

Verifying nuclear dismantlement in Iraq

On 26 May 2014, the Vienna Center for Disarmament and Non-Proliferation and VERTIC co-hosted the panel discussion 'Dismantling the Iraqi Nuclear Programme: The Inspections of the International Atomic Energy Agency, 1991-1998'. The panel included Hans Blix, former director general of the IAEA and former head of UNMOVIC; Laura Rockwood, fellow at the Belfer Center at Harvard University and former principal legal officer at the IAEA; Jacques Baute, director of IAEA Safeguards Information Management; Elena Sokova, VCDNP executive director, as moderator of the event; and Gudrun Harrer, author of 'Dismantling the Iraqi Nuclear Programme', senior editor of Der Standard and lecturer on modern history and politics of the Middle East at the University of Vienna and the Diplomatic Academy Vienna. The article below was kindly prepared by Gudrun Harrer based on her remarks during the panel discussion.

'Dismantling the Iraqi Nuclear Programme: The Inspections of the International Atomic Energy Agency, 1991-1998' is intended as a contribution to the debate about a time and events which seem to be nearly forgotten: the nuclear inspections in Iraq after the Gulf War in 1991. These inspections came to an end in late 1998 when the UN and the International Atomic Energy Agency (IAEA) withdrew their inspectors from Iraq prior to US operation 'Desert Fox', which was intended to punish Saddam Hussein, then president of Iraq, for the lack of Iraqi cooperation with weapon inspectors.

In 2003, when no weapons of mass destructions were found in Iraq after the US invasion, hardly anyone reminded the international community what this meant. First, Iraq did not use the inspection-free years of 1998 to 2002 to restart any existing clandestine weapon programmes or to acquire new ones. Second, it was confirmation that Iraq actually did not have any such programmes and weapons back in 1998 when it was bombed by the US after the escalation with inspector teams. Without a proper understanding of the events of 1998 and what happened before and why, the 2003 US invasion, after a futile WMD research, remains unintelligible.

In this issue

Lead article Verifying nuclear dismantlement in Iraq • Gudrun Harrer	1
Verification watch Syria: declared chemical weapons now removed • Russell Moul UNSC resolution 1540 reaches tenth anniversary • Ching Fung and Samuel Nuring Disarmament case brought to ICJ by Marshall Islands • Yasemin Balci and Sonia Drobysz	5 6 6
Science and Technology Scan UK launches Computer Emergency Response Team • Alberto Muti	8
Events and Publications Programme news	9 10

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The gap between the technical and the political reality of the inspection process started to appear during the 1990s. In parallel to the progress the inspections were making, the US—which had initiated Iraq’s disarmament in 1991—began to disavow those inspections. By the end of the process, when inspectors returned to Iraq in late 2002, their work was almost seen as a danger, an impediment of political plans, by some in the US.

As the search for weapons conducted by the US itself after the invasion in 2003 proved, the UN and IAEA inspections in the 1990s had worked. This is the most important but also the most obvious finding of the research carried out for ‘Dismantling the Iraqi Nuclear Programme. The Inspections of the International Atomic Energy Agency, 1991-1998’: nuclear inspections work, even in adverse conditions in a country such as Iraq which cooperated only reluctantly, to put it mildly.

The Iraqi case was *sui generis*. The Iraqi invasion of Kuwait in 1990 and the weakness of Saddam Hussein’s regime after the military defeat in 1991 permitted the enforcement of an internationally agreed weapons inspection regime with access rights and immunities for the inspectors which had, and still have, no parallel. UN Security Council Resolution 687 of April 1991, adopted under Chapter VII of the UN Charter, defined the terms for a permanent ceasefire agreement between the Coalition Forces and Iraq, and linked the lifting of sanctions against Iraq to its disarmament.

The resolution was drafted with the ultimate aim of changing the status quo in the region and ‘freezing’ Iraq under Saddam Hussein. This explains the design of Resolution 687 as a ‘multi-purpose’ resolution that would keep Iraq in the box as long as Saddam Hussein remained in power. The UN Security Council—and in it the US in a rare moment of international cooperation between the permanent members of the council (also known as the ‘P-5’)—simply dictated the terms for dismantling the Iraqi WMD programmes, whose extent was still unknown at that time, and the reduction of Iraq’s missile capacity. Thus, the Gulf War of 1991 in retrospect can be called the real war to disarm Iraq. It is important to note, in addition, that the robust UN Security Council mandate for the inspectors was accompanied by equally harsh sanc-

tions—the harshest in the history of the UN. So, inspections and sanctions worked. However, we should never forget that the suffering of the Iraqi people was a consequence of these actions; the price for success in eliminating Iraq’s WMD capabilities was very high.

Inspections worked, but the successful dismantlement of Iraq’s nuclear and other WMD programmes did not prevent the military strike in 1998, nor the war in 2003. The nuclear question played a special role because it was perceived—or exploited—as the greatest threat, in the form of the much trumpeted ‘mushroom cloud’ on the horizon. Unfortunately, one must therefore conclude that, even if nuclear verification works, there is no guarantee that it can be linked to a sustainable political solution for a nuclear non-proliferation concern. In the case of Iraq, a section of the political actors involved simply refused to acknowledge the inspectors’ conclusions. It was a political decision to start the inspections in 1991. A political decision would also have been needed to launch a new inspection phase after the October 1997 report of the IAEA (S/1997/779).

Unlike previous reports, the October 1997 document was not just an inspection status report, but an overview of the scope and status of the Iraqi nuclear programme as it was detected by the Iraq Action Team of the IAEA. Little information was added after Saddam Hussein’s fall in 2003: the report of 1997 still holds water today. What made it controversial at the time was that it contained the implicit message that the disarmament phase was finished and that future work would focus on Ongoing Monitoring and Verification (OMV). This evolution in activities, however, would not have precluded further investigation into the past. Acknowledging the progress regarding the nuclear file would have allowed Iraq to see the famous ‘light at the end of the tunnel’.

But this was not to be. The US, and to a lesser extent the UK, pressured the IAEA to keep all the questions on Iraq’s nuclear file open, even if they were petty ones. The result is well known: Iraq, realizing that it would never get off the hook and be freed from sanctions, stopped all cooperation with the weapon inspectors after the military strike in 1998. And the international community lost its eyes and ears in Iraq. In the run up to the 2003 war, open questions turned into certain-

ties about existing Iraqi weapons. The inspection process, from a method to disarm Iraq, had developed into a political weapon against Iraq.

Identifying lessons

An important aspect of carrying out a study into the Iraq WMD inspection experience is identifying if there are any lessons applicable to other cases. It is true that Iraq's case was unique in its totality, but it is not in all its characteristics. There are aspects that have been, and will be, repeated elsewhere. However, it is arguable that, because the events in Iraq became a serious political embarrassment in 2003, the international community has had difficulty in connecting to what was learnt there.

The whole Iraqi experience reads like a training course in so many fields. The Iraq inspection process, together with the IAEA's enterprise to verify South Africa's dismantlement, had a major impact on the concept of IAEA inspections as a detection, verification and monitoring instrument, and on the IAEA's institutional history.

Firstly, those years contributed substantially to technical progress in inspections technology. In Iraq, the IAEA was compelled to develop and use completely new methods to unearth the truth (sometimes literally, as suggested by the then newly coined term 'verification archaeology'). Methods underwent steady development, as did management of information, documentation, analysis, and reporting. Disciplines outside the nuclear field were introduced into the spectrum of the work. Completely new legal questions had to be tackled. Secondly, the new intrusive approaches revealed new possibilities as to what an inspection could achieve, and influenced regular safeguards inspections. The emergence of the Additional Protocol within the IAEA safeguards framework in 1997 is a direct consequence. Iraq Action Team inspectors contributed directly to the development of the instrument which closed important gaps in the system. Thus the Iraq experience became a decisive factor in the institutional history of the agency as a 'nuclear watchdog'.

UNSCOM and the IAT

When carrying out research into the events in Iraq, an instructive theme appeared concerning the difficult relations between

the UN Special Commission (UNSCOM) and the IAEA's Iraq Action Team. UNSCOM was created by the Security Council to tackle the chemical and the biological file and the missiles, while IAEA's Iraq Action Team was established by the Director General of the IAEA, Hans Blix, in 1991. It is almost forgotten that in 1991, critics of the IAEA in the US administration had tried to keep the body out of the inspection process in Iraq. Some doubted not only the capability, but even the will of the IAEA to aggressively investigate Iraq's nuclear ambitions. However, the IAEA also had strong advocates who warned that the institution would be weakened if excluded from Iraq disarmament efforts. It was felt that such a weakening was especially to be avoided in the critical time prior to the 25-year review conference of the Nuclear Non-Proliferation Treaty coming up in 1995. In the face of very strong opposition from the other veto powers in the UN Security Council, the US eventually compromised in order to pass resolution 687 which included a role for the IAEA in inspections in Iraq.

The US drafters of the resolution intended to build into it some insurance that their points of concern would be dealt with. As part of the compromise, the task of dealing with Iraq was assigned to the Director General of the IAEA, and not to the IAEA itself. This was clearly done with the aim of containing the possible influence of the multinational IAEA Board of Governors—which included Iraq as a Board member—on the inspection operations in Iraq. Furthermore, the IAEA's involvement was to be carried out with the 'assistance and cooperation' of UNSCOM (which resolution 687 had ordered to be created).

Thus the Executive Chairman of UNSCOM, for example, was to have exclusive power to designate sites for the IAEA inspections. This complex arrangement—which was widely and correctly interpreted as *droit de regard* of UNSCOM over the nuclear inspections—was a source of tensions between the two institutions, especially during the early inspection years. The situation for the IAEA was of course aggravated by the undeniable fact that it had failed to warn of Iraq's illicit nuclear activities. An Iraqi uranium enrichment programme and R&D on weapons was detected only after the 1991 Gulf War. From an UNSCOM perspective, an alleged lack of 'toughness' from the IAEA in its inspection activities

in Iraq seemed to corroborate its critics' suspicions that it was not equal to the job.

It was certainly necessary for IAEA inspectors to adjust their traditional, discrete, safeguards inspections culture in order to work under a completely different and intrusive mandate for liquidating the nuclear weapons programme of a recalcitrant state and dictatorial regime. However, the research carried out for 'Dismantling the Iraqi Nuclear Programme.' found that the IAEA narrative about that issue and about that period in general has been almost extinguished from the public domain—or never arrived there in the first place. In the media and beyond, the story of the 1990s has largely been told from the perspective of UNSCOM. So, in addition to an investigation into the events of the Iraqi weapons inspections in general, this book became a sort of recovery of the IAEA narrative. It disputes the simple claim that has been raised in other books that the IAEA was incapable, and UNSCOM was fully able, to do the job in Iraq.

Criticism of this attempt did not fail to materialise. Some say the book omitted to highlight the contributions of several experts from outside the IAEA who were absolutely essential for the success achieved in Iraq because they brought in expertise that was missing in the agency. A significant amount of help, knowledge and funds came from the US. The IAEA could not have done the job without supplemental support, and this should be stressed. However, it is hoped that my book makes clear that the IAEA was obliged to learn its new duties 'the hard way' in terms of adjusting its methods and even its philosophy against institutional resistance to meet the challenges of the Iraq case.

The conflict between the IAEA and UNSCOM should also be seen in a wider political context. The Iraqi disarmament process started at a special point of history—the time of the demise of the Soviet Union. Of course this was not a coincidence. The war for the liberation of Kuwait, with a UN Security Council mandate for the use of force given in November 1990, would most probably not have taken place in the old world order of the Cold War.

It is essential to note that the competition between the two bodies entrusted with the disarmament of Iraq belongs in the

context of this 'end of history', as Francis Fukuyama chose to call it. Jacques Hymans from the University of Southern California writes about this context in a review of my book in the *Bulletin of the Atomic Scientists*: 'The US conceived the UNSCOM as a new kind of international organisation, a bureaucratic tool directly accountable to the great powers, in contrast to the traditional model typified by the IAEA's politically neutral international civil servants'. A new type of organisation for a new time.

But events after 1991 did not work out as projected by Fukuyama. The war in the Balkans split the unanimity between the US and Russia in the UN Security Council. UNSCOM was increasingly perceived as a body not responding to the whole security council but only to one side of it. Meanwhile the IAEA was equally criticized by all members, each for its own reasons.

UNSCOM's perceived lop-sidedness led to the demise of the organisation after the 1998 crisis, and to the creation of a new organisation: the United Nations Monitoring, Verification and Inspection Commission (UNMOVIC). The establishment of this new body can be read as a renaissance of the more traditional type of international neutral body—and a confirmation of the validity of the Iraq Action Team's methods. UNMOVIC took over some inspection features of the Action Team and, tellingly, its leadership was given to the former IAEA Director General Hans Blix. •

Gudrun Harrer



Dr Harrer speaking at VCDNP-VERTIC seminar on Iraq verification.



Verification Watch

Syria: declared chemical weapons now removed

Russell Moul, London

On the 23 June 2014, Ahmet Üzümcü, the director-general of the Organisation for the Prohibition of Chemical Weapons (OPCW), announced that the last remaining chemicals identified for removal from Syria had been successfully loaded aboard the Danish freighter, the *Ark Futura*.

These chemicals formed the last eight per cent (100 metric tonnes) of the chemical weapons stockpile that was declared by Syrian President Bashar al-Assad on 20 September last year. Their removal from Syria—along with the rest of the 1,300 tonnes of sarin, mustard agent and their chemical precursors that formed the original declared stockpile—completes an important component of Syria's obligations under UN Security Council Resolution 2118, issued on 27 September 2013. Here Syria was required to 'complete the elimination of all chemical weapons material and equipment in the first half of 2014'. The next phase of the mission involves the delivery of these chemicals for destruction at allocated facilities on board the US vessel, the *Cape Ray*, and at commercial facilities in Finland, Germany, the UK and in the US.

The removal of Syria's declared stockpile, as Üzümcü points out, is a landmark achievement: 'never before has an entire arsenal of a category of weapons of mass destruction been removed from a country experiencing a state of internal armed conflict.' However, verifying that Syria's declaration is correct and that all chemical weapons have been removed from Syria will be an on-going challenge. Concerns that undeclared chemical weapons may still exist in Syria have been growing since 11 April 2014, when rumours emerged that chlorine gas has been used as a weapon in the country. These allegations were first made by Syrian opposition forces after a claimed attack was carried out in Kafr Zita, a town in northern Syria. International journalists have since reported several other incidents, with one Reuters report estimating that 'more than a dozen' chlorine attacks may have taken place since April this year.

Chlorine is a common chemical used in numerous industrial processes. According to Article II of the Chemical Weapons Convention (CWC), chlorine is considered a toxic chemical: that is, 'any chemical which through its chemical action on life processes can cause death, temporary incapacitation or permanent harm to humans or animals'. The CWC permits the use of chlorine for peaceful purposes, but not as a weapon. Chlorine has had a long history of use on the battlefield. The element is denser than air, allowing it to settle along the ground as a yellow-green cloud, which sinks into depressions. Chlorine is categorised as a choking or pulmonary agent, as it was originally designed to inhibit its victims' ability to breathe. In sufficient amounts it will kill. Chlorine was widely used as a weapon in the First World War where it is believed to be responsible for 80 per cent of the chemical casualties in that conflict.

On 29 April 2014, Üzümcü announced the creation of an OPCW fact-finding mission to be sent to Syria to investigate the claimed attacks. In a preliminary report published on the 16 June 2014, the OPCW announced that they have information that 'lends credence to the view that toxic chemicals, most likely pulmonary irritating agents such as chlorine, have been used in a systematic manner in a number of attacks'. Yet despite this, it must be remembered that the investigation (like the UN Secretary-General's team deployed in Syria in August 2013 before its accession to the CWC to investigate the alleged sarin attack) will only seek to confirm whether chlorine has been used as a weapon in Syria; it will not attempt to assign blame to one of the sides of the conflict.

The opportunity for a full criminal investigation into who was responsible for the alleged chemical weapons attacks in the country was missed when, on the 22 May 2014, the UN Security Council failed to adopt a resolution to refer the situation in Syria to the prosecutor of the International Criminal Court (ICC) owing to vetoes by Russia and China. A criminal investigation under the ICC could have investigated allegations of crimes against humanity and war-crimes by both sides of the conflict, which would have included an inquiry into the use of poisonous weapons. •

UNSC resolution 1540 reaches tenth anniversary

Ching Fung and Samuel Nurdning, London

UN Security Council Resolution (UNSCR) 1540's tenth anniversary this year provides a good opportunity to reflect on progress made with its implementation. The unanimous adoption of the resolution on 28 April 2004 was a response to globalisation and the increasing threat of terrorism, criminal organisations, and illicit trafficking of biological, chemical, and nuclear weapons and material. Acting under Chapter VII of the UN Charter, UNSCR 1540 established legally binding obligations on UN member states to develop and implement appropriate and effective national legislation that prohibits the proliferation of these weapons, their means of delivery, and related materials. It also created the '1540 Committee', which works with the Group of Experts appointed by the UN Secretary-General to collect and review national implementation reports, cooperate with international organisations, and provide outreach and support capacity building in member states. 'Annual Reviews of Implementation' are compiled and distributed by the 1540 Committee, increasing awareness of assistance issues for future implementation plans.

UNSCR 1673 (2006), UNSCR 1810 (2008), and UNSCR 1877 (2011) have repeatedly extended the 1540 Committee's mandate, now set at 2021, reaffirming UNSCR 1540's continued relevance. According to the latest Committee report, in its ten years of existence, the 1540 Committee has responded to 74 requests from UN member states to assist in implementing national legislation. It has received and monitored the reports of 173 countries' implementation efforts, and helped to set in motion over 30,000 measures and actions taken by states to implement the resolution. Almost 90 per cent of member states reported at least once to the 1540 Committee and 58 per cent responded more than once—a remarkable achievement given the voluntary nature of UNSCR 1540's reporting mechanism. Furthermore, 140 states had adopted measures to prohibit the proliferation of nuclear, chemical, and biological weapons by 2011, compared to just 65 states in 2006.

However, more work is needed to achieve universal implementation of UNSCR 1540. For instance, 21 states have yet

to submit their first national implementation report to the 1540 Committee. Moreover, drafting and adopting domestic laws to bring them into conformity with UNSCR 1540 requires continued efforts from all states. Political willingness to do so is crucial, but assistance and capacity building are also necessary. Whilst implementation is ultimately the responsibility of national governments, there must be greater involvement of the private sector and civil society, as was called for in UNSCR 1977 (2011). Civil society is increasingly recognised as a key stakeholder in matters of UNSCR 1540, given the civil society forums organised in Vienna 2013 and New Delhi 2014.

As a civil society actor, VERTIC continues to cooperate with states to draft national laws on nuclear, chemical, and biological weapons that are consistent with relevant international instruments. The VERTIC-Indonesia 'National Legislation Implementation Kit on Nuclear Security', which helps states minimise the discrepancy between national nuclear security measures and international obligations relating to nuclear security, was recognised by the United Kingdom at UNSCR 1540's tenth anniversary celebration.

Also, VERTIC recently published a 'Legislative Guide on National Implementation of UN Security Council Resolution 1540 (2004)' that provides guidance for states engaged in the process of implementing the resolution. VERTIC's work with regional organisations has also assisted states in mapping out their priorities and plans for implementation, for example through adoption of National Action Plans. There is still more room though for an integrated role for civil society in implementation efforts. •

Disarmament case brought to ICJ by Marshall Islands

Yasemin Balci and Sonia Drobysz, London

Almost 20 years after the International Court of Justice (ICJ) delivered its advisory opinion on the legality of the threat or use of nuclear weapons (dated 8 July 1996), nine cases relating to nuclear disarmament have recently and simultaneously been brought to the attention of the court, which is the principal judicial organ of the United Nations. On 24 April 2014, the Marshall Islands filed applications to the ICJ against China, the Democratic People's Republic of

Korea, France, India, Israel, Pakistan, the Russian Federation, the United Kingdom and the United States for failure to fulfill their obligations to pursue in good faith and bring to a conclusion negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.

Unlike the advisory proceedings in 1996, in which the court was asked to give its opinion on a legal question at the request of an authorised international organisation, the proceedings are contentious this time. The court is now being asked to judge a legal dispute between two states, and any decision given by the ICJ will have binding force between them. While such decisions are particular to the case in question and do not bind any other state, judgments of the ICJ are authoritative judicial decisions that contribute to the further development of international law.

As the applicant, the Marshall Islands explains its interest in bringing the case by highlighting its ‘particular awareness of the dire consequences of nuclear weapons’: from 1946 to 1958, 67 nuclear weapons of varying explosive power were detonated by the United States in the Marshall Islands. The applications also refer to the Report to the UN Human Rights Council of the Special Rapporteur on ‘the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes’, which states that ‘the nuclear testing resulted in both immediate and continuing effects on the human rights of the Marshallese’. As a state party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) since 1995, the Marshall Islands concludes that ‘it is no longer acceptable simply to be a party to the NPT while total nuclear disarmament pursuant to Article VI and customary international law remains at best a distant prospect’.

The respondents consist of the five countries recognised as ‘nuclear weapons states’ under the NPT and also other states that do not have this status but are nevertheless considered to possess nuclear weapons. Consequently, their obligations have two different legal sources. As parties to the NPT, the five nuclear weapons states—China, France, Russia, the United Kingdom and the United States—are bound by the provisions of Article VI, which provides that ‘each of the

Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.’ In its 1996 advisory opinion, the ICJ declared that Article VI involves ‘an obligation to achieve a precise result—nuclear disarmament in all its aspects—by adopting a particular course of conduct, namely, the pursuit of negotiations on the matter in good faith’.

Of the other four respondents, the Democratic People’s Republic of Korea withdrew from the NPT in 2003, while India, Israel and Pakistan have remained non-states parties. They are therefore not bound by the provisions of the treaty. The Marshall Islands, however, argues that they are bound by similar disarmament obligations, which exist separately under customary international law. Customary international law is formed by the constant, uniform and widespread conduct of states on a given issue, in combination with their belief that such conduct is legally required, and not mere habit. As it concerns the conduct and belief of all states, customary international law is binding on all of them.

Before the court can judge on the merits of this case, it needs to have jurisdiction to hear it, which depends on the consent of the parties. In this particular case, no action can be taken in the proceedings against China, the Democratic People’s Republic of Korea, France, Israel, the Russian Federation, and the United States, unless and until they consent to the court’s jurisdiction for the purposes of this case.

However, India, Pakistan and the UK have made previous declarations recognising the court’s jurisdiction as compulsory. This means that the court will have jurisdiction in all legal disputes concerning these states that are brought before it, provided that the particular dispute meets the criteria laid down in their declaration. India has already disputed the court’s jurisdiction in this case, the UK has not. The ICJ has ordered the filing of their written pleadings by June and December 2015 respectively. Nothing has been decided by the ICJ yet regarding the proceedings against Pakistan. •



UK launches Computer Emergency Response Team

Alberto Muti and Katherine Tajer, London

On 31 March 2014, the UK opened their first comprehensive, national Computer Emergency Response Team (CERT). UK CERT will provide emergency response to cyber security incidents of national significance and support critical national infrastructure. It will also raise awareness on current cyber security issues and facilitate national cooperation between various stakeholders in the field, bringing together academia, law enforcement and private practitioners. Internationally, UK CERT will act as a point of contact on cyber security issues and cooperate with other countries' national CERTs.

The British government identified cyber attacks as one of the top four national security threats in 2010 and again in 2012, and it is recognised as a significant issue for UK businesses as well. The 2014 Information Security Breaches Report, prepared by consultancy firm PwC for the Department for Business, Innovation and Skills, reveals that 81 per cent of large organisations and 60 per cent of small businesses suffered a security breach during the last year.

Surprisingly, these figures represent a slight decrease in the number of breaches compared to the previous year. Nevertheless, 59 per cent of respondents expressed the opinion that the number of incidents will rise over the next year. Moreover, the costs inflicted by security breaches have risen sharply since last year, almost doubling for small businesses. The UK has addressed this in its national Cyber Security Strategy, which lists as its first objective 'to tackle cyber crime and be one of the most secure places in the world to do business in cyberspace', and the work of CERT UK will be strongly focused on reaching the strategy's goals.

In order to increase coordination and information sharing between the public and private sectors, UK CERT will house the Cyber Security Information Sharing Partnership (CISP), an initiative launched by the British government in March 2013. CISP provides participants with a secure virtual envi-

ronment to exchange information on cyber threats and vulnerabilities, while protecting confidentiality. Moreover, CISP has established a 'fusion cell' that brings together analysts from the British Security Service, the Global Communications Headquarters and private companies to collect intelligence on cyber security issues into a single, comprehensive image and provide in-depth analysis of threats and trends.

Historically, the first CERT was established in the United States in 1988, in response to what became known as the Morris Worm incident. This was the first cyber security incident involving a 'worm', a self-replicating computer programme that autonomously infects other computers.

Due to the widespread damage caused by the incident, software engineers developed the CERT structure to coordinate and analyse security breaches. Since then, CERTs have proliferated across the globe. The Forum of Incident Response and Security Teams (FIRST), an international network of CERTs and similar bodies, currently counts a total of 304 participating teams, from 66 countries.

The actual effectiveness of CERTs is not easy to track, and data on this is not abundant. This may be because CERTs often play a preventative rather than proactive security role, promoting best practices and sharing information on emerging threats, rather than intervening directly.

However, the popularity of CERTs indicates a diplomatic value that may be overlooked when speaking purely about results. The main international benefit to CERTs may be their common features, which allow CERTs from different countries to cooperate, establishing confidence building measures and allowing for informal bilateral communication on cyber security issues. Technical dialogue between CERTs can also facilitate the rapid spread of best practices in the short-term, while providing a base for norm-building and perhaps more ambitious forms of international cooperation in the future. ●

Events & Publications

Iraq verification seminar held in Vienna

On 26 May 2014, VERTIC and the Vienna Center for Disarmament and Non-Proliferation (VCDNP) co-hosted a seminar entitled ‘Dismantling the Iraqi Nuclear Programme: The Inspections of the International Atomic Energy Agency, 1991-1998’. The speakers were Hans Blix, former director general of the International Atomic Energy Agency (IAEA), Gudrun Harrer, senior editor of *Der Standard* and author of *Dismantling the Iraqi Nuclear Programme*, Laura Rockwood, fellow at the Belfer Center at Harvard University and former principal legal officer at the IAEA, and Jacques Baute, director of IAEA Safeguards Information Management and former Director of the IAEA Iraq Nuclear Verification Office.

The speakers agreed that the inspections in Iraq had been successful, both in reaching conclusions about the extent of Iraqi nuclear activities and in strengthening the role of the agency itself. However, it was recognized that verification activities conducted by the agency must be supported by the willingness of states to take political decisions and to act in concert, especially in the United Nations Security Council.

The IAEA’s involvement in Iraq, it was argued, represented a key moment in the continuous development of safeguards concepts and techniques. In particular, it witnessed a growing use of environmental sampling, unannounced inspections, open-source intelligence and satellite imagery. In addition, historical information on the development and past use of sensitive facilities, and on trade data, were crucial in drafting a detailed and comprehensive picture of Iraq’s nuclear efforts.

Lessons learned in Iraq were incorporated into the IAEA’s Additional Protocol—introduced by the agency in 1997—and in the so-called ‘state-level concept’, which reflects an ongoing attempt by the IAEA to view state’s nuclear activities in a holistic fashion, looking at the state as a whole, not just at isolated facilities covered by safeguards agreements. •

VERTIC holds Wilton Park conference

In June, VERTIC co-hosted the conference ‘WMD verification: global capacity challenges’ at Wilton Park along with the US Department of State and the UK Foreign and Commonwealth Office. Speakers at the meeting discussed options for verifying WMD agreements and opportunities offered by new technology. They also explored the relationships and roles of different categories of countries in verification activities, including nuclear-weapon states and non-nuclear-weapon states.

The conference also explored the potential role societal verification can play and to what extent the global spread of devices like smartphones can be put to use. Of specific significance was whether it is possible for verification enterprises to be ‘crowdsourced’, that is, whether the public, community groups and other interested individuals can contribute information and input to monitoring and verification efforts. On nuclear disarmament, speakers discussed the role played by the International Atomic Energy Agency in a disarmed world and what requirements it has for the future.

In addition, questions raised included: what are the challenges posed by warhead dismantlement and fissile material disposition; what is the future of safeguards; how can verification techniques be applied in a cross-disciplinary context such as the Middle East WMD-Free Zone; and what are the verification implications of the Syrian chemical weapons case? •

VERTIC guide to UNSC resolution 1540 released

In April, VERTIC released a ‘Legislative Guide on National Implementation of UN Security Council Resolution 1540’, developed as guidance for states engaged in implementing the resolution in their countries. The guide, available through the VERTIC website, identifies and organises in one document the various model laws, implementation kits and handbooks that have already been developed—by the IAEA, OPCW, VERTIC and other assistance providers—to assist states in implementing 1540 obligations. The guide is available for download in English, Arabic, Chinese, French, Portuguese, Russian and Spanish. •

Programme News

National Implementation Measures Programme

Over the last quarter, the NIM programme has completed two legislation surveys on the national implementation of certain international legal instruments related to nuclear security, one survey on the national implementation of the Chemical Weapons Convention, and one survey on the implementation of the Biological Weapons Convention (BWC).

From 21 April-2 May, Yasemin Balci and Bilqees Esmail conducted a two-week mission to four Southeast Asian countries for the second technical assistance visit under EU CBRN Centres of Excellence Project 8: 'Prerequisite to strengthening CBRN legal frameworks'. During the meetings, discussions were focussed on reviewing draft legislation in the CBRN field and discussing ways to improve such legislation in line with international obligations. The NIM team will return to the region for the final technical assistance visit under this project in November 2014.

Researcher David Cliff presented on behalf of the NIM Programme on national implementation of the BWC during the workshop on national implementation of the CWC and BWC organized by the OPCW and EU BWC Action on 28 and 29 April in Ulan Bator, Mongolia.

Legal Officer Sonia Drobysz represented VERTIC along with Senior Researcher Hassan Elbahtimy at the third session of the Preparatory Committee for the 2015 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons from 5-9 May. She followed the plenary sessions there and discussed NIM's legislative assistance activities to implement certain international instruments related to nuclear security with delegations and at several side events.

From 9-13 June, the NIM team participated as experts in a workshop organised by UNODA through the EU BWC Action in Kathmandu, Nepal, (see photo below). In the first part of the workshop Sonia Drobysz gave an awareness rais-

ing presentation to officials from various ministries. During the second part of the workshop, Bilqees Esmail and Sonia Drobysz worked with relevant Nepali officials on the drafting of a bill to address obligations under the BWC and biological weapons-related aspects of UNSCR 1540.

On 16 June, Bilqees Esmail conducted a training session for officials from Libya, Tunisia and Algeria under the EU CBRN CoE Project 3 on 'Knowledge development and transfer of best practice on bio-safety/bio-security/bio-risk management', which took place at Insubria Center on International Security in Como, Italy. •



Participants at UNODA workshop on the Biological Weapons Convention in Kathmandu, Nepal, June 2014.

Verification and Monitoring Programme

In April 2014, VERTIC Senior Researcher Hassan Elbahtimy assisted with a simulation exercise on nuclear disarmament verification held in Oslo, Norway. The exercise was organised by King's College London and the Norwegian Institute for Energy Technology (IFE), and involved participants from several South African Institutions.

Closer to home, VERTIC senior researcher Larry MacFaul attended a conference on 'Africa and the Global Market in Natural Uranium', held at Chatham House in London. April also saw David Keir, director of VERTIC's Verification and Monitoring programme, present at the ESARDA Novel Approaches/Novel Technologies working group meeting in Cambridge, UK, on his recently published paper 'New Approaches and New Technologies for the verification of nuclear disarmament'.

In May, Hassan Elbahtimy and VERTIC Legal Officer Sonia Drobysz attended the third session of the Preparatory Committee for the 2015 NPT Review Conference at UN Headquarters, New York. The delegation from VERTIC followed the committee's work and participated in side events on topics of nuclear disarmament, nuclear security and the Middle East.

On 26 May, VERTIC and the Vienna Center for Disarmament and Non-Proliferation (VCDNP) co-hosted a seminar entitled 'Dismantling the Iraqi Nuclear Programme: The Inspections of the International Atomic Energy Agency, 1991-1998'.

The seminar was held at the VCDNP headquarters in Vienna, and featured Hans Blix, former director general of the International Atomic Energy Agency (IAEA), Gudrun Harrer, senior editor of *Der Standard* and author of *Dismantling the Iraqi Nuclear Programme*, Laura Rockwood, fellow at the Belfer Center at Harvard University and former principal legal officer at the IAEA, and Jacques Baute, director of IAEA Safeguards Information Management and former Director of the IAEA Iraq Nuclear Verification Office.

Ms Harrer's remarks at the event have been reproduced as the lead article of this edition of *Trust & Verify*. The event itself forms one of a series of seminars that is being run by VERTIC in collaboration with the VCDNP, and was exceptionally well-attended. Other events in this series are to

follow later this year.

In June 2014, VERTIC hosted a conference on 'WMD verification: global capacity challenges', in collaboration with Wilton Park in the UK. VERTIC senior researcher Hassan Elbahtimy assisted in a second disarmament verification simulation, involving students from Hamburg University. In addition, June saw VERTIC host the fifth expert workshop under its project on multilateral disarmament verification. At this meeting, held in Germany, members of the project group discussed updates from VERTIC staff on progress under the initiative, and provided views on how the project should move forward.

During the quarter, the team continued to develop papers and tools for the multilateral verification of disarmament project including an analytical nuclear fuel cycle model, nuclear disarmament 'scenarios' enabling investigations into possible technical verification solutions and political assessment methodologies. Meanwhile, VERTIC researcher David Cliff met representatives of several IAEA member states in Vienna as part of VERTIC awareness-raising on multilateral disarmament verification.

The team also continued with activities under VERTIC's project to facilitate ratification and implementation of IAEA safeguards and the IAEA Additional Protocol. This involved conducting country surveys, development of an index of country's safeguards approaches, and engaging with states' safeguards communities. •



Left to right: Laura Rockwood, Hans Blix, Elena Sokova (VCDNP), Gudrun Harrer and Jacques Baute at the VCDNP-VERTIC seminar on IAEA inspections in Iraq—held in Vienna, May 2014.

Grants and administration

In the last quarter, Samuel Nurdning and Crissta Wetzel completed their internships with us. Both interns contributed to several of our projects. Samuel focused in particular on our project on multilateral disarmament verification, and Crissta on our outreach and assistance work on the Additional Protocol. We are grateful to them both for donating their time and company to us.

In June, Ching Fung joined as an intern. She is a masters student in security studies at University College London. She is contributing to our project on multilateral disarmament verification, while also conducting research on nuclear terrorism.

Going forward, VERTIC will start to pay a stipend to its interns. This means that the application process will be more competitive, and the internship experience more focused on discrete projects of joint interest. We will provide more information on our stipend scheme in the coming months.

In this past quarter, VERTIC has also received two new grants. One is from the UK Foreign and Commonwealth Office in support of a strategic dialogue on arms control verification in Asia. The other grant is from the Carnegie Corporation of New York, to further develop analytical tools for nuclear safeguards implementation. •

building trust through verification

VERTIC is an independent, not-for-profit non-governmental organization. Our mission is to support the development, implementation and effectiveness of international agreements and related regional and national initiatives, with particular attention to issues of monitoring, review, legislation and verification. We conduct research, analysis and provide expert advice and information to governments and other stakeholders. We also provide support through capacity building, training, legislative assistance and cooperation.

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