

EU Non-PROLIFERATION CONSORTIUM

The European network of independent non-proliferation think tanks

Status of non-proliferation treaties, agreements, and other related instruments in the Middle East

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Background paper

EU Seminar to promote confidence building and in support of a process aimed at establishing a zone free of WMD and means of delivery in the Middle East

Brussels, 6–7 July 2011

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July 2011

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Abbreviations

AP	Additional protocol
BWC	Biological and Toxin Weapons Convention
CPPNM	Convention on the Physical Protection of Nuclear Material
CSA	Comprehensive Safeguards Agreement
CTBT	Comprehensive nuclear-test-ban treaty
CWC	Chemical weapons convention
GICNET	Global Initiative to Combat Nuclear Terrorism
HCOG	Hague Code of Conduct against Ballistic Missile Proliferation
IAEA	International Atomic Energy Agency
NNWS	Non-nuclear weapons states
NPT	Non-proliferation Treaty
MTCR	Missile Technology Control Regime
PSI	Proliferation security initiative
SQP	Small Quantities Protocol
UAE	United Arab Emirates
UNMOVIC	United Nations Monitoring, Verification, and Inspection Commission
UNSCOM	The United National Special Commission on Iraq
UNSCR	United National security council resolution
WMD	Weapons of mass destruction

I. Introduction

This background paper describes the status of weapons of mass destruction (WMD) non-proliferation treaties, agreements, and other related instruments in the 18 countries of the greater Middle East: Algeria, Bahrain, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, the United Arab Emirates, and Yemen. The appendix summarizes all relevant information.

II. Nuclear weapons

Non-Proliferation Treaty

Considered to be the lynchpin of the global non-proliferation regime, the Non-Proliferation Treaty (NPT) is the most universally accepted arms control treaty in history. It was concluded in 1968 and entered into force in 1970, and is based on the three pillars of non-proliferation, disarmament, and peaceful use. The treaty reflects two bargains: in exchange for state parties without nuclear weapons agreeing not to manufacture or acquire them, 1) their inherent right to use nuclear technology for peaceful purposes is recognized and technology holders are required to cooperate in sharing the application of nuclear energy; and 2) the nuclear-weapons states (NWS) agree to pursue negotiations towards nuclear disarmament (and all parties agree to make progress towards general and complete disarmament). A third implicit bargain is also often adduced: states that forgo nuclear weapons are more secure by knowing that the majority of their neighbours have similarly agreed to forgo these weapons.

The NPT is in force in every Middle East state except Israel. Iran and most of the Arab states signed the Treaty the year it came into effect, and seven of them ratified it within two years. Ratification or accession was slow for some states in the region, e.g. Algeria did not accede until 1995 despite having a significant nuclear energy programme since the late 1980s. By 1997, when Oman finished its accession procedure, all states save Israel were NPT parties.

Israel justifies its rejection of the NPT on the grounds that it is not adequate to the specific requirements of the Middle East. It also says that it will not conceive of changing its position on the NPT until a formal peace has been established in the region.¹ Accession to the Treaty would require Israel to become a non-nuclear weapon state (NNWS) and to open up its nuclear facilities to inspection.

Comprehensive Nuclear-Test-Ban Treaty

The Comprehensive Nuclear-Test-Ban Treaty (CTBT) obligates its parties “not to carry out any nuclear weapon test explosion or any other nuclear explosion.” It is meant to limit both vertical proliferation, i.e. the development by nuclear-armed states of new or more powerful weapons, and horizontal proliferation (the spread of weapons technology to new states). Even though states may be able to develop the rudimentary atomic weapons without testing, it is likely to be impossible for them to develop the more complex and powerful thermonuclear weapons, which require testing.

¹ For a details analysis of Israel’s non-proliferation and arms control policy, see *Nuclear Programmes in the Middle East—In the Shadow of Iran* (London: The International Institute for Strategic Studies, 2008), pp. 126-128.

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The CTBT was opened to signature in September 1996; as of June 2011, 182 states had signed it and 154 had ratified it. However, the CTBT will not enter into force until the states named in the Treaty's Annex 2 (the 44 states that had nuclear power plants or research reactors at the time the treaty was concluded) have all ratified. Nine of these states have yet to do so: China, Egypt, India, Indonesia, Iran, Israel, North Korea, Pakistan, and the United States. Three of them have not signed the CTBT: India, North Korea and Pakistan.

Most Arab states are party to the Treaty and signed it when it came into effect in 1996, with ratification taking place between 1997 and 2008. Lebanon was the latest Arab state to have deposited an instrument of ratification. Saudi Arabia and Syria have not signed the CTBT. Egypt, Iran, Iraq, and Israel are all signatories, but they have not ratified it. Although Iraq seems poised to ratify the Treaty in the near future, there is no indication that Egypt, Iran, and Israel—all Annex 2 countries—are prepared to do so. Both Egypt and Iran justify their refusal to ratify until Israel joins the NPT as an NNWS.

Pelindaba Treaty

The Pelindaba Treaty establishes a nuclear-weapons-free zone in Africa. It prohibits the research, development, manufacture, stockpiling, acquisition, testing, possession, control, or stationing of nuclear explosive devices in the territories of parties to the Treaty as well as the dumping of radioactive wastes in the African zone. The Treaty also prohibits any attack against nuclear installations in Africa and requires states parties to maintain high standards of physical protection of nuclear material, facilities, and equipment.

The Pelindaba Treaty was opened to signature in 1996 and came into effect with the 28th ratification (by Burundi) on 15 July 2009. Among the Middle East nations, the Pelindaba Treaty applies to Algeria, Egypt, Libya, Morocco, and Tunisia, all of which signed the Treaty upon its conclusion. As of June 2011, however, only Algeria, Libya, and Tunisia had ratified it. Egypt justifies its refusal to ratify this treaty on the same grounds it refuses to ratify the CTBT, i.e. that its endorsement of additional non-proliferation measures will only happen after Israel joins the NPT as an NNWS. In the case of Morocco, like many other African states, legislative inertia in the face of competing political priorities probably accounts for the delay in ratification.

International Atomic Energy Agency Membership

Established in 1957, the International Atomic Energy Agency (IAEA) is a Vienna-based international organization that seeks to promote the peaceful use of nuclear energy and to inhibit its use for military purposes. It is a forum for scientific and technical cooperation in the peaceful use of nuclear technology and nuclear power worldwide; it provides international safeguards against the misuse of nuclear technology and materials; and it promotes nuclear safety and nuclear security standards and their implementation. In the Middle East, most states joined the IAEA in the late 1950s and 1960s. Four states joined later: Qatar (1976), Yemen (1994), Bahrain (2009), and Oman (2009). All Middle East states are now members. The Palestine Authority has observer status.

Comprehensive Safeguards Agreement

In accordance with Article III of the NPT, each NNWS is required to conclude a Comprehensive Safeguards Agreement (CSA) with the IAEA to enable the application of safeguards on all source and special fissionable material in all peaceful nuclear activities.² The CSA is called full-scope safeguards because it is applied throughout the country. Safeguards measures, including on-site inspections, visits, and on-going monitoring and evaluation, enable the IAEA to verify that a state is living up to its international non-proliferation obligations. The CSA limits the scope of IAEA verification to declared nuclear material and activities. The model text for CSA is published as IAEA document INFCIRC/153.³

Full-scope safeguards are in force in every Middle East state save Israel, which only has an item-specific INFCIRC/66 agreement covering the Soreq Research Reactor. Although most of these agreements were concluded in the 1970s and 1980s (and a few of them in the 1990s), the Gulf states have only concluded them in very recent years, with Bahrain being the last state of the region to have concluded its CSA, in May 2009.

Four states in the region have breached their NPT-required safeguards agreements: Iraq, Libya, Iran and Syria. Despite having signed and ratified the NPT in 1968 and 1969 and concluded a CSA with the IAEA in 1972, Iraq proceeded in the 1980s to develop a significant nuclear weapons programme, which was unveiled after the First Gulf War and subsequently dismantled by a UN Special Commission (UNSCOM) and its successor, the UN Monitoring, Verification, and Inspection Commission (UNMOVIC). Today, Iraq is complying with international non-proliferation norms and has been accepted as a responsible member of the international community: the new Iraqi constitution of 2005 confirms the government's obligations 'regarding the non-proliferation, non-development, non-production, and non-use of nuclear, chemical, and biological weapons.'⁴

Similarly, Libya, an NPT party since 1975 with a CSA in force since 1980, developed a nuclear programme for military purposes beginning in the 1980s. Libya halted the programme late 2003 after a long process of secret negotiations with the United Kingdom and the United States. Libya also committed to eliminating its ballistic missile and chemical weapon programmes. The IAEA reported Libya's noncompliance to the UNSC in 2004 'for information purposes only,' noting the country's subsequent cooperation with the Agency.

In September 2005, the IAEA Board of Governors found that Iran to be in non-compliance with its safeguards obligation because of its failure over an extended period of time to report nuclear material processing and use and facilities used therein. Iran had signed and ratified the NPT in 1968 and 1970 and concluded a CSA with the IAEA in 1974. The IAEA Director General reported in 2005 that good progress had been made in Iran's correction of the breaches and in the Agency's ability to confirm certain aspects of Iran's declarations. Further progress in resolving outstanding issues was made in 2007. Since 2008, however, Iran has

² 'Source material' includes uranium containing the mixture of isotopes occurring in nature, uranium depleted in the isotope 235 and thorium. 'Special fissionable material' includes plutonium-239, uranium-233, and uranium enriched in the isotopes 235 or 233.

³ The document is available at <<http://www.iaea.org/Publications/Documents/Infcircs/Others/infcirc153.pdf>>.

⁴ *Nuclear Programmes in the Middle East*, pp. 86-93. For details about Iraq's proliferation network, see *Nuclear Black Markets: Pakistan, A. Q. Khan and the Rise of Proliferation Networks* (London: The International Institute for Strategic Studies, 2007), pp. 43-50.

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failed to cooperate with IAEA attempts to clarify a growing number of reports of nuclear activities with a possible military dimension.⁵

Finally, the IAEA Board of Governors in June 2011 found Syria, an NPT party since 1968 with a CSA in force since 1992, to be in noncompliance for failing to declare what the Agency determined was ‘very likely’ a clandestine nuclear reactor at Dair Alzour, which was destroyed by Israel in September 2007. Syrian efforts to conceal the destroyed facility (allegedly built with the assistance of North Korea, with which it has had a long history of missile cooperation) lent support to the assessment that it did not have a peaceful purpose, as did Syria’s subsequent refusal to fully cooperate with the IAEA.⁶ In June 2011, the IAEA Board of Governors also noted that Syria had not provided the IAEA with information in a timely manner about the matter; that the documentation it subsequently provided did not allow the IAEA to confirm Syria’s assertions about the non-nuclear nature of the destroyed facility; that Syria’s cooperation with the Agency had been lacking since the IAEA’s June 2008 visit; that based on the available information the destroyed facility was very likely a nuclear reactor that Syria should have declared pursuant to its CSA; that numerous particles of anthropogenic natural uranium had been found on the site; and that Syria refuses to endorse the Additional Protocol (which would allow the Agency to enhance its verification activities).⁷

Small Quantities Protocol

For states which have only very small quantities of nuclear material, the CSA allows them to conclude a protocol, the so-called Small Quantities Protocol (SQP), which holds in abeyance most of the operative provisions of the IAEA’s verification tools. Concerns about the insufficient transparency provided by the SQP, however, led the IAEA Board of Governors to approve in September 2005 a modified SQP text that reduces the number of safeguards measures held in abeyance and makes an SQP unavailable to states with existing or planned facilities. States which already have an SQP have since been encouraged to amend it in line with the new provisions, and any state that newly signs a safeguards agreement with an SQP after September 2005 must accept the modified SQP version.

Saudi Arabia’s request for an SQP triggered the negotiations for a reform of the instrument. Driven by speculation about potential nuclear ambitions by the kingdom, concerns were raised about the proliferation loophole in the standard SQP text. Since the new modified SQP text was approved, Saudi Arabia and others with a standard SQP have been encouraged to accept it. As of June 2011, however, Saudi Arabia had yet to sign it. Its CSA entered into force in January 2009 and legally bound the country to make declarations about its nuclear activities, but verification remains inadequate.

Similarly, in the region, Jordan, Kuwait, Oman, the UAE, and Yemen only have the old SQP version in force. In the case of Jordan, Kuwait, and the UAE, however, the fact that they have an Additional Protocol in force compensates for the weakness inherent to the standard SQP. In the Middle East, only Bahrain and Qatar have the modified SQP version in force.

⁵ *Iran’s Nuclear, Chemical and Biological Capabilities* (London: The International Institute for Strategic Studies, 2011), pp. 28-43.

⁶ For a more detailed analysis, see *Nuclear Programmes in the Middle East*, pp. 73-82.

⁷ IAEA Board of governors, *Implementation of the NPT Safeguards Agreement in the Syrian Arab Republic*, GOV/2011/40, 7 June 2011.

Additional Protocol

The Additional Protocol (AP) is a legal agreement which grants the IAEA complementary inspection authority to the one provided in the underlying CSA. The main goal is to enable the IAEA inspectorate to provide assurance about both declared and possible undeclared activities, i.e. allowing it to verify not only the correctness but also the completeness of state declarations. Under the AP, the IAEA is also granted expanded rights of access to information and sites. The ‘Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards’ is published as IAEA document INFCIRC/540.⁸

In the Middle East, only four states have an AP in force: Jordan, Kuwait, Libya, and the UAE. In 2008, Iraq signed an AP, which pending its entry into force has provisionally applied since February 2010. Bahrain, Morocco, and Tunisia have all signed an AP, but as of June 2011, they had yet to ratify it.

During negotiations in 2003 led by France, Germany, and the UK, Iran agreed to sign an AP in December that year. However, in February 2006, Tehran decided to withdraw from it in response to the IAEA referring its nuclear case to the UN Security Council.⁹ Algeria also negotiated an AP to its safeguards agreement, which the IAEA Board of Governors approved in 2004. However, although Algiers announced in 2005 that it was preparing to sign its AP, as of June 2011 it had yet to do so. Algiers’s intention to have it signed by the 2010 NPT Review Conference, which Algerian officials had mentioned privately, failed to materialize, possibly because of Egypt’s influence.¹⁰

The AP holdouts in the region include Egypt, Israel, Lebanon, Oman, Qatar, Saudi Arabia, Syria, and Yemen. Egypt is a particularly staunch opponent to making the AP mandatory and even tried, unsuccessfully, to persuade all Arab League members to reject it.

III. Biological and chemical weapons

Geneva Protocol

The Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous, or Other Cases, and of Bacteriological Methods of Warfare, also known as the Geneva Protocol, prohibits the use of chemical and biological weapons between states. It does not cover internal or civil conflicts and says nothing about the production, storage, or transfer of these weapons. Moreover, many states parties held reservations as to the right of retaliatory use, de facto making the Protocol a no-first agreement. It was signed in Geneva in 1925, and entered into force in 1928.

All Middle East states are parties to the Geneva Protocol, with the exception of Oman and the UAE. Most states acceded to the Protocol in the late 1960s and 1970s. The latest accession, by Algeria, came in 1992.

⁸ The document is available at <<http://www.iaea.org/Publications/Documents/Infcircs/1997/infcirc540c.pdf>>.

⁹ *Iran’s Nuclear, Chemical and Biological Capabilities*, pp. 7-44.

¹⁰ *Nuclear Programmes in the Middle East*, pp. 110-113.

Biological and Toxin Weapons Convention

The Biological and Toxin Weapons Convention (BWC, or sometimes BTWC) prohibits the development, production, possession, stockpiling, and transfer of biological weapons. The BWC, however, lacks a formal inspection system to verify that member states are complying with their obligations.

The BWC was opened for signature in April 1972, and entered into force in March 1975. As of June 2011, it had 164 states parties, and an additional 13 signatories had yet to ratify it. The BWC is in force in all Middle East states except in Egypt, Israel, and Syria, all of which have industries capable of producing biological weapons. Both Egypt and Syria signed the BWC in 1972, but as of June 2011 had yet to ratify it. Israel has not signed the Convention.

Most other states in the region signed the Convention when it came into effect in 1972 and ratified it shortly thereafter, with the notable exception of Algeria, Morocco, and the UAE, which ratified it only this past decade. As with the NPT, compliance with the BWC has not been complete. Iraq had an active biological weapon programme until it was dismantled in 1990s, at the same time as its nuclear weapon programme. Accusations that several other states in the region have had active biological weapons programmes have not been confirmed.¹¹

Chemical Weapons Convention

The Chemical Weapons Convention (CWC) prohibits the development, production, acquisition, stockpiling, transfer, and use of chemical weapons and obligates the states that possess these weapons to destroy them. The CWC's extensive verification system is administered by the Organization for the Prohibition of Chemical Weapons (OPCW), an independent organization based in The Hague.

The CWC was opened for signature in January 1993, and entered into force in April 1997. As of June 2011, the CWC had 188 states parties, and two additional signatories had yet to ratify it. Like the BWC, the CWC is in force in all Middle East states except in Egypt, Israel, and Syria, which are all believed to have chemical weapon capabilities. While Israel has signed the Convention, both Egypt and Syria have yet to do so.

Most states signed the Convention when it came into effect in 1993 and ratified it shortly thereafter, with the exception of Iraq, Lebanon, and Libya, which ratified it only a few years ago. Both Iraq and Libya used to have active chemical weapon programmes: Iraq's was dismantled in the 1990s at the same time as its nuclear and biological weapon programmes, and Libya's is currently being eliminated—a process initially meant to be complete in 2011, but which was delayed even before the civil unrest and war that erupted this year.

Chemical weapons have been actively used in the region, notably by Egypt against Yemeni royalist forces in the 1960s, and by Iraq against Iran in the 1980s. Accusations that several other states in the region have had active chemical weapons programmes have not been confirmed.¹²

¹¹ See John R. Bolton, Under Secretary of State for Arms Control and International Security, 'Remarks to the 5th Biological Weapons Convention RevCon Meeting' Geneva, Switzerland, 19 November 2001.

¹² For an in-depth analysis of accusations concerning Iran, see *Iran's Nuclear, Chemical and Biological Capabilities*, pp. 96-108.

IV. Ballistic missiles

Hague Code of Conduct against Ballistic Missile Proliferation

Established in November 2002, the Hague Code of Conduct against Ballistic Missile Proliferation (HCOC), formerly known as the International Code of Conduct against Ballistic Missile Proliferation, is an arrangement to prevent and curb the proliferation of ballistic missiles. It does not ban these weapons, but calls for restraint in their production, testing, deployment, and export. It is meant to supplement the Missile Technology Control Regime (MTCR), but unlike the latter, its membership is not restricted.

The HCOC does not represent an effective and verifiable regime against ballistic missiles: it is instead a politically binding document that encourages states to report on their ballistic missile programs and alert all other signatories before conducting ballistic missile tests.

As of June 2011, the HCOC had 128 participating states. In the Middle East, this includes only Iraq, Jordan, Libya, Morocco, and Tunisia.

V. Nuclear safety

Convention on Early Notification of a Nuclear Accident

Adopted in 1986 following the Chernobyl nuclear plant accident, the Convention on Early Notification of a Nuclear Accident establishes a notification system for nuclear accidents which have the potential for international trans-boundary release that could be of radiological safety significance for another state. Notification is to be made to affected states directly or through the IAEA, and to the IAEA itself.

As of June 2011, the Convention had 110 states parties, and an additional 69 signatories had yet to ratify it. It is in force in all Middle East states, with the exception of Bahrain, Syria, and Yemen. Although many of the states of the region signed the Convention the year it came into effect or shortly thereafter, some of them only acceded to it in very recent years. This was the case of Algeria (2003), Kuwait (2003), Libya (2009), Oman (2009), and Qatar (2005).

Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency

Also adopted in 1986 following the Chernobyl nuclear plant accident, the Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency sets out an international framework for cooperation among states parties (and with the IAEA) to facilitate prompt assistance and support in the event of nuclear accidents or radiological emergencies. The IAEA serves as the focal point for such cooperation by channeling information, supporting efforts, and providing its available services.

As of June 2011, the Convention had 105 states parties, and an additional 68 signatories had yet to ratify it. The signature and ratification status of this convention is almost equivalent to that of the Convention on Early Notification of a Nuclear Accident. It is in force in all Middle East states, except in Bahrain, Syria, and Yemen. Although it was endorsed by most states of the region shortly after coming into effect, some only acceded to it in recent years: Algeria (2003), Kuwait (2003), Libya (2009), Oman (2009), and Qatar (2005).

Convention on Nuclear Safety

Adopted in 1994, the Convention on Nuclear Safety aims to legally commit states parties operating land-based nuclear power plants to maintain a high level of safety by meeting international benchmarks. The obligations of state parties are based to a large extent on the principles contained in the IAEA Safety Fundamentals document ‘Fundamental Safety Principles (SF-1).’¹³ The Convention is an incentive instrument: it is not designed to ensure fulfillment of obligations by states parties through control and sanction but is based on their common interest to achieve higher levels of safety which are developed and promoted through regular meetings.

As of June 2011, the Convention had 72 states parties, and an additional 65 signatories had yet to ratify it. It is in force only in Bahrain, Jordan, Kuwait, Lebanon, Libya, Saudi Arabia, Tunisia, and the UAE, with all these states having ratified or acceded to the Convention within the past two years (except for Kuwait, which acceded to it in 2006, and Lebanon, which ratified it in 1996). Algeria, Egypt, Israel, Morocco, and Syria all signed the Convention the year it came into effect, in 1994, but as of June 2011, they had yet to ratify it. Iran, Iraq, Oman, Qatar, and Yemen are not signatories to the Convention. Among all states that currently operate a nuclear power plant, only Iran is a non-signatory.

Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management

The Joint Convention applies to spent fuel and radioactive waste resulting from civilian nuclear applications and to spent fuel and radioactive waste from military programmes if and when such materials are transferred permanently to exclusively civilian programmes. The Convention also applies to planned and controlled releases into the environment of liquid or gaseous radioactive materials from regulated nuclear facilities. It calls for review meetings of contracting parties, where each of them is required to submit a national report that addresses measures taken to implement each of the obligations of the Convention.

The Joint Convention was open for signature in September 1997 and entered into force in June 2001. As of June 2011, it had 58 states parties, and an additional 42 signatories had yet to ratify it. With the exception of Morocco and the UAE, all other Middle East states are non-parties to the Joint Convention. Lebanon is a signatory, but as of June 2011, it had yet to ratify it.

Code of Conduct on the Safety and Security of Radioactive Sources, and supplementary Guidance on the Import and Export of Radioactive Sources

The IAEA Code of Conduct identifies several measures that states should undertake in order to enhance the safety and security of radioactive sources. Since the events of September 11, 2001, the Code has been strengthened: the revised Code was approved by the IAEA Board of Governors in September 2003 and in Resolution GC(47)/RES/7, the IAEA General Conference welcomed the Board’s approval while recognizing that the Code is not a legally binding document.¹⁴ In order to develop practical guidance on how to comply with the Code, the IAEA Board of Governors also approved the Guidance on the Import and Export of

¹³ The document is available at <http://www-pub.iaea.org/MTCD/publications/PDF/Pub1273_web.pdf>.

¹⁴ The document is available at http://www-pub.iaea.org/MTCD/publications/PDF/Code-2004_web.pdf

Radioactive Sources in September 2004.¹⁵ Adherence to the Code and the Guidance varies greatly in the Middle East. Bahrain, Iran, Kuwait, Libya, Saudi Arabia, and the UAE have not yet taken the procedures to endorse the Code.

Convention on the Physical Protection of Nuclear Material

Adopted in October 1979 and in force since February 1987, the Convention on the Physical Protection of Nuclear Material (CPPNM) establishes measures to prevent, detect, and punish offenses related to nuclear material. Notably, it obligates states parties to make specific arrangements and meet defined standards of physical protection for international shipments of nuclear material for peaceful purposes; undertake not to export or import nuclear materials or allow their transit through their territory unless they have received assurances that these materials will be protected during international transport; cooperate in the recovery and protection of stolen nuclear material; criminalize specified acts; and prosecute or extradite those accused of committing such acts.

As of June 2011, the CPPNM had 145 states parties, and an additional 44 signatories had yet to ratify it. In the Middle East, the Convention has been endorsed by all states except Egypt, Iran, Iraq, and Syria. Ratification or accession to the CPPNM by other states of the region took place between 1993 (Tunisia) and 2010 (Bahrain).

Amendment to the Convention on the Physical Protection of Nuclear Material

In July 2005, CPPNM states parties adopted by consensus an Amendment to the Convention. Whereas the obligations for physical protection under the CPPNM covered nuclear material during international transport, the Amendment makes it legally binding for states parties to protect nuclear facilities and material in peaceful domestic use, storage, and transport. It also provides for expanded cooperation between and among states regarding rapid measures to locate and recover stolen or smuggled nuclear material, mitigate any radiological consequences of sabotage, and prevent and combat related offenses.

The Amendment will enter into force when it has been ratified by two-thirds of the CPPNM states parties. As of June 2011, it had 47 contracting states. Of the CPPNM Middle East states parties, Algeria, Bahrain, Jordan, Libya, Saudi Arabia, Tunisia, and the UAE had ratified it.

VI. The proliferation–terrorism nexus

International Convention for the Suppression of Acts of Nuclear Terrorism

The International Convention for the Suppression of Acts of Nuclear Terrorism, also known as the Nuclear Terrorism Convention, was adopted in September 2005 under the auspices of the United Nations. It is designed to criminalize acts of nuclear terrorism, physically protect nuclear and radiological materials as recommended by the IAEA, and promote police and judicial cooperation to prevent, investigate, and punish those acts.

As of June 2011, the Convention had 77 states parties, and an additional 115 signatories had yet to ratify it. Although many Middle East states have endorsed the Convention,

¹⁵ The document is available at http://www-pub.iaea.org/MTCD/publications/PDF/Imp-Exp_web.pdf

particularly over the past two years, it has yet to be ratified by Egypt, Israel, Jordan, Kuwait, Qatar, and Syria. Moreover, Iran, Iraq, Oman, and Yemen are not yet parties to it.

Proliferation Security Initiative

Launched in 2003 at the initiative of the United States, the Proliferation Security Initiative (PSI) is an informal, voluntary multinational initiative that conducts interdiction of WMD shipments and related goods to state and non-state actors. PSI participants carry out cargo interdictions at sea, in the air, or on land. The core participating states hold meetings, conduct joint interdiction training exercises, and have issued a Statement of Interdiction Principles.¹⁶ As of June 2011, the PSI included nearly 100 participating states. In the Middle East, the non-participants are Algeria, Egypt, Iran, Lebanon, and Syria.

Global Initiative to Combat Nuclear Terrorism

Launched in 2006 by the United States and Russia, the Global Initiative to Combat Nuclear Terrorism (GICNT) is a voluntary initiative of states that are working to improve capacity on a national and international level in order to prevent, detect, and respond to a nuclear terrorist event. Partner nations organize and host workshops, conferences, and exercises to share best practices to implement the GICNT Statement of Principles.¹⁷ As of June 2011, the GICNT included over 80 participating states. In the Middle East, the non-participants are Bahrain, Israel, Jordan, Libya, Morocco, Saudi Arabia, and the UAE.

United Nations Security Council Resolution 1540

The adoption of United Nations Security Council Resolution (UNSCR) 1540 in April 2004 was a response to the growing threat that non-state actors might acquire and use WMD. It is a legally binding document that requires all states to implement domestic legislation to prevent non-state actors from manufacturing, acquiring, or transporting WMD within or from their territory. It covers a wide range of measures, including nuclear security and physical protection, export and border controls, and the prevention of terrorism financing. UNSCR 1540 also calls on states to cooperate in preventing the illicit trafficking of WMD and related materials, and to provide assistance to other states that lack the capacity to implement the Resolution.

A Committee was established to monitor and promote the implementation of these national legal measures, and states have been required to submit a report on their implementation efforts.¹⁸ In addition to collecting and reviewing national reports, the Committee has created matrix for a number of states, to present a fuller picture of the status of implementation.¹⁹ Implementation of UNSCR 1540 is critical in the Middle East, and not only because nearly one-third of the states either possess some WMD capability or are suspected to have had related research programmes. The region also served as an important hub in A. Q. Khan's illicit nuclear trafficking network, and several states of the region are suspected of providing

¹⁶ The Statement of Interdiction Principles is available at <http://www.state.gov/t/isn/c27726.htm>

¹⁷ The GICNT Statement of Principles is available at <http://www.state.gov/documents/organization/141995.pdf>

¹⁸ In addition to the 1540 Committee website (<<http://www.un.org/sc/1540/>>), much information about 1540 implementation can be found on the "United Nations Security Council Resolution 1540 Database" managed by the Nuclear Threat Initiative at <<http://www.nti.org/db/1540/index.html>>

¹⁹ The so-called "1540 Matrix" is available at <<http://www.un.org/sc/1540/1540matrix.shtml>>

financial and logistical support to terrorist and illicit trafficking activities. The growing interest in the region in nuclear energy programmes is further reason to adopt strict standards of non-proliferation and transparency. Finally, the political unrest that has emerged across the region since the beginning of 2011 has direct implications for internal security, law enforcement, and the protection of sensitive materials and technology.

Although every state in the region submitted an initial report to the 1540 Committee, these reports vary dramatically in terms of quality and comprehensiveness. Moreover, many reports do not necessarily reflect accurately the countries' commitments to timely implementation, and some of them do not address critical obligations, notably in the border control and trafficking domains, where with the exception of Israel most states of the region have relatively weak legal institutions.²⁰

In general, while Iran's report is the most substantive, the weakest ones are from the Gulf states, with the rest of the region somewhere in between. Yemen's report, for instance, consists of only one sentence stating that the country does not possess nuclear, biological, and chemical weapons. In contrast, the UAE, which has significantly advanced nuclear energy plans and is believed to have been a key location for proliferation-related activities,²¹ has in recent years worked hard to enhance its non-proliferation credentials.

In the Middle East, only Israel has indicated that it will consider specific requests for appropriate assistance for states that are lacking the legal and regulatory infrastructure and implementation experience. In Algeria and Yemen, the IAEA provided assistance to implement UNSCR 1540: it worked to strengthen Algeria's regulatory infrastructure to control radiation sources, and to enhance the human resources and competence of Yemen's nuclear regulatory body in nuclear safety and security. A number of states have also requested assistance in specific areas. Iraq requested assistance in bio-safety and bio-security, import-export controls, as well as to develop a national control list for dual-use items. Jordan, which has conducted a comprehensive review of legislation pertaining to UNSCR 1540 implementation (particularly in the export control domain), has indicated that it is prepared to cooperate with states able to provide assistance in terms of either legislation or operational skills and resources. In the same vein, Lebanon has stated that it will welcome assistance in implementing UNSCR 1540, notably to develop an appropriate legislative system to control the export, transit, and cross-border transport of WMD. Libya, Morocco, and Qatar have also issued similar requests for assistance. Finally, Syria has indicated that it is considering the possibility of requesting assistance in implementing UNSCR 1540.

VII. Conclusion

Adherence to non-proliferation treaties, agreements, and other related instruments varies greatly in the Middle East. Although significant progress has been made over the past few years, much remains to be done. In the nuclear non-proliferation domain, Israel has yet to join the NPT, and many states of the region have yet to sign or ratify the CTBT and enhance their safeguards agreements with the IAEA in order to improve confidence levels. In the biological and chemical non-proliferation realm, the region, with the notable exception of Egypt, Israel and Syria, has endorsed the BTWC and CWC regimes. There is less support for measures

²⁰ Israel, for instance, passed a new Defence Export Control Act that entered into force in December 2007, and although it is not a member of the MTCR, it has pledged to abide by its guidelines.

²¹ For instance, Dubai, the world's eighth largest container port, served as a hub for the A. Q. Khan network and a trans-shipment point for the Iraqi and Iranian national procurement networks.

regarding ballistic missiles: only Iraq, Jordan, Libya, Morocco, and Tunisia have joined the HCOG. In some cases the justification for non-adherence to these regimes is based on well-entrenched policy principles, but in others administrative and legislative inertia is to blame. In the case of international measures designed to improve nuclear safety and security, few policy objections have been raised as reasons for not joining the developing international norms. Indeed, in recent years, many Middle East states have adhered to these instruments. Yet not all states of the region are parties to the key conventions. Initiatives targeted at non-state actors, particularly in order to prevent nuclear terrorism, also lack universality in terms of participation (e.g. PSI and GICNT) or full implementation (UNSCR 1540).

In light of these trends, Middle East regional organizations such as the Arab League and the Gulf Cooperation Council could potentially play a significant role to strengthen the non-proliferation and nuclear safety and security regimes by encouraging their members to adhere to and implement more of the instruments detailed in this paper. Both regional organizations could also help coordinate such implementation, notably implementation of UNSCR 1540. Doing so would enhance transparency, protect the environment and people of the region against radiological releases and contribute to regional security. Wider regional adherence to these instruments would also be an important building block on the way to the creation of a zone free of nuclear weapons and other WMD in the region.

Appendix

Table A.1. Implementation status of the principal nuclear non-proliferation treaties and conventions in the greater Middle East

State	Non-Proliferation Treaty (NPT, 1968)		Comprehensive Test-Ban Treaty (CTBT, 1996)		African Nuclear Weapon-Free Zone Treaty (ANWFZ, 1996)	
	Signed	Ratified	Signed	Ratified	Signed	Ratified
Algeria		1995(a)	1996	2003	1996	1998
Bahrain		1988(a)	1996	2004	N/A	
Egypt	1968	1981	1996		1996	
Iran	1968	1970	1996		N/A	
Iraq	1968	1969	2008		N/A	
Israel	Non-party		1996		N/A	
Jordan	1968	1970	1996	1998	N/A	
Kuwait	1968	1989	1996	2003	N/A	
Lebanon	1968	1970	2005	2008	N/A	
Libya	1968	1975	2001	2004	1996	2005
Morocco	1968	1970	1996	2000	1996	
Oman		1997(a)	1999	2003	N/A	
Qatar		1989(a)	1996	1997	N/A	
Saudi Arabia		1988(a)	Non-party		N/A	
Syria	1968	1968	Non-party		N/A	
Tunisia	1968	1970	1996	2004	1996	2009
UAE		1995(a)	1996	2000	N/A	
Yemen	1968	1979/1986	1996		N/A	

(a) = accession.

Table A.2. IAEA membership and implementation status of nuclear safeguards in the greater Middle East

State	IAEA membership	Small Quantities Protocol (SQP)	Safeguards in force*	Additional Protocol (AP)
Algeria	1963		Jan. 1997	Approved: Sep. 2004
Bahrain	2009	In Force: May 2009	May 2009	Signed: Sep. 2010
Egypt	1957		June 1982	
Iran	1958		May 1974	Signed: Dec. 2003
Iraq	1959		Feb. 1972	Signed: Oct. 2008**
Israel	1957		April 1975	
Jordan	1966	Old SQP	Feb. 1978	In Force: July 1998
Kuwait	1964	Old SQP	March 2002	In Force: June 2003
Lebanon	1961	Amended: Sep. 2007	March 1973	
Libya	1963		July 1980	In force: Aug. 2006
Morocco	1957	Rescinded: Nov. 2007	Feb. 1975	Signed: Sep. 2004
Oman	2009	Old SQP	Sep. 2006	
Qatar	1976	In Force: Jan. 2009	Jan. 2009	
Saudi Arabia	1962	Old SQP	Jan. 2009	
Syria	1963		May 1992	
Tunisia	1957		March 1990	Signed: May 2005
UAE	1976	Old SQP	Oct. 2003	In Force: Dec. 2010
Yemen	1994	Old SQP	Aug. 2002	

* Comprehensive Safeguards Agreements (CSA), except in the case of Israel, which has an item-specific INFCIRC/66 agreement.

** Pending entry into force, the AP is applied provisionally for Iraq as of 17 February 2010.

Table A.3. Implementation status of biological and chemical non-proliferation and disarmament agreements in the greater Middle East

State	Geneva Protocol (1925)		Biological and Toxin Weapons Convention (BTWC, 1972)		Chemical Weapons Convention (CWC, 1993)	
	Signed	Ratified	Signed	Ratified	Signed	Ratified
Algeria		1992(a)	2001	2001	1993	1995
Bahrain		1988(a)		1988(a)	1993	1997
Egypt	1925	1928	1972		Non-party	
Iran		1929(a)	1972	1973	1993	1997
Iraq		1931(a)	1972	1991		2009(a)
Israel		1969(a)	Non-party		1996	
Jordan		1977(a)	1972	1975		1997
Kuwait		1971(a)	1972	1972	1993	1997
Lebanon		1969(a)	1972	1975		2008(a)
Libya		1971(a)		1982(a)	2001	2004
Morocco		1970(a)	1972	2004	1993	1995
Oman	Non-party			1992(a)	1993	1995
Qatar		1976(a)	1972	1975	1993	1997
Saudi Arabia		1971(a)	1972	1972	1993	1996
Syria		1968(a)	1972		Non-party	
Tunisia		1967(a)	1972	1973	1993	1997
UAE	Non-party		1972	2008	1993	2000
Yemen		1971(a)	1972	1979	1993	2000

(a) = accession.

Table A.4. Implementation status of conventions and codes of conduct on nuclear safety and nuclear security in the greater Middle East

State	Convention on Early Notification of a Nuclear Accident (1986)		Convention on Assistance in the Case of Nuclear Accident or Radiological Emergency (1986)		Convention on Nuclear Safety (1994)	
	Signed	Ratified	Signed	Ratified	Signed	Ratified
Algeria	1987	2003	1987	2003	1994	
Bahrain	Non-party		Non-party			2010(a)
Egypt	1986	1988	1986	1988	1994	
Iran	1986	2000	1986	2000	Non-party	
Iraq	1987	1988	1987	1988	Non-party	
Israel	1986	1989	1986	1989	1994	
Jordan	1986	1987	1986	1987	1994	2009
Kuwait		2003(a)		2003(a)		2006(a)
Lebanon	1986	1997	1986	1997	1995	1996
Libya		2009(a)		1990(a)		2009(a)
Morocco	1986	1993	1986	1993	1994	
Oman		2009(a)		2009(a)	Non-party	
Qatar		2005(a)		2005(a)	Non-party	
Saudi Arabia		1989(a)		1989(a)		2010(a)
Syria	1987		1987		1994	
Tunisia	1987	1989	1987	1989	1994	2010
UAE		1987(a)		1987(a)		2009(a)
Yemen	Non-party		Non-party		Non-party	

(a) = accession.

State	Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (1997)		Code of Conduct of the Safety and Security of Radioactive Sources, and supplementary Guidance on the Import and Export of Radioactive Sources (2003)		Contact Point Designated***	SAQ Response****
	Signed	Ratified	The Code Notification*	The Guidance Notification**		
Algeria	Non-party		X	X	X	
Bahrain	Non-party					
Egypt	Non-party		X	X	X	X
Iran	Non-party					
Iraq	Non-party		X	X	X	X
Israel	Non-party		X		X	
Jordan	Non-party		X		X	
Kuwait	Non-party					
Lebanon	1997		X	X	X	X
Libya	Non-party					
Morocco	1997	1999	X		X	X
Oman	Non-party		X			
Qatar	Non-party		X	X	X	
S. Arabia	Non-party					
Syria	Non-party		X		X	
Tunisia	Non-party		X		X	
UAE		2009(a)				
Yemen	Non-party		X	X	X	

(a) = accession.

* In accordance with operative paragraph 4 of GC(47)/RES/7.B and operative paragraph 7 of GC(48)/RES/10.D.

** In accordance with operative paragraph 8 of GC(48)/RES/10.D.

*** This list includes states that have designated a contact point without making the necessary political commitment.

**** States are urged to fill out Self-Assessment Questionnaires (SAQ) for the IAEA (and provide updates if they change).

State	Convention on the Physical Protection of Nuclear Material (CPPNM, 1979)		Amendment to the CPPNM (2005)	International Convention for the Suppression of Acts of Nuclear Terrorism (2005)	
	Signed	Ratified	Ratified	Signed	Ratified
Algeria		2003(a)	2007		2011(a)
Bahrain		2010(a)	2010		2010(a)
Egypt	Non-party		N/A	2005	
Iran	Non-party		N/A	Non-party	
Iraq	Non-party		N/A	Non-party	
Israel	1983	2002		2006	
Jordan		2009(a)	2009	2005	
Kuwait		2004(a)		2005	
Lebanon		1997(a)		2005	2006
Libya		2000(a)	2006	2005	2008
Morocco	1980	2002		2006	2010
Oman		2003(a)		Non-party	
Qatar		2004(a)		2006	
Saudi Arabia		2009(a)	2011	2006	2007
Syria	Non-party		N/A	2005	
Tunisia		1993(a)	2010		2010(a)
UAE		2003(a)	2009		2008(a)
Yemen		2007(a)		Non-party	

(a) = accession.

Table A.5. Participation status to other WMD non-proliferation and security initiatives in the greater Middle East

State	Hague Code of Conduct against Ballistic Missile Proliferation (HCOC, 2002)	Proliferation Security Initiative (PSI, 2003)	Global Initiative to Combat Nuclear Terrorism (GICNT, 2006)
Algeria			
Bahrain		X	X
Egypt			
Iran			
Iraq	X	X	
Israel		X	X
Jordan	X	X	X
Kuwait		X	
Lebanon			
Libya	X	X	X
Morocco	X	X	X
Oman		X	
Qatar		X	
Saudi Arabia		X	X
Syria			
Tunisia	X	X	
UAE		X	X

Table A.6. Implementation status of UN Security Council Resolution 1540: national reports submitted by member states in the greater Middle East

State	Date of Submission (and Report Symbol)	Summary of Contents
Algeria	10 Nov. 2004 (S/AC.44/2004/(02)/38) 7 Sep. 2005 (Add.1) 30 Apr. 2008 (S/AC.44/2007/1)	Twelve-page report about Algeria's accession to the major WMD conventions and describing its current and future legislative framework. The 2008 document (21 pages) provides an update on the latest actions undertaken.
Bahrain	22 Dec. 2004 (S/AC.44/2004/(02)/93)	Two-page report reiterating Bahrain's support for the NPT and its various dispositions.
Egypt	28 Oct. 2004 (S/AC.44/2004/(02)/88) 17 Mar. 2006 (Add.1) 28 Feb. 2008 (S/AC.44/2007/7)	Six-page report summarizing Egypt's WMD non-proliferation and counter-terrorism efforts, describing its laws and security and monitoring measures pertaining to WMD, and detailing the efforts undertaken to implement the Resolution. The 2008 document (5 pages) provides an update on the latest actions undertaken.
Iran	28 Feb. 2005 (S/AC.44/2004(02)/105) 14 Feb. 2006 (Add.1)	Twelve-page report expressing support for and concerns about the contents of the Resolution, and stressing that non-proliferation and disarmament are mutually reinforcing. The report lists Iran's accession to the WMD treaties and its national laws and regulations relevant to the Resolution.
Iraq	13 Apr. 2005 (S/AC.44/2004/(02)/116) 5 Feb. 2006 (Add.1)	Nine-page report summarizing Iraq's legislative, implementation and enforcement measures relevant to WMD proliferation prevention. The report also lists Iraq's accession to the major WMD conventions. The 2006 document provides information about the latest developments pertaining to the legislative measures undertaken.
Israel	22 Nov. 2004 (S/AC.44/2004/(02)/84)	Seven-page report on Israel's legislation and implementation and enforcement authorities at the national level, and its cooperation with regional and international bodies.
Jordan	9 Feb. 2005 (S/AC.44/2004/(AC)/104) 11 May 2006 (Add.1)	Fourteen-page report summarizing Jordanian law and the measures undertaken by the government, detailing the preparation of reliable country inspection lists, indicating Jordan's international commitments and obligations, and describing the country's cooperation with other parties. The 2006 document provides additional details.
Kuwait	31 Mar. 2005 (S/AC.44/2004/(02)/109)	Thirteen-page report listing the WMD conventions to which Kuwait has acceded and summarizing its relevant national legislation (with official documents in appendixes).
Lebanon	20 Oct. 2004 (S/AC.44/2004/(02)/83) 19 June 2006 (Add.1)	Five-page report summarizing Lebanon's accession to the main WMD conventions, indicating that there is no WMD on its territory (and therefore no reference to it in Lebanese national law), and stressing that Lebanon is developing and is willing

Libya	12 Apr. 2005 (S/AC.44/2004/(02)/115) 6 Dec. 2005 (Add.1)	to receive assistance to further develop its national legislation to strengthen the control of the export and transit of sensitive technology and material. Six-page report summarizing Libya's legislative measures (notably its 2003 decision to eliminate its WMD programs) and its accession to the major international WMD conventions. The report also indicates that Libya requires assistance in implementing the resolution. The 2005 document provides additional details undertaken in the various WMD categories.
Morocco	28 Oct. 2004 (S/AC.44/2004/(02)/33) 13 Sep. 2005 (Add.1)	Six-page report summarizing steps Morocco has taken at the international and national levels as well as a number of measures being finalized in the realm of nuclear safety and security, and biological weapons.
Oman	17 Dec.2004 (S/AC.44/2004/(02)/92) 20 Mar. 2006 (Add. 1)	Two-page report stressing the need for a NWFZ in the Middle East, summarizing Oman's accession to WMD international conventions, and indicating its commitment to national implementation.
Qatar	5 Nov.2004 (S/AC.44/2004/(02)/75) 2 Feb. 2006 (Add. 1)	Three-page report listing the international WMD conventions to which Qatar has acceded and summarizing the national measures it has undertaken to prevent WMD proliferation. The 2006 document provides additional information on national legislation and implementation.
Saudi Arabia	1 Nov.2004 (S/AC.44/2004/(02)/65) 28 Mar. 2006 (Add. 1)	Three-page report summarizing Saudi Arabia's commitment to and implementation efforts of the major WMD treaties and conventions at the international and regional levels (including the NWFZ project in the Middle East), and stressing its intention to strengthen domestic controls. The 2006 document includes Saudi Arabia's national "implementation system" document of the CWC.
Syria	14 Oct. 2004 (S/AC.44/2004/(02)/70) 26 Aug. 2005 (Add.1) 29 Sep. 2005 (Add. 2) 7 Nov. 2005 (Add. 3)	Five-page report summarizing Syria's commitment to WMD non-proliferation and its status with the major relevant conventions, describing its national legislation, and expressing concerns about Israel's nuclear arsenal. The November 2005, in particular, provides a detailed account of Syria's position on WMD non-proliferation.
Tunisia	10 Nov. 2004 (S/AC.44/2004/(02)/90)	Five-page report on Tunisia's undertakings to date, notably in the field of domestic import/export and border controls.
UAE	9 Dec. 2004 (S/AC.44/2004/(02)/89)	Three-page report listing the international WMD conventions the UAE has adhered to and how it has implemented them, and summarizing the relevant national legislation and activities (workshops and symposiums) it has undertaken.
Yemen	29 Dec.2004 (S/AC.44/2004/(02)/97)	One-page report stating that Yemen does not possess nuclear, biological, or chemical weapons.