regulation that
advance counter-trafficking objectives, and establish market-based incentives to do so. Another example is Project Alpha in the United Kingdom (UK). Project Alpha was created in 2011 at the Centre for Science and Security Studies at King’s College London for the purpose of proactively engaging the private sector in countering proliferation. It is a government-sponsored project that seeks to assist the private sector in implementing trade controls and in avoiding involvement with proliferation-related trade.

While not aimed at non-proliferation as such, there are other examples of industry-led initiatives that promote responsible behaviour in their specific field, e.g. the ‘International Association for Synthetic Biology (IASB) code of conduct’. This code is aimed at helping companies that provide DNA synthesis services and products, and academic and public institutions that practice DNA synthesis, to conduct their affairs in a sensible and responsible way.

Especially in the area of strategic trade controls, cooperation and special outreach to companies is now considered a key element of an effective and modern export control system. To this effect, major exporting states such as the United States (US), Japan and Germany engage in extensive industry outreach initiatives.

In the context of Resolution 1540, the UN Security Council has acknowledged the importance of private sector engagement: the role of the private sector in the effective implementation of Resolution 1540 is referred to in its operative paragraph eight and in operative paragraph twelve of Resolution 1977 (2011). Respectively, these paragraphs call upon states to develop appropriate ways to work with and inform industry and the public regarding their obligations under the laws relating to the resolution. Resolution 1977, with regard to the identification of effective practices, templates and guidance for the implementation of Resolution 1540, also encourages the 1540 Committee, at its discretion, to draw on relevant expertise, including in civil society and the private sector, with their state’s consent, as appropriate.

The Wiesbaden Process

In order to facilitate dialogue between the 1540 Committee and the private sector, the Federal Government of Germany, together with the UN Office for Disarmament Affairs (UNODA), initiated a series of conferences focusing on private sector engagement in the specific context of Resolution 1540. In reference to the German city where the first conference took place, this conference series is now commonly referred to as the ‘Wiesbaden Process’ or ‘Wiesbaden Industry Process’. Funding for the conferences was also made available by the US and Norway (through their contributions to the 1540 Trust Fund) and the European Union (through a specific cooperation programme in the area of export controls). The conference series is facilitated through logistical and substantial support by the German export control licensing office, the Federal Office for Economic Affairs and Export Control (BAFA).

The Wiesbaden conferences aim to provide a global and cooperative forum for discussion to allow relevant industries, associations and companies to share their experiences and effective practices across different sectors. The conferences are meant to inform the 1540 Committee and governments in this regard; they offer a chance for both the committee and governments to raise awareness and explain the motivation behind Resolution 1540 and the resulting national endeavours to implement the resolution. The Wiesbaden Process is also intended to allow learning about implementation challenges and new trends, e.g. technological developments, from both
governments’ and the private sector’s perspectives. Against this backdrop, the conferences are also meant to support regulators in providing better guidance and regulation to allow more effective implementation of Resolution 1540.

While the first Wiesbaden conference in 2012 was aimed at exploring and strengthening the partnership between government and industry in general, the subsequent 2013 conference focused on detailed aspects of the resolution’s implementation in the area of biosecurity. The 2014 conference focused on non-proliferation-related compliance strategies and management within companies.

Apart from representatives from individual companies and business associations from various industry sectors (including, inter alia, the nuclear, chemical, life sciences, pharmaceutical, aerospace, financing and transport industries), participants also included representatives from relevant international organisations, academic institutions and governments. With the aim to facilitate cross-sectorial learning, the exchange of effective practices and networking, the organisers also sought to identify and include other initiatives aimed at promoting private sector engagement in the area of non-proliferation, such as the ones mentioned above.

It should be noted that, in addition to the original Wiesbaden conferences, UNODA has also conducted further meetings, with a special focus on private sector engagement where references were made to the Wiesbaden process, e.g. a conference on maritime and port security infrastructure and a special session on proliferation finance at the 2013 Banking Summit of the Union of Arab Banks.

At these conferences many industry representatives acknowledged the relevance of Resolution 1540 to their own work and expressed support for the international implementation efforts. Industry representatives also repeatedly demanded that cooperation between industry and regulators be further enhanced to ensure clearer, standardised or harmonised legislation, particularly regarding control lists, in order to facilitate compliance without hampering business procedures and encourage level playing fields. In this regard, regulators were invited to engage in a dialogue with industry to better understand the possible misuse of specific materials and to develop more appropriate, risk-based legislation when implementing Resolution 1540. Clear guidance and examples of effective practices were also called for. It was acknowledged that such practices – e.g. voluntary codes of conducts – exist but they could be better publicised, for example with the help of the 1540 Committee. Information sharing in all areas – i.e. between governments, between governments and the private sector, and between private sector actors – was deemed of utmost importance. More extensive outreach to industry may be in order, while it was acknowledged that specific industries would require specific approaches. Attention should also be directed at the specific needs of small and medium-sized enterprises (SMEs); industry associations could have a key role in this regard. In addition, it became apparent that the exact role of industry in the implementation of the resolution is still in need of a clear definition.

The German government intends to continue the Wiesbaden Process. According to the current concept for the 2015 conference, the next event will seek to take stock of, and elaborate on, past meetings, in particular by trying to better define the role of the private sector in the implementation of Resolution 1540. In this regard, the conference will address the question of the value or feasibility of having an industry network in support of international implementation efforts.
Lessons learnt from the Wiesbaden Process

Mastering the scope of 1540

In terms of organising private sector engagement in the fight against WMD proliferation, the wide scope of the resolution is one of its biggest assets, but also a key challenge in organising a meaningful dialogue. Resolution 1540 provides a unique global forum for cross-sectorial discussion and experience sharing. However, there is a risk that discussions remain unfocused and fragmented. Past conferences have demonstrated that it is often difficult to leave one’s silo or own area of concern and see the bigger picture. Therefore, the agendas and topics need to be well prepared and balanced. It is thus necessary to focus on a specific topic that is worth being discussed in the unique 1540 context without duplicating discussions in more specialised organisations or better-suited contexts.

Selling 1540

It remains a challenge to explain to private sector representatives why and how they are affected by Resolution 1540 or why they should participate in a 1540 event. It is important to find the right language and avoid falling into the insider’s international non-proliferation talk. Talking about ‘1540 as such’ will not work. The aim should be to explain why the private sector is an important player in the big non-proliferation game and in what way it can engage in this game. In more practical terms, it is useful to provide basic information on Resolution 1540 in advance, to limit the presentations on the resolution during an event to a minimum and so ensure shorter events.

Incentivising participation and support

It cannot be assumed that the UN or national government seal on the invitation letter will convince industry representatives to attend a meeting or voluntarily support any engagement initiative. It is appropriate to consider that industry representatives will seek a direct business interest and ask ‘what’s in it’ for them. In this respect, it is useful to include topics on the agenda with valuable information for day-to-day business activities or at least to provide relevant networking opportunities. Private sector engagement and compliance can also be facilitated by offering discussions on possible benefits or incentives for compliant or exemplary companies. It could be interesting to consider how to enhance or provide more publicity for companies supporting these initiatives, e.g. by initiating an award ceremony for the most innovative examples of private sector engagement or by offering some sort of acknowledgement through an instrument such as the UN Global Compact. At a minimum, better use of the 1540 Committee website or a special section on industry engagement should be considered. More formalised and regular face-to-face encounters with the 1540 Committee may also be beneficial in this respect.

Be open and prepared for criticism

Companies and industry associations are invited to give advice on present or future regulations. Some will use this forum to criticise the status quo. It is important for government representatives and the committee to consider this as constructive criticism and valuable feedback that can help to enhance compliance.

How to pick the right crowd?

Identifying the right participants is key for a successful event and, more importantly, for any meaningful follow-up action. Experience shows that only a relatively small group of people
are interested in this sort of engagement. There is a risk that events seeking private sector engagement will often involve the same people. At the same time, any meaningful industry contribution will most probably require the engagement of a few champions. It is important, however, to also consider making funding available for sponsoring industry’s participation. It cannot be assumed that their allocated travel budgets can be used for attending UN conferences or supporting the work of the committee, irrespective of where the individual companies or business associations are located. It is also necessary to use multiple avenues for contacting and identifying participants: it may be useful to extend open invitations instead of targeting specific participants. Social networking services such as LinkedIn can play an important role in this respect, as existing networks can be identified and used. Apart from that, the 1540 group of experts and its networks have proved to be a valuable source of information. Identifying representatives from non-suppliers or outside the traditional supplier states remains a particular challenge.

**Individual companies vs associations**

Industry associations are important multipliers. Involving them will ensure that multiple companies from various jurisdictions are represented. They are also essential when it comes to reaching out to SMEs, which are unlikely to attend or support private sector engagement events or initiatives. At the same time, the value of involving multinational companies operating in multiple jurisdictions should not be underestimated. These companies can compare different national practices. They may also have a lot of influence in their respective supply chains. In addition, regional and global industry associations have different priorities: most will probably never have dealt with the question of WMD proliferation. The real industry experts will therefore often be found in individual companies.

**Seek global engagement, also on a regional level**

The private sector must be engaged on a multilateral level. An increasing number of companies use foreign partners and subsidiaries from all over the world, and the foreign availability of dual-use material has increased. Thus it is no longer appropriate to solely focus on industry from the traditional supplying states. It may be useful to have a mix of events more focused on a regional and subregional level, and global events. Regional events can better take into account regional specificities and can be used to discuss and develop region-specific approaches; they can also help to promote better regional cooperation. Regional and subregional organisations, ideally in cooperation with regional business associations, should be involved to facilitate this process. Alternatively, regional non-governmental organisations or academic institutions could provide their support.

**Do not be over ambitious**

Private sector engagement or even industry ownership cannot be forced upon them. It is likely to be a slow process, which involves first getting together and defining the respective roles of governments and industry. Different ways of engagement could be required or tested.

**The Wiesbaden Process as an effective practice**

The Wiesbaden Process is a good example of how individual states can support the work of the 1540 Committee in a creative way, irrespective of whether they are members of the committee or not. From the outset, the German initiative was intended to be a process rather than just an ad-hoc conference. It was useful to include several people at various organisations (including the 1540
group of experts) in a sustainable manner. Other states could consider supporting or sponsoring similar long-term initiatives, e.g. reaching out to or involving the academic sector or engaging with civil society.

**Recommendations**

- It is important to engage the private sector in international efforts to implement Resolution 1540, but the engagement must be well devised in order to attract industry’s interest and attention.
- The Wiesbaden Process offers a useful and established avenue and forum for private sector engagement. The process should be continued, expanded and supported by the 1540 Committee.
- Expansion of the Wiesbaden Process, e.g. at the regional and subregional level, should be considered, but those ‘satellites’ need to take into account regional particularities.
- It is useful to focus on companies with experience in different jurisdictions. However, sponsoring the participation of industry representatives and other incentives must be considered.

**Notes**

1. The views expressed in this article are those of the author and do not necessarily reflect the view of the German Federal Office of Economic Affairs and Export Control or any other parts of the German Federal Government.

2. Related materials are defined by Resolution 1540 as materials, equipment and technology covered by relevant multilateral treaties and arrangements, or included on national control lists, that could be used for the design, development, production or use of nuclear, chemical and biological weapons and their means of delivery.


6. For an example of the set of elements constituting such an internal compliance programme or how industries can support international non-proliferation efforts, see Ian J Stewart, Anti-proliferation: tackling proliferation by engaging the private sector, Managing the Atom Discussion Paper, 2012-15, Belfer Center for Science and International Affairs, November 2012, 5, http://belfercenter.hks.harvard.edu/files/Artiproliferation-Layout-final.pdf. International export control regimes have also developed guidelines in this respect. For example, see Wassenaar Arrangement, Best practice guidelines on internal compliance programmes for dual-use goods and technologies, http://www.wassenaar.org/guidelines/docs/20-20/Internal%20Compliance%20Programmes.pdf; or Nuclear Suppliers Group, Good practices for corporate standards to support the efforts of the international community in the non-proliferation of weapons of mass destruction, http://www.nuclearsuppliersgroup.org/images/Files/National_Practices/NSG_Measures_for_industry_update_revised_v3.0.pdf.


Venkatasubbiah Siddhartha

Private sector and industry: prospects for effective partnerships in non-proliferation efforts

Wiesbaden is a city in the industrial heart of Germany, the export hub of Europe. Inevitably, any ‘process’ concerned with the implementation of United Nations (UN) Security Council Resolution 1540 (2004) that is prefixed by that city’s name will likely bear the hallmark of the political economy of controls over exports from the industrialised world.

That hallmark is apparent in the description of, and summary report emerging from, the conference held in Wiesbaden in 2012;¹ in the communication² to the president of the UN Security Council on the outcome of the 2013 conference held there; and in a similar communication³ on the last conference held in Frankfurt in 2014.

When India enacted legislation in 2005⁴ to implement its obligations under Resolution 1540, it already had in place laws and regulations on the export of nuclear-related and dual-use goods and technology.⁵ However, in the past decade industry-led, government-supported efforts to reach out to Indian industry on India’s periodically updated export control regulations have gathered pace.⁶ The aim of these efforts is to get industry groups in the private sector to not only understand but also appreciate the need for those regulations, and to get producers/exporters to institute in-industry best practices that enable them to comply with those regulations.

When the 1540 requirements were overlaid on these extant regulations, it became evident that outreach programmes to industry will succeed only if they are seen by industry as integral to the folio of national regulations on industrial activity and trading in general; as adjuncts to the continuing government effort to reach out to those sectors of industry whose products or activities are subject to the Indian system of industrial regulation – not only export controls.

This paper delineates four notable facets of the needed tailoring of the regulatory fabric in and by states whose private sectors, as well as governmental agencies overseeing the implementation of Resolution 1540, are at widely differing stages of technological maturity, managerial capacity and administrative acumen: facets that may be characterised as these states’ domestic correlates of the ‘Wiesbaden Process’.
‘Common but differentiated’: the approach needed to craft enforceable and effective regulations

Between states

The universal applicability of Resolution 1540 to all UN member states has revealed a tapestry of states whose geographical location, industrial capacities and trading circumstances differ considerably from Wiesbaden in terms of geography, industrialisation and relevance to the proliferation of weapons of mass destruction (WMD).

In consequence, as Howlett has pointed out, ‘it is also necessary to acknowledge that not all States need to implement all measures set out in the resolution’, to which one might add ‘and that are assessed by those states as being not pertinent to their current stage of industrial-technological capability and/or trading circumstance’.

Of course, states with rapidly developing industrial capacities, particularly in that part of the private sector that is stimulated by incoming foreign investment, should undertake periodic assessments of the pertinence of those measures to their current stage of industrial development, technological capability and openness to international commerce.

As has been recognised by the UN in another arena of global concern, namely global warming, the measures that states have to take to mitigate their carbon footprint cannot be prescriptively the same for all states. It has been formally recognised that these measures need to be ‘common but differentiated’.

Likewise, both among states at varying stages of industrial development and among the different industrial sectors within them, the approach to crafting enforceable regulations that are effective in securing trading chains needs to be ‘common but differentiated’.

Between different industrial sectors within states

Furthermore, within states, there is a tapestry of state-owned and private enterprises, research laboratories and academic institutions, only a few of which have activities relevant to the implementation of Resolution 1540. While the law, and the regulations thereunder, apply equally to all corporate and individual citizens, the political executive in rapidly industrialising democratic countries must be responsive to the social psychology of an important part of its support base; namely, the rising class of young, first-generation qualified engineers and scientists who set up their own businesses. These go-getters, characterised by impatience and a disdain for officialdom, are adept at applying their special knowledge and skills to make and sell globally ‘high-technology’ products and services, many with the potential for ‘dual use’ that these entrepreneurs themselves are not aware of.

Uncommon and differentiated: the nuclear sector

Minutely governed and regulated

The nuclear industry is the most minutely state-regulated industrial sector in almost all countries where nuclear materials and equipment are used, even for such benign purposes as medical care. It is the only industrial sector to which an entire specialised agency of the UN – the International Atomic Energy Agency (IAEA) – is exclusively devoted; inter alia, to set up and maintain the safeguards system designed to prevent the diversion of nuclear-related materials and technology to the making of nuclear weapons.
And yet the state-honoured and celebrated AQ Khan of Pakistan set up a nuclear procurement network that enabled his country to acquire from the private sector in Europe and elsewhere the equipment and means to make nuclear weapons. Indeed, Resolution 1540 owes its existence to the notorious Khan, and came about to mandate all member states to plug the holes in private international commerce to thwart Khan-type networks from forming or effectively hobble them from functioning.

Furthermore, should Khan-like clandestine transactions take place or be uncovered, Resolution 1540 mandates that states equip themselves with the legal powers and administrative means to prosecute as criminal any and all activities, direct or facilitatory, along the entire path from brain to bomb, and back. Lock all such paths down, adhere to and implement with fidelity all relevant nuclear treaties and conventions, and the job is done.

Well, not quite.

**1540 compliance as corporate social responsibility**

In post-colonial states at the early stages of industrial development, mining and pre-processing of raw materials used in the nuclear sector – overwhelmingly uranium – is carried out by multinational companies. The political economy of these states and their nascent administrative capacities circumscribe their ability to monitor effectively the activities of these companies. These states are too dependent on revenues from these companies to impose controls on their operations of extraction, processing and trading, much less to adopt an adversarial position while administering such restrictions as they are able to impose.

Therefore, as much as the managers of these companies are mandated by their boards and shareholders to adhere to and follow international standards of occupational health and safety, it behoves them also to adopt transparent 1540-compliant practices of supply chain governance as an integral component of their corporate social responsibility – overseen by their apex board of management and reported on to their global shareholders.

**A permit system for the manufacture of dual-use goods**

Every state requires that the manufacture of, or trade in, conventional weapons and equipment by the private sector be explicitly permitted by a designated authority of that state. Even states (e.g. India) that are not members of the Wassenaar Arrangement require that the export of weapons and equipment be authorised by a designated state authority.

However, no state seems to require, by law or administrative regulation, that manufactures of, or traders in, dual-use goods be licensed by the state to start and run such a business.

Whatever the historical reasons for what can only be characterised as an anomaly, it is not difficult to correct it by straightforward administrative measures, the expected resistance from the corporate class notwithstanding.

Thus, as an amendment of, or addition to, licensing provisions for the manufacture of military goods, a state’s list of export-controlled dual-use goods may be promulgated as requiring a ‘permit to manufacture’. Such a measure would arm the state with the means to discipline an enterprise in its export behaviour, for its failure to institute effective industry compliance practices, or for infractions of export control regulations, by – in extremis – cancelling its permit to manufacture. Such punitive administrative action would result in a consequent loss for that corporate entity of possibly even...
its extant domestic market. This is a powerful deterrent to irresponsible corporate conduct in the private sector.

**Advancing personnel integrity: licence for skill**

All three reports to the UN Security Council by the 1540 Committee reveal that the majority of states have weak or non-existent controls over intangible ‘technology’. Of the means used to transfer technology or knowledge, the one that is most difficult to monitor and control is the expertise found among personnel, or in the knowledge acquired by them during the course of their engagement in legitimate dual-use activities.

A lot has been written and many seminars and gatherings have deliberated on the subject of codes of conduct for scientists and engineers. Hippocratic oaths have been proposed, some even taken. But so far no significant sanctions are visited upon those who violate those codes, save the loss of professional reputation among a relatively small peer group.

In contrast, almost every other major professional group one can think of – doctors, lawyers, chartered accountants, architects, civil engineers, etc. – enforces its code(s) of conduct through a licensing system. For various grades of negligence or other infractions of the code of conduct, these professionals are sanctioned – the ultimate sanction being the permanent loss of licence, which bars the individual from being hired by the government or the private sector.

The penultimate paragraph in the communication to the president of the UN Security Council on Wiesbaden II reads:

> In fact, industry is very much looking for clear and simple rules, guidance, as well as a level playing field. The diverse and very engaged audience at this conference also highlighted the potential role of a comprehensive societal approach in countering biological threats, and their collective and individual efforts towards mitigating the risk (inside and outside the laboratory) posed by science and technology, biological materials, and research-related information, either due to misuse for hostile purposes or the accidental exposure of individuals and the environment to hazardous biological agents.

Without getting into the details, it is possible to design a ‘licence to practice’ system for scientists and engineers, including in academia, with appropriate psychological tests being applied before a licence is issued for those who work, or wish to work, in laboratories where particularly dangerous dual-use materials of the kind identified in Wiesbaden II are being researched or handled.

It is in the interests of the private sector to partner with government to evolve a law-based system of licensing for scientists and engineers who are engaged in any part of the dual-use innovation chain, from research to market.

It should be emphasised that this sanction is process-driven and designed to deter a professional scientist or engineer from engaging in misconduct. It is independent of any event-driven ‘after the fact’ application of any law, such as the violation of 1540-related ‘deemed export’ regulations, which may be applied by the state in any particular case.

**Conclusion**

This paper has attempted to exemplify a primary lesson learnt from change to programmes of outreach to India’s private sector on the implementation of its system of export controls – a system that has been extant for more than two decades – with the requirements of legislation.
This outreach to the private sector will be more effective in fulfilling its purpose if it is seen by that sector as:

- Integral to the folio of national regulations on industrial activity and trading in general
- Designed to facilitate industry’s continuing hassle-free access to high-technology sources and global markets
- An adjunct to the government’s continuing effort to reach out to those sectors of industry whose products or activities are subject to industrial regulation – not only export controls.

Furthermore, these programmes of outreach to the private sector need to be crafted in such a manner that the concerned governmental agencies are looked upon by industry, research laboratories and academia as ‘chaperons at arms’ length’, and not as platforms for instruction. The vigour of such an approach also has to be sensitive to the social psychology of the managers of the industry, scientific or academic group being chaperoned.¹²

Notes
6 For example, the Programme on Strategic Trade Regulations and Practices for the Indian Hi-Tech Industry, organised by the Federation of Indian Chambers of Commerce & Industry (FICCI) and the Center for International Trade and Security, University of Georgia, US, National Aerospace Laboratories, Bangalore, India, 20–21 February 2014.
7 Brad Howlett, The 1540 machinery: how to make best use of the existing resources within the 1540 Committee; the Group of Experts and UN secretariat? What role for former experts? What could be the form of a 1540 network of expertise?, paper presented at Meeting of Former 1540 Experts, Cape Town, South Africa, 28–29 May 2015. See pp. 7–13 of this monograph.
9 Several states, India included, do require the licensing of some industrial activities as part of their general industrial policy, although not because the products of or services by that industry are dual use.
10 Resistance to the application of a ‘permit to manufacture’ system for both military and dual-use goods can be expected to be particularly forceful in states that are creator-members of the export control regimes, and are home to a large number of enterprises engaged in the manufacture of dual-use goods. But a ‘permit to manufacture’ system for dual-use goods is not necessary in such states, as these have also well-developed, tested systems of export control. A single ‘permit to manufacture’ administrative system would be recommended for those states in which both military and dual-use manufacture in the private sector are at a nascent stage, but which seek to grow them as an integral aspect of their industrial policy.
11 The proposals made in this section are based on V Siddhartha, A modality by which the scientific community might help in the implementation of United Nations Security Council Resolution 1540, unpublished presentation at the American Association for the Advancement of Science, Washington DC, 6 October 2008.
The effective implementation of United Nations (UN) Security Council 1540 (2004) depends on governments, industry and civil society working together towards their shared goal of preventing the proliferation of WMD. Civil society, academia and industry have already demonstrated in many areas that they are important partners of the 1540 Committee in strengthening the global implementation of Resolution 1540.

However, in its current interactions with civil society (mostly limited to awareness raising at outreach events), the 1540 Committee suffers from strategic blindness, failing to agree as a whole on meaningful ways to engage civil society in order to address today’s global WMD challenges. There are ways to overcome this strategic blindness if the 1540 Committee is willing to seek synergies that complement and strengthen its work by charting new global possibilities through strategic alliances with civil society. This paper provides practical recommendations for charting the way forward.

According to the World Health Organization (WHO), civil society is generally understood as comprising the social domain between the state and the individual or household that exerts the social power or influence of ordinary people through civil society organisations (CSOs) – including non-governmental organisations (NGOs) – pursuing their collective interests and engaging in activities of public importance. In recent decades the range of civil society actors has become wider, more diverse and more prominent worldwide. This has been attributed inter alia to the increased challenges to power imbalances between the state and civil society, the perceived weakening of states’ authority due to globalisation, and national or transnational CSO networks becoming enabled by electronic communications and expanded access to information. Civil society is now a prominent actor in advancing public interests on global policy issues (such as human rights, development and health), illustrating the increasing public concern over the right to participate in policies and processes that affect people’s lives, and the growing demand for improved public accountability and responsiveness to citizen inputs at the local, national and global level.

In the UN system, NGOs and other CSOs are UN partners and valuable UN links to civil society. From the Department of Public Information’s (DPI) NGO Section (which oversees partnerships with associated NGOs and provides them with a wide range of information services) to the Department of...
Economic and Social Affairs (registering and providing services to CSOs), the Economic and Social Council (ECOSOC) Civil Society Network and the UN Democracy Trust Fund (which is supported by 36 member states toward empowering civil society in democratic processes around the world), the UN relationship with civil society has strengthened and expanded over the years.3

From 1946, when the General Assembly, in its Resolution 13 (I), instructed the DPI and its branch offices to ‘actively assist and encourage national information services, educational institutions and other governmental and non-governmental organizations of all kinds interested in spreading information about the United Nations’, and the ECOSOC Resolutions 1296 and 1297 (XLIV) of 1968 calling on the DPI to associate NGOs and stating that an NGO ‘shall undertake to support the work of the United Nations and to promote knowledge of its principles and activities, in accordance with its own aims and purposes and the nature and scope of its competence and activities’, the UN has been actively seeking to evolve its civil society relations. It hopes to address major global changes and challenges by harnessing new capacities, diverse experiences and a plurality of constituencies, thus becoming more effective in the process.

In this context, it is not surprising that UN Secretary-General Ban Ki-moon said in 2009 that, ‘Our times demand a new definition of leadership – global leadership. They demand a new constellation of international cooperation – governments, civil society and the private sector, working together for a collective global good.’4

The 1540 Committee and civil society

The ‘collective global good’ referred to by the secretary-general and the need for international cooperation among governments, civil society and the private sector are obvious when considering the spectre of terrorists or other non-state actors of concern armed with nuclear, chemical or biological WMD and their means of delivery.

The devastating effect the use of WMD and WMD-related materials by non-state actors of concern would have on civil society at large and the grave and persistent threats posed by extremist violent groups and individuals, transnational criminal activities, and terrorism, give all members of civil society a stake in and a starting point for engagement in both the operational and the related deliberative processes to counter-WMD proliferation and counter-terrorism.

In many countries and in the UN system, civil society is involved directly, through civil society mechanisms, in political debates on the grave violations of human rights and international law perpetrated through the possession and use of WMDs and their means of delivery.5 Increasingly, multilateralism also includes public debates, and often civil society movements and a crescendo of public opinion bring issues to global attention. In addition, the UN Security Council, the most politically sensitive UN organ, has greatly enhanced its informal relations with civil society in the post-Cold War era, primarily with NGOs in the area of international humanitarian and human rights. This is seen as an adaptive response by the UN Security Council to the changing nature of the conflicts it addresses.6

However, on counter-WMD issues, the UN Security Council’s direct engagement with civil society seems limited to the 1540 Committee providing one-way information services (similar to the General Assembly’s instruction to the DPI from 1946 discussed above, but without the innovative ECOSOC initiative to associate NGOs to promote the work of the committee). Resolution 1540 (and the follow-on Resolution 1673 [2006]) fails to mention engagement with civil society, but it does call upon all states to promote dialogue and cooperation on non-proliferation so as to address the threat posed
by the proliferation of nuclear, chemical or biological weapons, and their means of delivery. While the word ‘cooperation’ in Resolution 1540 may be envisioned in a reader’s mind as the ‘constellation of international cooperation – governments, civil society and the private sector, working together for a collective global good’ as described by UN Secretary-General Ban Ki-moon, that is clearly not the case. Resolution 1810 (2008) specifically notes that international cooperation ‘between states’ is required to counter the illicit trafficking by non-state actors in nuclear, chemical and biological weapons, their means of delivery, and related materials.

Of note, the 2011 report of the 1540 Committee to the UN Security Council mentions, in the section on ‘Outreach to industry and public’, that ‘the Committee recognizes that interaction with civil society, including through outreach to academia and industry, could assist States in implementing resolution 1540 (2004)’ and that ‘the Committee has also encouraged States to promote dialogue and cooperation with civil society, academia and industry to address the threat posed by illicit trafficking in nuclear, chemical or biological weapons, their means of delivery and related materials’. However, despite these words of encouragement, the ‘dialogue and cooperation’ are still mostly limited to awareness raising.

Finally, through Resolution 1977 (2011), the council encouraged 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’ in developing a compilation of effective practices, templates and guidance, and preparing a technical reference guide to Resolution 1540, to be used by states on a voluntary basis in national implementation. Of note, the information requests on relevant effective experience, lessons learnt and effective practices in the areas covered by Resolution 1540 were sent by the 1540 Committee chair in November 2013 to states and international, regional, and subregional organisations, but no formal call to civil society (on the 1540 Committee’s website or elsewhere) has been made to support this process.

Moreover (likely due to the lack of acknowledgment of civil society’s role in Resolution 1540 and follow-on related resolutions), the 1540 Committee barely mentions its engagements with civil society on its website (except for noting various outreach/awareness-raising events). Through Resolution 1540 the UN Security Council called upon all states to develop appropriate ways to work with and inform industry and the public on their obligations emanating from national laws implementing the resolution. Thus the current status quo of civil society engagement is the sporadic interactions between the 1540 Committee and its experts with CSOs at various outreach events, with no formal recognition of and, in particular, support for civil society efforts in countering WMD and assisting in the national implementation of Resolution 1540.

The latest 1540 Committee review of the implementation of the resolution noted in the section on ‘Trends in implementation’ that ‘outreach to civil society, in particular to industry and academia, was maintained’, which is basically the status quo of one-way communication. In a recent development, the 1540 Committee Programme of Work (covering 1 February 2015 to 30 January 2016) states that the committee will ‘encourage States to promote dialogue and cooperation, including with civil society and academia, to address the threat posed by illicit trafficking in nuclear, chemical or biological weapons and their means of delivery, and related materials’. It will also ‘consider and seize opportunities, as appropriate, for direct interaction, with the consent of the State concerned, with relevant industries and industry groups, academia and civil society’. It is unclear what ‘direct interaction’ refers to, but this is still a positive development in terms of mentions of civil society.
Of note, in 2006 the 1540 Committee met several CSOs (i.e., the Stimson Center, the Verification Research, Training and Information Centre [VERTIC], the University of Georgia and the Monterey Center for Nonproliferation Studies) to discuss their activities in support of Resolution 1540’s implementation. As the 1540 Committee said at the time, ‘[T]his dialogue is helping … to identify the ways we can better use the comparative advantages of various players involved.’ However, this has not become an established practice of the committee nor has any action been taken in support of the chair’s idea that the committee ‘use the committee website for sharing information on activities going on in various parts of the world organized by us, by the IGOs [intergovernmental organisations], or NGOs, so as not to compete with each other, not to duplicate efforts, and avoid a situation that some areas are not covered’.

It seems that the 1540 Committee has yet to recognise that global governance is no longer the sole domain of governments, and that a closer two-way civil society connection between the political (1540 Committee-related) and operational (national implementation) domains of Resolution 1540 is imperative. Engaging a plurality of stakeholders, including CSOs/NGOs, on areas related to Resolution 1540’s implementation should not be seen as a threat to governments, but as a powerful way to identify possible new approaches and resources for the implementation of the resolution. Practically, that would mean going beyond informing the public and raising awareness.

**Civil society and Resolution 1540**

The efficient and effective implementation of Resolution 1540 depends on a ‘whole of society’ approach, with governments, industry and civil society working together toward shared goals of capacity building, rule of law and the prevention of WMD proliferation and catastrophic violence by non-state actors. Civil society, academia and industry have already demonstrated in many areas that they are important partners of the 1540 Committee in strengthening the global implementation of the resolution. They just need the recognition and support they deserve for these efforts.

For example, VERTIC is an independent, non-profit organisation that supports the effective verification and implementation of international agreements as well as initiatives in related areas. VERTIC’s National Implementation Measures (NIM) Programme advises states on national implementation of the obligations in the Biological Weapons Convention (BWC); the Chemical Weapons Convention (CWC); the Convention on the Physical Protection of Nuclear Material (as amended); the International Convention for the Suppression of Acts of Nuclear Terrorism; the Code of Conduct on the Safety and Security of Radioactive Sources; and other instruments for the security of nuclear and other radioactive material; as well as Resolution 1540. VERTIC’s NIM Programme provides cost-free legislative drafting assistance and advice to interested states for implementation of the instruments above in their domestic legal frameworks. Such assistance and advice can include:

- Drafting of new legislation during in-country workshops
- Reviewing and commenting on existing draft legislation
- Developing Resolution 1540 national action plans
- Supplying examples of legislation in force
- Providing examples of different approaches to nuclear, chemical, biological weapons and related materials regulation
- Raising awareness of the obligations under the BWC, the CWC and certain legal instruments to secure nuclear and other radioactive material

VERTIC also undertakes comprehensive analyses (legislation surveys) of states’ existing laws and regulations for implementation of the BWC, CWC, certain legal instruments to secure nuclear and other radioactive material, and the related provisions of Resolution 1540, to identify potential gaps and areas requiring strengthening. It also develops and provides legislative drafting tools for governments’ information and use15 and supplies fact sheets for governments’ information. VERTIC’s NIM Programme receives funding from Canada (Foreign Affairs, Trade and Development Canada – Global Partnership Program), the United Kingdom (UK, Foreign and Commonwealth Office – Strategic Programme Fund), the United States (US, Department of State – Biosecurity and Chemical Security Engagement Programs) and the European Union (CBRN Risk Mitigation Centres of Excellence – Project 8) to conduct its work. The implementation approaches and views of the NIM Programme do not necessarily reflect those of the funding governments and agencies.

Since 2009, VERTIC has developed 164 country-specific legislation surveys covering nuclear, chemical or biological weapons-related legislation and completed 84 substantive legislative activities. These activities include legislative drafting workshops, reviews of draft legislation, awareness-raising workshops and the development of 1540 national implementation action plans. VERTIC’s geographic footprint is quite large: since 2012, 17 of VERTIC’s 38 legislative activities took place in Asian states; 12 in African states; five in Latin American and Caribbean states; and four in Eastern European states.

These efforts arguably make VERTIC the most prolific and efficient legislative assistance provider in the world in areas related to Resolution 1540’s implementation and an illustrative example of civil society involvement. Yet VERTIC is not formally acknowledged as an assistance provider on the 1540 Committee’s website/database16 because the UN Security Council only asked states and ‘international, regional and subregional organizations’ to provide points of contact and information as assistance providers.

The fact that through Resolution 1810 the UN Security Council emphasised ‘the importance of providing States, in response to their requests, with effective assistance that meets their needs and stressing the importance of ensuring that the clearinghouse function for assistance is efficient and accessible’ is overlooked in this case because the 1540 Committee would rather address the letter of the resolution and not its spirit, regardless of CSOs’ leveraging capabilities of assistance. One may ask how efficient the clearinghouse function of the 1540 Committee is when there are 19 open requests from states for legislative assistance that could be formally addressed by VERTIC but are not (because of its NGO status). It should be noted, however, that VERTIC does refer to the assistance requests on the 1540 Committee’s website and informally reaches out to states requesting assistance.

Another example is the Center for International Trade and Security (CITS) at the University of Georgia (US). CITS implements education and training programmes (conducted at the University of Georgia and at many other locations worldwide) that focus on the protection of nuclear, chemical and biological materials; prevention of nuclear trafficking; denuclearisation; chemical security; strategic trade controls for conventional weapons and dual-use products; and mitigation of threats posed by trade in the technologies and materials that underlie WMD. CITS prepares both undergraduate and graduate students for careers in international security and non-proliferation and
has trained government officials from over 50 states.\textsuperscript{17} It has provided assistance on developing export control systems for dual-use items to dozens of governments in more than two decades of work. CITS’s Security and Strategic Trade Management Academy has included Resolution 1540 in its curriculum and is looking for funding sources to launch a special training programme on the resolution. In cooperation with the UN Office for Disarmament Affairs (UNODA), CITS publishes the \textit{1540 Compass} journal, a publication of letters and articles on the implementation of the resolution authored by representatives of governments, international, regional and subregional organisations, civil society and the private sector, as well as by current and former members of the 1540 Committee group of experts.\textsuperscript{18} Nine issues have thus far been posted on its website and printed in the UN’s official languages.

CITS is spearheading the customised application of the generic model of nuclear security culture\textsuperscript{19} to the chemical and biological fields, which would help to enhance biosecurity and chemical security in particular by advancing training and education programmes currently focused on awareness raising to a more holistic and sustainable approach dedicated to chemical, biological, radiological and nuclear (CBRN) security. CITS experts have collaborated with the International Atomic Energy Agency (IAEA) in drafting the agency’s technical guidance documents on security culture assessment and enhancement. An added benefit of this approach is the fact that such enhancements can be measured and tracked over time as success metrics or part of a corrective action plan.

CBRN security culture is defined as an assembly of beliefs, attitudes and patterns of behaviour of individuals and organisations that can support, complement or enhance operating procedures, rules and practices, as well as professional standards and ethics designed to secure CBRN materials, achieve non-proliferation goals and prevent their criminal use.\textsuperscript{20}

Operationally, it is assessed and enhanced at the level of facilities and staff, but sustainability should be the ultimate goal and its implementation a societal value. It provides an additional risk mitigation approach that is intrinsic to the ‘implementation of appropriate controls over related materials’ and it complements the required ‘appropriate effective laws prohibiting activities involving the proliferation of nuclear, chemical and biological (NCB) weapons and their means of delivery to non-State actors, in particular for terrorist purposes’ required by Resolution 1540. In collaboration with the Non-Proliferation Center of Armenia, CITS organised an international workshop on ‘CBRN security culture: concept, assessment, and enhancement’ under the auspices of the North Atlantic Treaty Organization (NATO) Science for Peace and Security programme in Yerevan, Armenia (9–13 June 2014). This was instrumental in identifying crosscutting synergies between the chemical, biological and radiological/nuclear sectors, as well as a practical demonstration of assessment and enhancement methodologies. CITS is planning to undertake several ‘proof of principle’ missions in various countries in support of its comprehensive CBRN security culture concept and the assessment framework it has developed.

CITS’s cooperation with Indonesia’s National Nuclear Energy Agency (Badan Tenaga Nuklir Nasional, or BATAN) is another example of a successful government partnership with civil society. CITS and BATAN completed a successful pilot project to test the emerging methodology of self-radiological security culture at BATAN’s three research reactors (2012–2013), which later led to the establishment in Serpong of the Center for Security Culture and Assessment (CSCA) as an expert and training hub nationally and internationally.
CITS is an example of an NGO pioneering and leading novel approaches to strengthening the implementation of Resolution 1540. What is needed is a state to champion the CBRN security culture concept and assessment framework in the UN Security Council and 1540 Committee, and mainstream them as measures toward meeting the obligations set forth by Resolution 1540 for effectively addressing the whole spectrum of threats involving NCB weapons-related materials, WMD proliferation, and CBRN terrorism. Close partnership and two-way communication between the 1540 Committee and CSOs may lead to identifying new approaches for the implementation of the resolution and provide CSOs with a way to help define priorities and contribute to solutions to the global threats and challenges we face.

**Civil society and UNODA**

While the relationship of the 1540 Committee with civil society is yet to be fully defined beyond outreach and awareness raising, one of UNODA's key areas of support for the activities of the 1540 Committee is to promote 'effective partnerships of key stakeholders including civil society, private sector and academia'. In January 2013 UNODA, in cooperation with Austria, organised the first Civil Society Forum on Resolution 1540. The forum assembled 45 CSOs that reflected a broad geographical diversity and included representatives from the Americas, Asia, Eastern and Western Europe, the Middle East, North Africa and Southern Africa. UNODA also publishes the series entitled ‘Civil society and disarmament’ within the context of the General Assembly’s resolutions on the UN Disarmament Information Programme and the UN Study on Disarmament and Non-proliferation Education. The most recent issue featured an article on the ‘Collaboration between governments and civil society on disarmament and non-proliferation education’.

While UNODA is undertaking many significant activities in support of the resolution, one area where a gap still exists is in the training and education domain. UNODA's online database on education and training resources – established as a follow-up to the UN Study on Disarmament and Non-Proliferation Education, which aimed inter alia to establish close collaboration between experts and civil society, including educators and academic institutions – is still an underutilised tool for awareness raising, training and education in support of Resolution 1540. The most recent (2014) biannual secretary-general report on disarmament and non-proliferation education (based on submissions from states, IROs and CSOs) had contributions from only eight states, with only three references to Resolution 1540 (from Iraq, the DPI and the Institute for Security Studies [ISS]). The Non-proliferation for Global Security Foundation from Argentina submitted information about ongoing efforts on developing courses focused on Resolution 1540, but this information has not been captured in the secretary-general’s report.

There are no training courses or educational tools related to Resolution 1540 on UNODA’s website. UNODA should seek to coordinate its activities in support of Resolution 1540 with those pertaining to the database on disarmament and non-proliferation education and the secretary-general's biannual report on these topics. A practical step forward would be for UNODA to build a network of civil society points of contact from its outreach events and forward the biannual invitation from the secretary-general to them to elicit information on education and training resources on Resolution 1540 for the report and UNODA's online database. Moreover, UNODA should organise workshops to exchange information on improving education and training in areas related to the resolution, including through the development of e-modules, courses, games and simulations, and discuss ways to sustain activities and initiatives in this areas.
Civil society and the CTC/CTED

The important contribution made by civil society and the private sector in supporting national and international efforts to meet the objectives of Resolution 1540 has yet to be formally recognised by the 1540 Committee. While the 1540 Committee and civil society are gingerly trying to define their relationship, the Counter-Terrorism Committee (CTC), as assisted by the Counter-Terrorism Committee Executive Directorate (CTED), is given much more leeway in UN Security Council resolutions on engaging with civil society.

For instance, the latest resolution (2129), on threats to international peace and security caused by terrorist acts, mentions civil society four times, with the UN Security Council recognising ‘the importance of local communities, private sector, civil society and media in increasing awareness about the threats of terrorism and more effectively tackling them’, as well as ‘the advantages of a comprehensive approach to preventing the spread of terrorism and violent extremism’. In this context, it invites the CTED ‘as appropriate and in consultation with relevant Member States, to further engage and enhance its partnerships with international, regional and sub-regional organizations, civil society, academia and other entities in conducting research and information-gathering, and identifying good practices, and in that context to support the CTC’s efforts to promote the implementation of Resolutions 1373 (2001) and 1624 (2005)’.30

One may say that the language above also applies to WMD non-proliferation and preventing non-state actors of concern, including terrorists, from acquiring nuclear, chemical or biological weapons-related materials. Since Resolution 2129 (2013) also directs the CTED to increase cooperation with committees that have mandates established pursuant to Resolutions 1267 (1999) and 1989 (2011), 1988 (2011), 1373 and 1540 and their respective groups of experts, this may constitute an opportunity to further sensitise the 1540 Committee’s members to the benefits of actively engaging civil society beyond the traditional 1540 outreach approach.

Furthermore, through Resolution 2129, the UN Security Council noted ‘the evolving nexus between terrorism and information and communications technologies’ and expressed ‘concern at the increased use, in a globalised society, by terrorists and their supporters of new information and communication technologies, in particular the Internet, for the purposes of recruitment and incitement to commit terrorist acts, as well as for the financing, planning and preparation of their activities’. It directed the CTED ‘to continue to address this issue, in consultation with Member States, international, regional and subregional organizations, the private sector and civil society and to advise the CTC on further approaches’.29

Illicit online trafficking in WMD-related materials and technology is also a concern that falls under the purview of the 1540 Committee, if emerging issues in WMD proliferation are to be considered. This may be an opportunity for the 1540 Committee and its group of experts to identify ways to engage and partner with civil society (in addition to IRO, academia and other entities) in conducting research and information-gathering and identifying good practices, in addition to finding synergies with the CTED’s work as mandated by Resolution 2129.

As part of its strategy of engaging civil society, academia and other entities, in February 2015 the CTED launched a global research network consisting of 28 leading think tanks and research institutions from Africa, Asia, Europe, the Middle East, the Americas and Oceania. This is aimed at strengthening its capacity to identify new trends, challenges and developments related to terrorism
and monitoring member states’ counter-terrorism efforts. However, there is also a need to monitor WMD proliferation-related issues. How can this global research network established by the CTED be used as a platform supporting not only the CTC but also the work of the 1540 Committee and its group of experts?

**Women, peace and security**

The 1540 Committee may also consider ways to leverage the CTED global research network and its CSO members to inform policymaking and considerations, not only on illicit trafficking and trade in WMD-relevant materials and technology but also on practical approaches to link thematically distinct but operationally connected UN Security Council agenda topics such as WMD non-proliferation and women, peace and security (WPS). In the recent Resolution 2129 extending the mandate of the CTED, the UN Security Council recalled the adoption of Resolution 2122 (2013) on WPS and reaffirmed its ‘intention to increase its attention to women, peace and security issues in all relevant thematic areas of work on its agenda, including in threats to international peace and security caused by terrorist acts’. Moreover, the General Assembly Resolution A/RES/68/276, issued at the 2014 biannual review of the UN Global Counter-Terrorism Strategy, mentions ‘the important contribution of women to the implementation of the Strategy, and encouraging Member States, United Nations entities and international, regional and subregional organizations to consider the participation of women in efforts to prevent and counter terrorism’.

No such connection has yet been made between WMD non-proliferation, Resolution 1540 and WPS. The proliferation of chemical, biological and nuclear WMD and the possibility of extremists or terrorists acquiring and employing WMD-related materials to perpetrate attacks constitute a grave and persistent threat to national and international security. Women play a vital role in countering terrorism and violent extremism, but worldwide they are underrepresented in counter-terrorism and WMD non-proliferation decision-making processes. The 1540 Committee and the UN Security Council may look at ways to empower women worldwide to participate in the design and implementation of WMD non-proliferation efforts related to Resolution 1540 implementation, promote equal opportunities for the representation of women in all decision-making processes, and strengthen cooperation with civil society and women’s groups on these matters.

Currently, there are few discussions on gender perspectives in WMD non-proliferation (whether related to increasing women participation in political and technical decision-making, the disproportionately higher impact on women and children of biological, chemical and nuclear weapons, etc.). A report from the Organisation for Economic Co-operation and Development (OECD) poses the question whether a gender perspective may aid in understanding ‘the politics of nuclear weapons’ based on data linking the structure and formation of masculine identities and ‘militarism’. Other authors have suggested that ‘the role of men and a certain kind of masculinity in dominating the political structures that organise wars and oversee security matters is beginning to be questioned’. In this context, when a big gap exists in providing equal opportunities for women’s engagement and participation in national and international decision-making processes on WMD non-proliferation, women’s empowerment should be supported by the UN entities (the General Assembly, UN Security Council, UN Women, etc.) and individual UN member states in order to underwrite global peace and security at a time when new approaches and synergies are sought to counter grave and persistent WMD threats and violent extremism.
Strengthening civil society engagement is essential to ensure a vibrant and constructive consultative process of reviewing the status of implementing Resolution 1540. In this context, it is important to note that public opinion has become a key factor influencing intergovernmental and governmental policies and actions. Similar to the UN position on this issue in 2004, civil society is now so vital that engaging with it well is a necessity for the 1540 Committee, not an option. The 1540 Committee should further strengthen its dialogue with civil society by ensuring that its visits to states, at their invitation (or joint visits with the CTC), include meetings with appropriate local CSOs, including women’s groups, and others such as industry organisations. In addition to the host nation, UN Headquarters and field staff may also facilitate such meetings.

A potential CSO monitoring regime

Today there are many examples of CSOs supporting the implementation of Resolution 1540. However, these efforts are yet to coalesce into major global networks informing the policy decision-making process, as has happened in other areas. For example, in 2008 a group of four CSOs – the Institute for Security Studies (ISS) in South Africa, the Research Group for Biological Arms Control in Germany, the Society for the Study of Peace and Conflict in India, and VERTIC in the UK – took up the challenge of increasing transparency in areas related to the BWC by monitoring states’ activities. Their efforts led to what is now known as the BioWeapons Prevention Project (BWPP) – a global network of civil society actors that helps to monitor compliance with the international norm prohibiting biological weapons. The BWPP seeks to complement and work with governments in their activities to effectively implement the BWC and fulfil their respective obligations. Its annual publication, the BioWeapons Monitor (first edition published in 2010, followed by 2012, 2013 and 2014 editions) seeks to provide factual information that will enhance discussions on strengthening the effectiveness and improving the implementation of the BWC and other national and international measures relating to the prohibition of biological weapons.

For instance, BioWeapons Monitor 2014 contains national reports on BWC-relevant activities in 19 states parties (Argentina, Australia, Brazil, China, Czech Republic, France, Germany, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, South Korea, the Russian Federation, South Africa, Ukraine, the UK and the US). The authors used open sources and actively sought information from as many reliable sources as possible, such as government departments, research institutions, industry, scientific societies and other entities. Each national report starts with information on the status of the BWC, the Geneva Protocol, the CWC and Resolution 1540 in the state party in question, as well as on the national contact point for these instruments, together with membership of other relevant international arrangements.

Each report also contains information on national policy on biological and toxin weapons, some basic information on the national life science and biotechnology industry landscape, activities and facilities to counter biological outbreaks, maximum and high biological containment laboratories, any work on smallpox, and other dual-use research of immediate misuse potential. The reports also cover the respective state party’s participation in reporting on confidence-building measures and the BWC meetings.

In addition, each report examines past biological weapons activities and allegations thereof, from both governmental and non-state actors, with a focus on the post-1972 period. Bioterrorism hoaxes are also included. The introduction to the BioWeapons Monitor mentions that it is a work in progress, being annually updated, corrected and improved, and that the authors welcome comments from governmental and non-governmental actors. The BioWeapons Monitor is also
presented at the BWC meetings of states parties and the authors present their findings at dedicated side events on the margins of the BWC meetings of states parties.

Similarly, Landmine and Cluster Munition Monitor produces several research products, including the annual Landmine Monitor and Cluster Munition Monitor reports, online country profile reports, and factsheets and maps. This initiative provides research for the International Campaign to Ban Landmines and the Cluster Munitions Coalition, another global network of CSOs, a de facto monitoring regime for the 1997 Convention on the Prohibition of the Use, Stockpiling, Production and Transfer of Anti-Personnel Mines and on Their Destruction (Mine Ban Treaty) and the 2008 Convention on Cluster Munitions (CCM), reporting on states parties’ implementation of, and compliance with, these international instruments.40

The BioWeapons Monitor and the Landmine and Cluster Munition Monitor are two examples of effective civil society participation in their respective areas. Similar initiatives in monitoring the implementation of Resolution 1540 should be encouraged by the 1540 Committee and funded by UNODA as part of its key areas of support for activities of the 1540 Committee on promoting ‘effective partnerships of key stakeholders including civil society, private sector and academia’.19 Former members of the 1540 Committee group of experts should also be of assistance in such an initiative. A civil society monitoring regime for the resolution may raise new issues, challenge basic assumptions and priorities, and ultimately increase the effectiveness of the 1540 Committee and strengthen the implementation of the resolution in the respective states.

Conclusion and summary of recommendations

In its current interactions with civil society, the 1540 Committee suffers from strategic blindness, failing to recognise that governments alone cannot solve today’s global WMD challenges and that civil society is a critical strategic partner in this regard. The 1540 Committee should become an outward-looking organisation, seizing opportunities and devising strategies that draw on the power of public opinion, the creativity and persuasiveness of civil society, the resources and skills of the private sector, and the capacities of many other constituents. While many still perceive a tension between the inherent responsibilities of governments on implementing the resolution and the growing importance of civil society in international debates and action, the 1540 Committee should become the champion of finding synergies in this domain to complement and strengthen its work by charting new global possibilities through strategic alliances with civil society.

Recommendations

• The 1540 Committee website should include information on the committee’s engagement with civil society (besides outreach) and recognition of civil society efforts in counter-WMD measures and national implementation of Resolution 1540, and add a call to civil society for information on relevant effective experience, lessons learnt and effective practices in the areas covered by the resolution.

• The 1540 Committee should invite relevant CSOs (such as VERTIC and CITS) to join the network of assistance providers and list them on its website.

• The 1540 Committee should invite CITS to brief committee members on the tools and methodologies for assessing and enhancing the CBRN security culture, which is intrinsic to the ‘implementation of appropriate controls over related materials’ and complementary to the required
‘appropriate effective laws prohibiting activities involving the proliferation of [NCB] weapons and their means of delivery to non-state actors, in particular for terrorist purposes’ mandated by Resolution 1540.

- The 1540 Committee and its group of experts should seek jointly with the CTC/CTED ways to actively engage civil society and leverage the CTED’s global research network of CSOs to monitor issues related to WMD proliferation and Resolution 1540.

- The 1540 Committee and the UN Security Council should seek ways to link thematically distinct but operationally connected UN Security Council agenda topics such as WMD non-proliferation and WPS.

- UNODA should sponsor a CSO-developed technical reference guide on Resolution 1540, to be used by states on a voluntary basis in national implementation upon 1540 Committee clearance.

- UNODA should build a network of civil society points of contact from its outreach events and forward them the biannual invitation from the secretary-general for submissions on disarmament and non-proliferation education, to elicit relevant information on education and training resources on Resolution 1540 for the report and to post on UNODA’s Disarmament Education website.

- UNODA should organise workshops to exchange information on improving education and training in areas related to Resolution 1540, including through the development of e-modules, courses, games and simulations, and to discuss ways in which to sustain activities and initiatives in these areas.

- The 1540 Committee and UNODA should support the establishment of a civil society monitoring regime for the implementation of Resolution 1540, similar to the BioWeapons Monitor and the Landmine and Cluster Munition Monitor in their respective domains.

Notes

1 The views, opinions, findings and conclusions expressed in this paper are those of the author and do not necessarily represent the views, official policy or position of the US government.


9 The 2011 report of the 1540 Committee (S/2011/579, 14) is the exception but arguably has less of an effect since the language on ‘dialogue and cooperation’ with civil society is linked in the report to outreach and not to national implementation.


28 Of note, the ISS mentions that it “has produced African appropriate guides to the Treaty of Pelindaba and UNSC 1540 (2004) and is presently developing an African specific curriculum on disarmament and non-proliferation for use by academics and other educational and capacity-building institutes”.


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Effective implementation of UNSC Resolution 1540 – the role of CBRN security culture

United Nations (UN) Security Council Resolution 1540 (2004) was adopted in April 2004 to strengthen the international non-proliferation architecture and address the possibility of non-state actors accessing weapons of mass destruction (WMD), their means of delivery and related materials. Resolution 1540 formally affirmed that the proliferation of nuclear, chemical and biological weapons, as well as their means of delivery, constitutes a threat to international peace and security and as such filled a gap in international law by addressing the risk that terrorists might obtain, proliferate or use WMD. What makes the resolution unique is that it calls on states to implement effective non-proliferation measures, including relevant domestic controls. To do this, it imposes binding obligations on states to refrain from supporting, by any means, non-state actors to develop, acquire, manufacture, possess, transport, transfer or use nuclear, chemical or biological weapons, their means of delivery and related materials.

The unanimous adoption of UN Security Council Resolutions 1810 (2008) and 1977 (2011) was a significant step toward institutionalising the 1540 process. Resolution 1977’s provisions encourage all states to voluntarily prepare summary action plans, with the assistance of the 1540 Committee, as appropriate, mapping out their priorities and plans for implementing the resolution’s key provisions, and to promote the sharing of related experiences, lessons learnt and effective practices.

Resolution 1977 also extended the mandate of the 1540 Committee for a period of 10 years and encouraged the committee to actively engage in dialogue with states on the implementation of Resolution 1540, including through visits to states at their invitation. One of the major tasks to achieve complete implementation of Resolution 1540 and subsequent resolutions is to identify a common foundation and understanding of threat perceptions and compliance motivation.¹

This paper focuses on security culture as being key to achieving physical protection and the security of chemical, biological and nuclear materials. The paper is based on my experiences as a former member of the 1540 group of experts while drawing on the important work and publications of the Center for International Trade & Security (CITS) based at the University of Georgia, USA.²
What is the CBRN security culture?

The International Atomic Energy Agency (IAEA) defines nuclear security as ‘the assembly of characteristics, attitudes and behaviour of individuals, organisations and institutions which serves as a means to support and enhance nuclear security’. According to Khripunov, chemical, biological, radiological and nuclear (CBRN) security culture can be defined as an assembly of beliefs, attitudes and patterns of behaviour that can reinforce or complement operating procedures, rules, regulations and ethical standards in the process of achieving intended WMD non-proliferation and security goals. Based on that, it seems clear that the human factor plays a key role in ensuring the security and safety of such materials, to control or minimise the risk to acceptable levels not only in relation to employees and the community, but also the environment, which could be directly or indirectly exposed to CBRN materials.

Most security accidents have been the result of human error, such as inadequate skills, negligence and miscalculation. Therefore, an awareness of security-related issues could significantly contribute to reducing the risk that materials, sensitive information or expertise could fall into the hands of non-state actors or terrorists.

CBRN security culture as a new target for the 1540 Committee

CBRN materials are produced, transported and handled under many different circumstances, which poses an inherent risk. Major incidents involving CBRN materials, including terrorist acts, have thus far been relatively rare, but the consequences could be devastating. Non-proliferation and disarmament can make an essential contribution to the global effort to combat terrorism by preventing or reducing the access of non-state actors or other non-authorised persons to chemical, biological and nuclear dual-use materials. Any effective measure to mitigate and reduce the risk of CBRN materials falling into the wrong hands, whether due to criminal, accidental or natural reasons, requires a high level of cooperation and coordination between different national agencies. These agencies must take numerous measures to protect the population against the risks and threats posed by terrorist use of CBRN materials.

Small and developing countries face a common challenge in fulfilling the requirements of Resolution 1540. Beck argues that they often lack resources and institutional capacity, and have to deal with competing foreign and domestic priorities that often mean that non-proliferation is pushed to the bottom of national agendas. In addition, as also noted by Beck, these states often struggle to develop and maintain effective border controls and enforcement mechanisms to combat illicit trafficking and brokering in items related to WMD.

They may also struggle to develop legislation and implement national controls to restrict the export, transit, trans-shipment and re-export of WMD-related items. Although many developing and small nations lack the production capacity for WMD-related materials, countries that are not considered traditional suppliers have been used by criminal or terror networks for such purposes. They recognise that transfers to, and from, these locations may not be sufficiently scrutinised and that these states often lack export, transit and trans-shipment controls on WMD-related materials and goods. As Beck comments, ‘as an increasing number of supplier states and developed countries tighten controls, states that are not traditional suppliers may be exploited as proliferation hubs’. 
Without giving detailed instructions, Resolution 1540 requests that all states, in accordance with their national procedures, institute 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. The resolution provides for a wide-ranging set of tools to address CBRN threats by non-state actors.

One of the most practical tools to achieve the effective implementation of Resolution 1540 is to develop a high-security culture among staff. CBRN security culture is understood as a management and organisational system that focuses on the human factor. This tool represents a new approach to extend the mandate of the 1540 Committee, according to Resolution 1977. Building a security culture is an important additional risk mitigation approach that complements other essential measures to support states’ efforts to implement Resolution 1540.7

**Building a CBRN security culture**

Security culture is not limited to the nuclear field – it exists in the chemical, biological and radiological fields as well, where it is similar in content but differs in the details. However, efforts to promote and implement a CBRN security culture remain individual and uncoordinated, and depend on the varying measures carried out by different countries, according to their security perspectives and policies. Thus far no common security culture structure has been developed. Resolution 1540 provides a framework to develop such a comprehensive security culture at the national level, through the collective efforts of all stakeholders.

The human factor is generally a major contributor to all CBRN security-related incidents. These include deliberate malicious acts, unintentional personnel errors, poor organisational processes and management failures. Individual understanding of roles and responsibilities, a commitment to continuous improvement, and managerial oversight are thus of great importance to CBRN security.8 In this regard, leadership and management are vital components. Developing and enhancing a sustainable CBRN security culture would help countries that lack the relevant experience and expertise to better understand the role of the human element.9 A universal methodology and common foundation would help in building national human capacity.10

One of the most serious challenges posed to CBRN material security is the fact that formal arrangements at the governmental level generally exclude some actors in society.11 Every segment has a vital role to play, and enhancing a security culture should therefore include all actors. Similarly, a commonly agreed approach is needed: one that acknowledges the importance of all actors, as well as the international character of CBRN material security.12

As stated in the IAEA's *Nuclear Security Culture: Implementing Guide*, security culture has three major components. The first relates to the policy that the state wishes to put into practice, in particular in the national and international context. The second is the organisational structure of each affected body, particularly in applying the policy instituted by the state. The third component is the attitude adopted by staff members at all levels to implement this policy and incorporate it into their work.13

Regularly promoting a strong CBRN security culture is vital if CBRN security programmes and activities are to achieve immediate and long-term success and sustainability. Such programmes must involve everyone connected to relevant facilities. This requires engaging all levels in the relevant government institutions, as well as academia, industry and the private sector.14
A focus on the human dimension of security culture can help to sustain positive results in strengthening CBRN material security. Among the steps that can be taken to ensure this are:

- Strengthening and promoting awareness and responsibility among those who are dealing with CBRN materials, including scientists
- Promoting best practices and collaboration in CBRN security in the international scientific community
- Promoting responsibility regarding access to CBRN curricula and intangible technologies
- Strengthening and promoting awareness and a responsible culture in academic and research institutions

A common paradigm of security culture, which is applicable to all the CBRN fields, is a necessity. There are several reasons for this. One of the most important is the fact that breakthroughs in science and technology tend to blur the divisions between the CBRN domains, and often affect multiple domains at the same time.

As Khripunov, Eyzaguirre and Alcorn point out, modern technologies and their products are less susceptible to the regulatory process. Their control, at least in the first stages, depends increasingly on the discretion of decision-makers and their perceptions of security. They cite the example of biosynthesis, which allows the replacement of the original genome in bacterial cells with synthetically produced genomes. The result of this ‘synthetic biology’ is that bacterial cells with new properties are produced. They argue that while these advances could hold many benefits to humankind, they presently remain outside the international legal framework and could be used to produce toxic chemicals and toxins through biologically mediated processes.

Khripunov, Eyzaguirre and Alcorn further highlight another cross-cutting science-driven phenomenon – nanotechnology – which could facilitate the miniaturisation of nuclear explosive devices to evade detection. As with biosynthesis, efforts to include molecular nanotechnologies in existing treaties on chemical and biological weapons might not be effective. The civilian uses of such technonlogies are widespread, and there is no direct evidence that they are being put to military use, although such an eventuality cannot be excluded. Thus far, these technologies have been kept out of hostile hands thanks to non-proliferation advocates and security-conscious personnel.

At an international workshop on ‘CBRN security culture: concept, assessment and enhancement’, participants discussed the common culture elements of the separate CBRN domains, as well as the unique features specific to each subset. How CBRN security culture is intrinsic to high standards of professionalism as applied to the imperatives of WMD non-proliferation and the prevention of terrorism was highlighted.

This culture enables a person or an institution to respond to familiar and unfamiliar security threats to materials and facilities – including by insiders with malicious intent – according to ingrained habits rather than improvisation. For instance, a WMD proliferation prevention mindset (fuelled by the nurtured culture) could enhance due diligence in evaluating the risk of dual-use research of concern in life sciences, issuing export licences, verifying end-users, and preventing illegal transfers of knowledge, materials and equipment.

At this workshop participants agreed that the nuclear and radiological security culture and its evaluation and assessment methodologies and tools are more developed than its counterparts.
in the chemical and biological fields, due primarily to the leading role of the IAEA internationally. The generic model of radiological security culture could be applied to the chemical and biological fields, however, and would offer the opportunity of enhancing biosecurity and chemical security.\textsuperscript{23}

Training and education programmes could also be improved by focusing on a more holistic and sustainable approach dedicated to CBRN security, instead of the current focus on simply raising awareness.\textsuperscript{24} An added benefit of this approach is the fact that such enhancements can be measured and tracked over time as success metrics or as part of a corrective action plan. The CBRN security culture also provides an additional risk mitigation approach that complements the legally binding obligations set forth in Resolution 1540.

Building a security culture and raising awareness among employees is one of the most effective defences against illicit activities, and helps to prevent unauthorised access, loss, theft, misuse, diversion or intentional release. Therefore, staff who are aware of security-related issues could significantly contribute to reducing the risk that CBRN materials, sensitive information or expertise falling into the hands of non-state actors, unauthorised personnel or terrorists. The security culture must also be improved among all staff members involved in handling or having access to CBRN materials at all institutions and law enforcement agencies.

CBRN security culture is also an effective tool to overcome the gaps in the effective implementation of Resolution 1540 at academic and research institutions.\textsuperscript{25}

As Rath notes, ‘addressing the CBRN risks resulting from research and academia is a continuous challenge’ and ‘the CBRN security culture concept could be especially valuable in mitigating risks arising from research and academia.’\textsuperscript{26} Many incidents and threats indicate that research and academic institutions are key stakeholders in CBRN security. Academics and researchers are thus viable players in the fight against CBRN terrorism.

There is still a weakness in building and developing a CBRN security culture in many countries, especially in Asia, Africa and the Middle East, which negatively affects the implementation of Resolution 1540. Each country’s approach to achieving a CBRN security culture will vary according to its history, traditions and overall professional culture.

More work is required for CBRN security culture to be taken from the conceptual to the operational level.\textsuperscript{27} In research and academia this means developing practical mechanisms, special tools and monitoring concepts that are appropriate not only to the institutional contexts of academia and research, but also to the specific nature of the risks involved.

**Recommendations**

Based on a review of current security culture literature, including the Action Plan on ‘Strengthening Chemical, Biological, Radiological and Nuclear Security in the European Union’ (the EU CBRN Action Plan),\textsuperscript{28} the following is recommended:

- Encourage countries, especially small and developing countries, to promote an enhanced CBRN security culture by, among others, focusing on the enhancement of knowledge of CBRN security through risk assessments, research, the exchange of best practices and joint training and exercises, and by contributing to an adequate perception of the risks associated with CBRN materials by disseminating experience and knowledge to relevant stakeholders such as public authorities, first responders, researchers, the general public, security managers and staff.
• Staff behaviour is the consequence of staff members’ specific cultural traits, so countries should focus on the lived organisational culture within the security regime.

• The 1540 Committee and its group of experts must promote a CBRN security culture, raising awareness at every discussion concerning the implementation of Resolution 1540, and at the country level through outreach activities and country visits. This issue could become an important item on the agenda of the 2016 Comprehensive Review of the Status of Implementation of Resolution 1540.

• Countries, especially small and developing countries, should start to develop programmes to raise awareness among university students, including graduate students, especially in the life sciences. The programme should include a separate lecture or a short lecture series; workshops; and the publication and distribution of posters, leaflets, brochures and fact sheets, to raise awareness about the importance of building a CBRN security culture. The objectives of this lecture or lecture series would be to get students to pay attention to the problem as a whole, set principles of the CBRN security culture, recognise the importance of protecting information to enhance an effective security culture and develop an understanding of their role in enhancing the security culture at their institutions.

• Non-governmental organisations, international organisations, civil society and industry play a significant role in promoting CBRN security culture through raising public awareness. The role of these organisations should thus be strengthened in this regard.

• Training and education remain key if a sustainable CBRN security culture is to be achieved. Joint cooperation programmes can play a fundamental role in providing training on security culture. Special attention must be given to the security-related training of employees in research organisations, as they have access to CBRN materials and valuable knowledge. Regular training in good practices and new regulations, along with refresher courses, are essential to keep work standards high and to ensure that rules are adhered to.

• Education, training and awareness-raising programmes; voluntary codes of conduct; building a CBRN security culture; and promoting the responsible conduct of science are prerequisites to establishing an effective oversight framework for dual-use materials.

• Clear formulations of the CBRN security threats and the mission of security culture are needed. This will allow global partnership to find its place in addressing them.

• It is necessary to enhance the global security culture and raise awareness of the importance of best practice in safety, security and non-proliferation.

• Good practices in security training and the education of persons working with, having access to, or handling high-risk CBRN materials should be identified, developed and disseminated. Guidelines for minimum security training requirements of such personnel ought to be considered. A peer-review system could be one way of doing this; whereby experts from various countries visit one other to learn from their experiences and share best practices.

• The UN Office for Disarmament Affairs (UNODA) and the 1540 Committee should continue to organise roundtable meetings to explore novel and effective approaches to building a security culture in countries in different regions. These meetings facilitate exchanges of experience and the development of a collaborative platform that can be incrementally expanded from the regional to the international level.
Greater support is needed for the Chemical, Biological, Radiological and Nuclear Risk Mitigation Centres of Excellence Initiative created by the European Union, and strengthened scientific expertise is required for the implementation of regional and international projects on national capacity building and promoting CBRN security culture.

**Conclusion**

Focusing on the human factor is an essential part of any successful effort to prevent terrorist-related CBRN material activities. By focusing on the human factor, CBRN security culture can provide a new and complementary tool to the existing tool set of Resolution 1540. Engaging in all available options to implement Resolution 1540 is essential to effectively counter the CBRN threat posed by non-state actors. This will reinforce a sustainable security culture in each CBRN sector by building a common architecture, which promotes a shared vision of the CBRN security culture. Such an integrated approach will enable many countries lacking experience in this sector to better address CBRN risks and to comply with international obligations such as Resolution 1540 regarding the non-proliferation of WMD.

The importance of the human factor in security cannot be underestimated. As Gen. Eugene Habiger, formerly of the US Department of Energy's nuclear-weapons complex and commander of US strategic nuclear forces, has observed, ‘Good security is 20% equipment and 80% people’. The IAEA plays a leading role in facilitating the exchange of information and international collaboration, as well as providing assistance and guidance in support of building a nuclear security culture. The potential exists for much more widespread and effective cooperation, not only between countries but also between organisations such as the World Health Organization, the World Organisation for Animal Health, the Food and Agriculture Organization, the Organisation for the Prohibition of Chemical Weapons and the Biological Weapons Convention-Implementation Support Unit. Such cooperation can provide guidance specific to the chemical and biological domains based on the rich experiences of the nuclear/radiological sector (including the International Nuclear Security Education Network) in building a security culture. Similar efforts in the chemical and biological domains are either missing or have no defined or evaluated indicators (for safety/security culture, risk management or the responsible conduct of science). They also lack international leadership.

The 1540 Committee, its group of experts and UNODA can play a major role in building a comprehensive CBRN security culture by raising awareness during its outreach activities on the implementation of Resolution 1540. They should thus consider CBRN security culture as a new target in the near future.

**Notes**

1. Igor Khripunov, A Blueprint of CBRN Security Culture, 1540 Compass, Issue 2, Summer 2012.
6. Ibid.


16 Igor Khripunov, Arthur Eyzaguirre and Jessica Alcorn, A blueprint of CBRN security culture, 1540 Compass, Issue 2, Summer 2012.

17 Ibid.

18 Ibid.

19 Ibid.


21 The workshop was organised under the auspices of the NATO Science for Peace and Security programme by the University of Georgia’s Center for International Trade and Security (CITS) and the Non-Proliferation Center of Armenia, in Yerevan, Armenia from 9–13 June 2014.


23 Ibid.

24 Ibid.

25 Johannes Rath, Effective Implementation of UNSCR 1540 in Research and Academia: the Role of CBRN Security Culture, 1540 Compass, 7, Fall 2014.

26 Ibid.

27 Ibid.


29 Quoted in: Nuclear security culture: the case of Russia, Center for International Trade and Security, the University of Georgia, December 2004.

30 Gen. Eugene Habiger, a former Assistant Secretary for Safeguards and Security at the U.S. Department of Energy’s nuclear-weapons complex and a former commander of U.S. strategic nuclear forces.

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About this monograph

United Nations Security Council Resolution 1540 (2004) calls on states to prevent criminals, militant groups and other non-state actors from acquiring or using weapons of mass destruction. This monograph is based on papers that were presented and discussed at a meeting of former members of the 1540 Committee’s group of experts. The meeting took place in Cape Town, South Africa in May 2015, and was organised by the ISS in cooperation with the United Nations Office for Disarmament Affairs and using funds from voluntary contributions by the governments of the Republic of Korea and the United States of America. The monograph is a timely assessment towards the 2016 Comprehensive Review of the implementation of Resolution 1540. It covers a broad spectrum of topics and recommends better ways to combat the threat of nuclear, chemical and biological weapons. The reader is invited to explore and think critically about the international community’s efforts in this regard.

About the ISS

The Institute for Security Studies is an African organisation that aims to enhance human security on the continent. It does independent and authoritative research, provides expert policy analysis and advice, and delivers practical training and technical assistance.

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