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रक्षा अध्ययन एवं विश्लेषण संस्थान

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Editorial

Executive Editor

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In March 2018, Sergei Skripal, a former Russian military intelligence official, and his daughter were apparently poisoned in Salisbury, (United Kingdom) and all blame has been directed towards Russia. This incident raises the question about the use of chemical and biological weapons by both state and non-state actors. In this issue Animesh Roul highlights the major developments associated with this incident.

The Chemical Weapons Convention (CWC) entered into force in 1997. The Fourth Review Conference of CWC would be held during November 2018. Nivedita Das Kundu in her article brings forth various suggestions and recommendations for the forthcoming Review Conference.

The idea of use and success of sanctions in controlling the development and use of chemical and biological weapons is discussed by Rishika Chauhan. Arvind Kumar in his article argues that India's membership in Australia Group has been an acknowledgement by the member states about its impeccable record on non-proliferation and how the Australia Group can benefit from the Indian experience.

This issue also comprises other regular features like the Kaleidoscope and Chemical and Biological News.

With our readers' feedback, we wish to publish issues in the future that focus on a subject of particular concern.

Contributions and feedback are welcome and can be addressed to: editorcbw@gmail.com.

CWC Fourth Review Conference: Key Areas of Focus

Dr. Nivedita Das Kundu*

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Summary

OPCW marked the 20th anniversary of its formation on the April 29, 2017; it is indeed laudable to note the efforts of the organisation in fostering international cooperation to strengthen implementation of the Convention and promote the peaceful uses of chemistry. Presently, the civil society, academia, industry experts and state parties are discussing range of possible policy recommendations and suggestions to set an agenda for the Fourth Review Conference to be held during November 19-23, 2018 at OPCW, The Hague.

A discussion was held at Organisation for the Prohibition of Chemical Weapons (OPCW) during the recent Chemical Weapons Convention (CWC) coalition meeting and during the eighth open ended working group meeting (OEMG-RC) on what should the Fourth Review Conference seek to address as a matter of priority and what should be the priority areas for the Organisation in the next five years and why. The civil society, academia and industry experts along with state parties took part in the discussion to chalk out specific recommendations and suggestions to be focused on during the Fourth Review Conference to be held in November 2018 at OPCW.

During the last two decades of its journey, the OPCW has performed its responsibilities with the sincerity for controlling the development, production, stockpiling and use of chemical weapons. The OPCW's membership remains at 192 State Parties since Angola's accession on 16 October 2015.¹ During 2017, OPCW has made significant progress in destroying the remaining declared stockpiles of chemical weapons, enhancing industry verification, expanding international cooperation and assistance, addressing counter terrorism and broadening education and outreach. In the process of destruction of declared chemical weapons in 2017, the Technical Secretariat verified the destruction of 1,620.889 metric tonnes (MT) of Category 1 chemical weapons. From the entry into force of the Chemical Weapons Convention (CWC) to 31 December 2017, the Secretariat verified the destruction of 67,877.6661 MT of declared Category 1 chemical weapons, representing 96.29% of the declared total amount².

Destruction operations in the Russian Federation at the only remaining facility at Kizner were completed on September 27, 2017. The United States continued to work towards its target date of September 2023 for the complete destruction of its remaining chemical weapons stocks. Progress was also recorded in the destruction of chemical weapons abandoned by Japan in China. During 2017, the Secretariat conducted 11 inspections regarding abandoned chemical weapons (ACW) and seven concerning old chemical weapons (OCW).³

The full and effective implementation of the Convention continued to underlie the OPCW's contribution to global counter-terrorism efforts.⁴ The Council's Open-Ended Working Group on terrorism, and its more technically oriented sub-working group on non-state actors, continued to explore a number of areas in which the OPCW could advance this contribution.⁵ As Chemical Weapons (CW) related terror incidents are expected to grow, the role of OPCW in countering CW terrorism, needs to be enhanced, well-defined and the organisation should be provided with the requisite wherewithal to take up this role.

There is a need to work hard to increase awareness about OPCW and its activities among the general public. There is a need to promote transparency and inclusiveness including availability of documents.

Achieving total demilitarisation is also important, therefore, pressure needs to be maintained as the United States still has some quantities of CW left to be destroyed which should not take beyond 2023; the issue of Libya also needs to be resolved.

Determining the use of chemical agents and weapons is important particularly given the recent incidents in Syria and in the UK.

North Korea is a big question too as it is suspected to have stocks and could produce more in violation of the CWC. Hence, there is a need to support Fact-Finding Mission (FFM) efforts.

There is also a need to reassess the adequacy of an OPCW inspectorate which is now tasked with ongoing inspections in Syria under very difficult conditions. Therefore, the inspectors should get all the required assistance and security cover.

OPCW needs to build network of organisations which are committed to similar cause. It can increase its interaction with the relevant multilateral organisations such as the Biological weapons Convention (BWC) ,World Health Organisation (WHO), International Atomic Energy Agency (IAEA) etc. This will allow them to learn from each other's experiences.

The importance of Non-Governmental Organisations (NGO's) involvement is must to have wider and non-official perspective. Some state parties on occasions are found resisting the role for NGO's which actually is counterproductive to the wider cause of CWC. Organisations like CWC Coalition is actually playing a key role towards the constructive engagement of NGO's to further the OPCW agenda. It has helped to register about 200 NGOs at the 22nd CSP (Conference of the State Parties) (November 2017). NGOs are found contributing at various platforms from education to increasing visibility of OPCW work. They along with academia are providing various policy inputs. In addition, industry interests are found projected properly by NGO's and even many NGO's are supporting victims of the chemical attacks.

There is a need to increase awareness and educate the general public through seminars, and workshops and involve the younger

generation, mainly university students and make them aware of the importance of the CWC and its universal implementation. The infusion of the younger generation opinion should be taken on “how to prevent re-emergence of chemical weapons”. This can be helpful to reach out to the wider audience. For this purpose social media could be used effectively. Using this medium, issues concerning the uses of chemical weapons i.e. about the chemical causalities, medical treatment of chemical weapons victims, psychological effect on chemical weapons victims and their families could be effectively highlighted to a larger audience. There is a need to increase engagement with print and visual media as a continuous process. Also engaging celebrities as public ambassadors for promoting OPCW’s vision and mission would be helpful.⁶

It is also important to get political support, corporate funding and technical assistance for carrying out effort to increase consciousness that “chemistry should be used for peace”. The importance of the Science Advisory Board (SAB) needs to be enhanced for continuing to assess the impact of S&T on the OPCW’s work and the non-proliferation of CW.

The implementation of Article X of the CWC is important, especially to those in need of advice and support for protection against any use of toxic chemicals.

Determining accountability for any use of CW through a relevant mechanism needs to be formulated either by the UN Secretary General or through other similar organisations.

Reassessing the annual budget is important, which has dropped by almost \$10 million over the last decade. Therefore, OPCW should look for voluntary contribution for increasing the funding instead of cutting the

budget, reducing administrative staff and inspectors.

Similar to the Advisory Board for Education and Outreach (ABEO) on project can be introduced for enhancing education and outreach in preventing the re-emergence of chemical weapons.

More efforts of outreach are required and a roadmap for future activities could include expanding OPCW’s regional centres and have more designated laboratories. This will encourage involvement and active participation of government sectors as well as non-government bodies and organisations.

There is a long way to go to save the world from chemical weapons, maintain peace and reduce the risk to humanity. OPCW has to continue working jointly along with scientists, academics and the civil society for preventing the re-emergence of chemical weapons.

Endnotes:

* The author was a participant at the Chemical Weapons Convention (CWC) coalition meeting held during February 19-20, 2018 at Organisation for the Prohibition of Chemical Weapons (OPCW) and presented her views at the interaction between States Parties and external partners during the “Eighth Open Ended Working Group Meeting”, held at the OPCW on May 16, 2018.

1 EC-88/CRP.1 25 April 2018 Original: ENGLISH DRAFT REPORT OF THE OPCW

2 Ibid

3 Ibid

4 Ibid

5 Ibid

6 Ibid

Economic Sanctions and Chemical- Biological Weapons

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Summary

To secure foreign and security policy ends, several Western states and international organizations have employed economic sanctions. Sanctions have been imposed to attain a range of objectives-including checking the spread of nuclear as well as chemical and biological weapons. Sanctions are often, a multilateral effort, however certain states have operative legal provisions to impose sanctions. This article, reviews some of the significant sanction laws and initiatives launched to check development and use of chemical and biological weapons, explaining the use of sanctions to achieve the same end.

To secure foreign and security policy ends, several Western states and international organisations have employed economic sanctions.¹ Through the years, sanctions have been imposed to attain a range of objectives—including checking the spread of nuclear as well as chemical and biological weapons. Sanctions have been used to coerce states, organisations or individuals to abstain from using, developing or aiding in the development of such weapons. Often, sanctions are a multilateral effort, however certain states have operative legal provisions to impose sanctions. The US, for instance possesses intricate laws with provisions for economic sanctions. Concurrently, states like France have led adept attempts to check the use of chemical and biological weapons—threatening sanctions on noncompliance. This article, reviews some of the significant sanction laws and initiatives concluded to check development and use of chemical and biological weapons. Further, it explains the use of sanctions in the recent Syrian case.

US Sanctions Laws

Especially since the 1990s, the US has profusely used sanctions to check the proliferation of nuclear, biological, and chemical weapons as well as their delivery systems.² The US sanctions regime is intricate, conceptualised to not only discourage, but also penalise defection by involving supplementary economic restrictions, or secondary sanctions to amerce non-US citizens or companies for engaging with the primary target. Currently, several states including Iran, North Korea, and Syria are under US sanctions for activities involving proliferation of weapons of mass destruction.³ There are provisions in several US laws that call for sanctions against individuals or businesses that help

foreign governments to develop or acquire chemical and biological weapons. The US maintains a detailed list of such sanctions, which is shared with the public for their perusal.⁴

Dianne E. Rennack (2010) offers a detailed list of laws dealing with the proliferation of weapons of mass destruction that contain provisions for economic sanctions. Few of the significant laws are — Arms Export Control Act (AECA), Chemical and Biological Weapons Control and Warfare Elimination Act of 1991, and Chemical Weapons Convention Implementation Act of 1998. Section 81 of the AECA concerns sanctions against foreign persons who knowingly aid foreign governments in developing, or acquiring chemical or biological weapons. Section 307 of the Chemical and Biological Weapons Control and Warfare Elimination Act of 1991, directs the US President to stop “foreign assistance, arms sales and licenses, credits, guarantees, and certain exports” to the governments of states that have, “used or made substantial preparation to use chemical or biological weapons.” The Chemical Weapons Convention Implementation Act of 1998 contains Section 103, on the US’ Civil Liability, that lists a number of sanctions on individual or organisations that assist or encourage proliferation of weapons of mass destruction.⁵

While the provisions deal with penalising states or entities, they also have a deterrent effect on rational states, as disclosing the often mandatory US measures place a disincentive on proliferation of chemical and biological weapons. Additionally, disclosing the sanctions imposed might also help the reigning government in appeasing domestic constituencies, as US’ foreign policy often has domestic underpinnings.

Sanctions and recent cases

The 2013 chemical weapons attack in Syria, is regarded as the first major case of chemical weapons use since 1988— when Iraq used the weapons against Iran during the Iran-Iraq War. According to US reports, the Syrian government has used banned chemical weapons at least 50 times in the last seven years.⁶ While it took longer for Western powers like the US, France and UK to build consensus on initiating military action against Syria, imposing sanctions on the other hand was relatively prompt. So far, the US, and France, among others, have imposed a number of sanctions against individuals and businesses suspected of aiding the Syrian government in developing and using weapons of mass destruction.⁷ In the last few years, while the US has found the United Nations’ (UN) efforts to punish Syria wanting, France has led significant initiatives against the West Asian state — often involving sanctions.

On January 23, 2018 the French Foreign Ministry hosted an initiative titled the ‘International Partnership Against Impunity for the Use of Chemical Weapons’ securing the support of the European Union (EU), and several states including the US, UK, Australia, Canada, France, Germany, Japan, and Turkey. The measures agreed on included, using “relevant mechanisms to designate individuals, entities, groups and governments involved in the proliferation of chemical weapons for sanctions.”⁸ The measure also urged states to use their domestic criminal law to penalise states that use chemical weapons.⁹ Hence calling for unilateral sanctions.

While the EU has imposed sanctions or ‘restrictive measures’¹⁰ against Syria — as of March 2018, the count being 261 persons and 61 entities,¹¹ resolutions calling for

sanctions have been vetoed in the UN. Garnering support in the UN to impose sanctions against Syria has been tough for the Western powers as Russia and China have been uncooperative. In February 2017, Russia and China vetoed a resolution drafted by France, Britain and the United States. As Russia said that sanctions would harm the forthcoming peace talks between the sparring Syrian parties, China's UN Ambassador, Liu Jieyi believed that the time was not appropriate to initiate action.¹² Meanwhile, discussions at forums like BRICS were more layered, with two dissenting UN members in the group, its response to the Syrian case was dubbed as "balanced."¹³

As the recent cases elucidate, the use of sanctions to impede the spread and development of weapons of mass destruction has increased. However, the aversion of the non-Western states to use sanctions should also be acknowledged. While states like India, have taken a stance against the development and proliferation of chemical and biological weapons, they have been sceptical about the use of sanctions, particularly unilateral. Nevertheless, it seems unlikely that the West's use of sanctions would abate and in the future economic sanctions will be profusely, if not always effectively, be used to check development and proliferation of chemical and biological weapons.

Endnotes:

¹ Sanctions are defined as actions initiated by one or more international actors against an entity in order to punish it by depriving it of something of value to make them comply with certain norms the senders deem important. The main purpose of imposing sanctions is to change the behaviour of the sanctioned entity.

² Dianne E. Rennack , "Nuclear, Biological, Chemical, and Missile Proliferation Sanctions: Selected Current Law", Congressional Research Service, November 30, 2010

³ *ibid*

⁴ US Department of State, "Security and Nonproliferation (ISN) Nonproliferation Sanctions Chemical and Biological Weapons Sanctions Laws Chemical and Biological Weapons Sanctions", URL: <https://2001-2009.state.gov/t/isn/c15236.htm>

⁵ Dianne E. Rennack , "Nuclear, Biological, Chemical, and Missile Proliferation Sanctions: Selected Current Law", Congressional Research Service, November 30, 2010

⁶ Rick Gladstone, "U.S. Says Syria Has Used Chemical Weapons at Least 50 Times During War" New York Times, April 13, 2018, URL : <https://www.nytimes.com/2018/04/13/world/middleeast/un-syria-haley-chemical-weapons.html>

⁷ France 24, "France sanctions businesses, traders linked to Syria chemical weapons", January 23, 2018, URL: <http://www.france24.com/en/20180123-france-syria-chemical-attacks-sanctions-businesses>

⁸ International Partnership Against Impunity for the Use of Chemical Weapons, January 23, 2018, URL: https://www.diplomatie.gouv.fr/IMG/pdf/international_partnership_against_impunity_for_the_use_of_chemical_weapons_declaration_of_principles2_en_cle818838-1.pdf

⁹ SIPRI, "Strengthening the ban on chemical weapons: The case of Syria" February 13, 2018, URL: <https://www.sipri.org/commentary/essay/2018/strengthening-ban-chemical-weapons-case-syria>

¹⁰ EU often uses the term restrictive measures for sanctions. Both the terms are often used interchangeably in EU documents.

¹¹ European Council Council of the European Union, "Use of chemical weapons in Syria: EU adds 4 persons to sanctions list" March 19, 2018, URL: <http://www.consilium.europa.eu/en/press/press-releases/2018/03/19/use-of-chemical-weapons-in-syria-eu-adds-4-persons-to-sanctions-list/>

¹² Reuters, "Russia, China block U.N. sanctions on Syria over gas attacks" February 28, 2017, URL: <https://www.reuters.com/article/us-mideast-crisis-syria-chemicalweapons/russia-china-block-u-n-sanctions-on-syria-over-gas-attacks-idUSKBN167232>

¹³ BRICS Post, "BRICS stand on Syria is "balanced": Syrian envoy", April 11, 2017, URL: <http://thebricspost.com/brics-stand-on-syria-is-balanced-syrian-envoy/#.WxgjIloFOCQ>

Skripals', Novichoks and Russia: Toxic Mystery Deepens amid Denial

Mr. Animesh Roul

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Summary

The nerve agent Novichoks poisoning episode in United Kingdom once again put a question mark against the efficacy of the international arms control regime such as Chemical Weapons Convention. The Novichoks events involving a former Russian spy and his daughter as victims, triggered a diplomatic crisis and a pitched geopolitical manoeuvring as fingers pointed at Russian agency as the chemical agent in question was originally developed to circumvent the international arms control regime by the country in the 1980s and stockpiled for possible tactical use, such as State sponsored assassinations. This event and few others in the recent past, e.g CW use in Syrian war, involving both State and Non state actors have certainly raised the spectre of a chemical holocaust. This article attempts to trace history of Novichoks in Russia's secret arsenals and the recent fall out in the light of Skripals' poisoning episodes in Salisbury, UK.

The incident of poisoning of Sergei Skripal, a former Russian military intelligence official, and his daughter on March 4, 2018 in Salisbury, (United Kingdom) allegedly by the Russians has caught the attention of the world. Two months after the notorious incident, on May 18 Russian President Vladimir Putin said that 'Sergei Skripal would be dead if military grade toxin was used'. With this remark, Putin pushed the investigations of the alleged use of nerve agent 'Novichoks' against Sergei Viktorovich Skripal and his daughter Yulia Skripal into complete disarray. Now both Putin and Moscow have denied any involvement whatsoever in Skripals' poisoning. More so, Moscow has denied conducting any past research on nerve agent or developing the so-called Novichoks in Russian military arsenals. One of the officers identified as detective Nick Bailey who had inspected their house and the crime scenes in Salisbury, was admitted with similar symptoms after exposure to the agent used against Skripals'. The daughter Yulia Skripal was discharged from Hospital in April and her father was discharged in mid May 2018.¹

In the 1990s, Skripal was an officer of the Russia's Main Intelligence Directorate (GRU) and worked as a double agent for the British intelligence agency MI until his arrest in December 2004 in Moscow. In 2006, he was convicted of treason and sentenced to 13 years in a penal colony by a Russian court. He settled in the UK in 2010 following a spy swap program. His daughter Yulia is a Russian citizen and was visiting her father from Moscow at the time of the incident.

After initial investigations and laboratory examinations, the chemical used in Skripals' poisoning has been traced to Russian chemical weapons research and the used chemical substance was identified as a military grade nerve agent code named

Novichoks, by experts at the Defence Science and Technology Laboratory (DSTL), Porton Down, UK. However, the experts at DSTL are unable to pinpoint the source of the Novichoks though needle of suspicions is squarely on Russia because the chemical agent in question was part of group of chemical agents originally developed by Russia in the 1980s and stockpiled in the past for possible tactical use, such as State sponsored assassinations.

After the flurry of accusations pointed towards Russian involvement in Skripals' murder attempt and the blame for developing and keeping secretly banned chemical weapons, Russia clarified that all Soviet era activities on chemical weapons were discontinued and dismantled in early 1990s and every stockpiles were destroyed in 2017. The Russian foreign ministry too has claimed that neither Russia nor the former USSR ever conducted research to develop chemical weapons under the name or codename Novichok.

On earlier occasions, Putin's spokesman Dmitry Peskov termed all these brouhaha over the Skripals' poisoning as 'mad accusations' without any substance against Russia. Despite Russia's repeated denial, accusations and public spat between Russia and UK increased manifold when other countries like France, Germany and the US backed the UK's assessment about possible Russian involvement. It triggered in fact a diplomatic crisis when over 20 countries showed their support for UK against Russia's suspicious action. The UK and other western countries have expelled several Russian diplomats (suspected to be spy or engaged in espionage) over the Novichok incident and that led to the expulsion of British diplomats from Russian soil.

The name Novichoks itself signifies newcomer or newbie in Russian. These are known as third or fourth generation chemical

weapons, which were reportedly developed under a (erstwhile) Soviet programme codenamed 'Foliant'. Though much of the development process and stockpiling is shrouded in mystery, its existence was revealed in the Russian media by the Russian scientists Vil S. Mirzayanov and Lev Fedorov in the early 1990s. Both had written an article for Moscow News titled "A Poisoned Policy."² The article laid bare the secret chemical research and development in Soviet and how the government backed programme was poisoning its own citizens. The authors raised questions over environmental safety standards at Russia's chemical weapon production and testing sites as well. Mirzayanov who worked at the Research Institute of Organic Chemistry and Technology, a secret Russian facility in Moscow, was subsequently jailed for divulging state secrets and later moved to the US.

Mirzayanov was part of the team which developed the Novichok group of chemical weapons. According to him, the Novichok class of weapon is more than 10 times as powerful as the nerve agent VX. He pointed out two Soviet era facilities where Novichok research and testing were undertaken: the Chemical Research Institute, located in Nukus, Uzbekistan and Krasnoarmeysk testing site near Moscow. According to him, the Novichoks testing had demonstrated effectiveness as a military weapon in both unitary and binary forms.

Mirzayanov, who authored a book titled 'State Secrets' (2009) dealing with the secret chemical weapon research and development of Russia, blamed the Russian State authorities for the foiled assassination attempt on Skripals and believed that the agent used is too complicated for Non-State Actors (NSAs) to possess. But he may not be entirely right as past events have suggested that these weaponised CW agents can reach NSAs through various covert ways. In March 2018, the Russian

newspaper *Novaya Gazeta*, often critical of the Government, published a report on Novichok group of chemical weapons research and development that stated how it reached Russian gangsters through black market in the early 1990s.³ It cited documents relating to criminal case No. 238709 on the poisoning and death of Rosbiznes bank chief Ivan Kivelidi and his secretary Zara Ismailova. The report also detailed how the Novichok exposure created health problems for Kivelidi's staffs and police officials.⁴

The chemical weapons watchdog Organisation for the Prohibition of Chemical Weapons's (OPCW) Technical Assistance team that visited the poisoning sites in Salsbury confirmed the use of Novichok and concluded that the chemical substance found was of 'high purity, persistent and resistant to weather conditions'. However, the OPCW team could not determine the amount of the nerve agent that was used against the father-daughter duo in March 2018.

Russia, which is quite famous for state secrecy and equally notorious for prosecutions of whistle blowers, remains in denial concerning Skripals' assassination attempt in the UK. Without giving any substantial evidence of its innocence, Russia resorted to various conspiracy theories and blame game on this case. And importantly, it vehemently disowns any development of CW during the Soviet era. The timing of Novichok development and secret stockpiling in the early 1990s in Russia coincided with international arms control verification efforts, especially in the sphere of chemical weapons. International experts are now questioning Russia's intention behind developing Novichoks in the first place that included evading international verification regime such as the Chemical Weapon's Convention (CWC) and the implementing agency OPCW's vigil.

The Skripals's poisoning, the assassination of North Korean leader Kim Jong Un's half-

brother Kim Jong-nam in Malaysia with the nerve agent VX in February 2017 and widespread use of chemical weapons in Syrian civil wars for past several years, put a question mark against the efficacy of one of the successful arms control regime i.e. CWC. The fourth CWC review conference is around the corner and schedule to be held in November 2018 in the Hague. With its almost universal memberships the Treaty regime has now few options to remain credible. The most important should be getting conclusive findings on the allegations. Again, the OPCW has to find out the treaty violators whether it is Syria, North Korea or Russia and to make them accountable. Failing to rein in the perpetrators either by consultations or confrontations, CWC and OPCW would be ineffective in the face of an increasing hostile geopolitical environment raising the spectre of chemical weapons use by both State and Non State actors.

Endnotes:

- ¹ "Russian ex-spy Sergei Skripal discharged from UK Hospital", Reuters, May 18, 2018, <https://in.reuters.com/article/britain-russia/russian-ex-spy-sergei-skripal-discharged-from-uk-hospital-idINKCN1IJ142>
- ² VilMirzayanov and Lev Fedorov, "A Poisoned Policy," Moscow News, No. 39, 27 September 27–October 4, 1992.
- ³ Roman Shleynov, (Google Translation), "Novice" has already killed", *Novaya Gazeta*, March 23, 2018, <https://www.novayagazeta.ru/articles/2018/03/22/75896-rezhim-novichka>
- ⁴ For more on Ivan Kivelidi's murder and criminal syndicates involvement, See, Lee Hockstader, "Gangsters Targeting Russia's Businessmen", Washington Post, August 16, 1995, https://www.washingtonpost.com/archive/politics/1995/08/16/gangsters-targeting-russias-businessmen/31262f00-e65e-4673-aaa4-f4820e790672/?utm_term=.c72facc48f5a

India in Australia Group: What does it mean for India?

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Summary

India's membership in Australia Group has been an acknowledgement on the part of the member states about its impeccable record on non-proliferation. India all these years have been very pro - actively working through its national legislation on export controls through which the proliferation of CBW agents can be contained. India has a rich experience and the Australia Group in particular will get benefitted in terms of understanding India's approach to the containment of CBW proliferation. The foreseeable future will see a win-win situation for both the AG and India.

India became the member of Australia Group (AG) in January 2018. Ironically, the Indian media quoted the Ministry of External Affairs (MEA) immediately after getting admitted into the group that the membership will ensure a more secure world. Such comments from MEA meant as if India was responsible for proliferation of any kind. How India's membership in AG would help secure the world remains a question for the debate and discussion among the members of academic and strategic community? It must be, at the outset, emphasised here that India despite not being a members of AG which came into existence in 1985, it had followed and adhered to all the stipulations enshrined in the Group. India ratified both Biological and Toxin weapon Convention (BTWC) and Chemical Weapon Convention (CWC) in 1974 and 1996 respectively. It showed genuine commitment by declaring its stockpile of dual-use chemicals and destroying it thereafter. India's chemical industry over the years has emerged as a major sector and obviously the trade in dual-use chemicals has been intensifying. Hence, India needed to harmonise all its national export control measures in consonance with the larger requirements for the standards set with the non proliferation goals of the offensive nature of the chemical industries. India has been actively playing a dominant role in furthering the interests of the Organisation for the Prohibition of Chemical Weapons (OPCW), which has been the implementing body of the CWC.

The understanding of geopolitical contexts under which the AG was established in 1985 is necessary especially to understand its relevance and significance. It was disclosed by a United Nations investigation team in the early part of 1984 that Iraq had used

chemical weapons in Iran-Iraq war and had violated the 1925 Geneva Protocol. Iran had also responded by using chemical weapons. Hence, it seemed desirable to bring measures which would help tightening the exports of chemicals that could be used to manufacture chemical weapons. The existing export controls had no uniformity whatsoever. The inherent loopholes in the existing controls got reflected in the behavioural patterns of nation states. In this context, Australia took the lead in convening a meeting of the countries with export controls and having the main objective of harmonising their national laws and bringing it to a standard level practiced by the member countries. The first AG meeting took place in Brussels in June 1985 and since then it has become an annual ritual to discuss the complexities of the emerging dynamics of challenges.

Export licensing measures in tandem with the uniformity in standard practices across the spectrum has been the crux of AG. These measures have led the members to avoid both direct as well as inadvertent involvement in the spread of chemical and biological weapons. The major objective of the members of AG have been to use the licensing measures effectively and it would then ensure that exports of certain chemicals, biological agents and dual use chemical and biological manufacturing facilities and equipments do not contribute to the spread of chemical and biological weapons.

The AG has been maintaining its informal approach in an effective manner. The member states of AG through the harmonisation of their national export control laws have been fulfilling all the obligations in the manner under which the risk of chemical and biological weapon proliferation is minimised. The challenge has always been to stop would-be proliferators from obtaining materials for pursuing

chemical and biological weapons programme. Since the nature of the grouping is informal, hence technically speaking there is no legally binding obligations whatsoever on the part of the member states. The effectiveness of AG gets reflected in the shared commitments to their common non-proliferation goals. All the members of the AG have also been the parties to the CWC and the BTWC. The basic objectives of these conventions have been to get rid of chemical and biological weapons from the world.

It would be a worthwhile exercise to analyse and assess the threats emanating from both chemical and biological weapons (CBW) in the contemporary world security environment. The research and development in CBW area obviously remains an issue because of the lack of verification mechanism. There are a number of nations in both developed and developing world which have been progressing significantly in life sciences and chemical engineering research. The chemicals used in warfare are mostly derived from legitimate civil and industrial applications. All developed countries and most of the major developing states have relatively sophisticated petro-chemical industries. In this context, there is no denying the fact that all may have acquired the capability to produce chemical warfare agents including nerve gases. Whether all of them will have the capability to fill chemical warfare (CW) agents into munitions casings is left to the scholarly community for speculation.

If a country would wish, it could manufacture CW agents secretly and implicitly under the cover of civil chemical production. The line remains thin in this dual use technology. It must be mentioned here that biological warfare (BW) agent is also open to clandestine production. It will be much easier than the secret manufacture of chemical weapons. The infrastructure required for

manufacturing biological weapons is technically very small with fairly simple equipment. There is no need to dispose of effluent or waste gases as it is required in the chemical industry which can be easily detected and monitored.

Hence, cautious approach is needed especially on the issues raised by the potential threats from biological and chemical weapons. These may be distorted by the tendency of the governments to state as fact what is supposition and to place the worst interpretation on such facts. The states may use these interpretations as propaganda bred of secrecy, suspicion and disinformation. The United States' did this with Iraq despite International Atomic Energy Agency's (IAEA) declaration that Iraq does not have Weapons of Mass Destruction (WMD) during the early years of twenty first century. There is no denying the fact that there are limitations on the knowledge about the CBW activities. Hence, drawing inferences or extrapolating from the behavioural patterns may not necessarily be in consonance with the real situations unfolding.

It must be reiterated here that neither chemical nor biological warfare is a twentieth or twenty first century invention. There have been the cases of use of poisons derived from plants and animals which dates back to ancient times. There are references in a number of places including ancient texts, Old Testaments and in Roman accounts of their wars which suggests the advent of both CBW agents. During the nineteenth century, developments in chemistry and industrial production techniques led to the realisation that chemicals might prove significant in future wars. Liquid Chlorine became commercially available in the late 1980s in Germany and early in the twentieth century in Britain and the United States. Phosgene had been discovered as early as 1812 and by

the second half of the nineteenth century, it was being used commercially. The possibility that these developments would lead to chemical warfare on a significant scale is still very relevant.

The Hague Conventions of 1899 and 1907 were perhaps the starting points for prohibiting the use of CBW agents during the war. Prior to this, the Brussels Convention, which was adopted in 1874, banned the employment of poison or poisoned weapons. At the first International Peace Conference at The Hague in 1899, the signatories undertook to abstain from the use of projectiles so that the diffusion of asphyxiating or deleterious gases does not take place. The similar prohibition was followed at the Second Hague Conference in 1907. However, nothing of these sort was seriously followed during the war time situations. It was only because of the deteriorating global security environment and possible use of CBW agents, the 1925 '*Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases and of Bacteriological Methods of Warfare*' was adopted. The signatories reaffirmed their commitment not to use the poisonous gases and analogous substances. The Protocol entered into force in 1928.

There have been technically a number of debates at the United Nations after the Second World War mainly on non-proliferation of CBW agents and the issues relating to compliance on the dual nature of technology. There was a dominant view during the later part of the twentieth century on the need to reach an agreement to halt the development, production and stockpiling of all chemical and biological agents for purposes of War.

The twenty first century has been witnessing complex crisis emanating from both state as well as non state actors. Hence, the

concerted effort in terms of streamlining export licensing on the part of the member states in conformity with the global standards certainly is a welcome step. India's membership in AG will help understand the functioning of such groups as well as becoming the part of the group which takes stock of the emerging situations in geopolitics relating to the prohibition of CBW agents. India already has a rich experience in dealing with these issues at length and to a larger extent the AG will benefit from India's experience in tightening the export control measures. India's non-proliferation records have been impeccable. Such membership for India has been an acknowledgement on the part of the member states of the AG about its indisputable role in handling non-proliferation issues in stringent manner.

Chinese and Indian Perspectives on Biotech Security Risk

Ms. Shruti Sharma

The author is a Research Assistant, Technology and International Affairs Program, Carnegie Endowment for International Peace, New Delhi.

The Carnegie Endowment for International Peace is known globally for its work aimed at enhancing international peace and stability. This is facilitated through in-depth analyses of challenges and development of fresh policy ideas and direct engagement with decision-makers in government, business, and civil society across national boundaries.

Carnegie's Washington-DC based Technology and International Affairs Program develops strategies to maximize the positive potential of emerging technologies—like information technology, biotechnology, and artificial intelligence—while reducing risks of large-scale misuse or harm.

India is at the forefront of countries pursuing profound benefits from new biotechnologies, including gene editing. Our nation has much to offer and gain from the positive uses of these technologies: combating antibiotic resistance, facilitating agriculture, preventing the spread of many infectious diseases. However, in India as in other countries, such technologies also raise some concerns that they could be used to cause harm as well as benefits.

Global health and biosecurity are international in nature, but individual countries have unique national contexts, viewpoints, concerns, and ideas about these issues. Through its research network in Delhi and Beijing, Carnegie has launched a new project, “Chinese and Indian Perspectives on Biotech Security Risk,” to better understand how stakeholders in these countries view both the positive potential and the risks of evolving biotechnologies. This project is generously supported by the Open Philanthropy Project.

Over the next eighteen months, the project plans to engage a wide range of stakeholders in industry, academia, and government. We will conduct interviews, hold small workshops, and develop analysis on key biosecurity topics like biosafety, pandemic preparedness, synthetic biology, bioinformatics, regulation and governance, and bioterrorism. The Carnegie Endowment hopes that this research will expand understanding of Indian viewpoints and ideas on these issues, and eventually offer new opportunities for both national conversation and international cooperation.

Chemical and Biological News

NATIONAL AND INTERNATIONAL DEVELOPMENTS

Chemical weapons watchdog to hold special session in June

OPCW has recently found its methods under attack from Russia and other supporters of Syria

Patrick Wintour, June 5, 2018

The world's chemical weapons watchdog is to hold a special two-day session in late June in response to Britain's call to hand the body new powers to attribute responsibility for chemical weapons attacks.

The Hague-based watchdog, known as the Organisation for the Prohibition of Chemical Weapons, has until recently been seen as a scientific technical backwater, but as the controversy over the use of the weapons has grown, the OPCW has found its methods under attack from Russia and other supporters of the Syrian regime.

British ministers have accused Russia of blocking the UN from blaming the Syrian government for repeated chemical attacks on its citizens.

In a speech at the Chatham House thinktank last month, the OPCW's director general, Ahmet Üzümcü, called for his organisation to be given the ability to identify the individual, group or country behind chemical attacks, saying the international community needed to address the gap.

At a meeting this week, Britain won the support of 64 OPCW member states for the special session, and the OPCW confirmed in a statement on Tuesday that this would now go ahead on 26 and 27 June.

Britain's national security adviser, Mark Sedwill, said: "We recognise that the global norm against chemical weapons use is being threatened."

British support for a strengthened role for the OPCW grew after the UK concluded that a Russian-made military nerve agent was used in Salisbury in March in the poisoning of the former Russian double-agent Sergei Skripal and his daughter.

The Salisbury incident followed an impasse in November last year at the UN security council when Russia blocked the renewal of the mandate for the body, known as the joint investigative mechanism, responsible for attributing chemical weapons attacks to groups or countries. Russia claimed the body's procedures, including the chain of command over samples, was too lax.

Russia has also mounted attacks on the technical methods of the OPCW's investigations into the Salisbury attack.

Speaking at the thinktank, Üzümcü said: "Today there might be good reasons actually to clarify the role of the OPCW itself in terms of attribution once it has the necessary information at its disposal. Wilful defiance of a valued norm should not be allowed to go unchallenged."

He told the Guardian: "I don't think the international community can afford to continue without an attribution mechanism to identify perpetrators of the use of chemical weapons. If accountability is avoided the potential acceptance of the use of chemical weapons as weapons of war and terror will not be deterred."

An OPCW fact-finding team is due to report on whether chemical weapons were used in an attack in rebel-held Douma in Damascus.

The attack led to US, French and British reprisals, including cruise missile strikes on alleged Syrian chemical weapons sites.

<https://www.theguardian.com/world/2018/jun/05/opcw-chemical-weapons-watchdog-special-session-russia-syria>

US Slams Russian Veto After OPCW Syria Alleged Attack Probe Fails to Find Blame

TIMOTHY A. CLARY, May 18, 2018

WASHINGTON (Sputnik) - The US State Department blamed Russia in a statement on Thursday for using Security Council veto to block the renewal of a United Nations chemical probe in Syria after the investigation failed to determine who was behind an alleged chemical weapons attack in Syria in February.

“The OPCW’s Fact-Finding Mission does not attribute responsibility for an attack. Unfortunately, Russia has vetoed the renewal of Joint Investigative Mechanism, which was the only impartial and independent body with the mandate for attributing responsibility, at the UN Security Council five times,” the statement said.

Previously, several media outlets and Western countries accused Damascus of using chemical weapons in the Syrian town of Douma on April 7. The Syrian government and Russia have refuted the allegations, saying that it was staged by local militants and the White Helmets non-governmental organization. The Syrian government had also invited the experts from OPCW to investigate the reports.

On April 10, the UN Security Council failed to adopt either of the two Russian-drafted resolutions or the one drafted by the United States which were calling

for an investigation into the reported chemical attack — the diplomats from both sides had used their veto power.

Earlier, the Russian Center for Syrian Reconciliation representatives inspected the location of the alleged attack and questioned local doctors, who said that they had not received individuals with symptoms of chemical poisoning.

However, the United States, the UK and France launched missile strikes against Syria as a response to the alleged chemical attack, despite the lack of evidence. The strike was launched on April 14, same day the OPCW mission was set to visit the sites.

<https://sputniknews.com/us/201805181064559477-usa-blames-russia-veto-opcw-syria-chemical-probe/>

Chemical weapons inspectors reach Douma to probe gas attack

A week after arriving in Syria, experts enter town where dozens died and hundreds were injured in April 7 incident.

April 21, 2018

Inspectors from the global chemical weapons watchdog have finally reached a formerly rebel-held town in Syria where a suspected gas attack took place two weeks ago.

Saturday’s visit to Douma came a week after the fact-finding mission of the Organisation for the Prohibition of Chemical Weapons (OPCW) first arrived in Syria, and amid growing questions about whether there would still be enough evidence for the investigators to gather.

In a statement, the OPCW said its team had visited one of the sites of the alleged attack to collect samples for analysis.

“The OPCW will evaluate the situation and consider future steps including another possible visit to Douma,” it said.

“Based on the analysis of the sample results as well other information and materials collected by the team, the FFM (fact-finding mission) will compile their report for submission to the States Parties to the Chemical Weapons Convention for their consideration.”

Earlier on Saturday, the foreign ministry of Russia, a major ally of Syrian President Bashar al-Assad, had also said that the OPCW inspectors had entered Douma.

The US and France have accused Russia of blocking access to the site, where rescuers and medics say dozens of people were killed on April 7.

The Syrian government and Moscow say the alleged chemical attack, which prompted a series of air strikes by Western allies as an act of retaliation, was staged.

Security fears

The OPCW team arrived in Damascus on Saturday but had not been able to travel to Douma, on the outskirts of the capital, due to security concerns following a reconnaissance mission by a United Nations team at two sites in the town on Tuesday.

The UN Department of Safety and Security (UNDSS) officials had to withdraw from the first location as the presence of large crowd there raised security fears.

At the second site, they came under small arms fire and an explosive device was detonated nearby, the OPCW said in a statement.

There were no injuries and the UN team returned to Damascus, but the watchdog had to postpone its visit.

In a statement on Saturday, Maria Zakharova, spokesperson for the Russian foreign ministry, said the delays to the OPCW team were “unacceptable”.

On Monday, during an emergency meeting at the OPCW’s headquarters in The Hague, Western diplomats accused the Syrian government and Moscow of obstructing the team.

Russia denied the claims, saying parts of Douma still needed to be de-mined and said the watchdog’s inspectors would enter on Wednesday.

Yet, France and the US appeared to question the purpose of such a mission, warning at the time that any incriminating evidence had likely been removed by then.

Earlier this week, Ishak Majali, a former OPCW inspector, said it was unlikely the inspectors would find evidence at the site after such delay.

“It has been a lot of time since the attack took place,” he told Al Jazeera.

“So, if you are in control of a site with chemicals for such a long time, it’s very easy actually to tamper with the place and to change the facts on the ground.

“You can actually do what we call it in the military business as the decontamination process, which is to remove all the evidence on the ground by using other chemicals to neutralise the chemicals on the ground. Also, you can tamper with the munition itself ... to prepare some witnesses or to prepare some medical reports.”

Government raids

The town of Douma was under rebel control and facing a government air and ground assault when the suspected attack took place.

Images that emerged from Douma at the time showed lifeless bodies collapsed in crowded rooms, some with foam around their noses and mouths.

Opposition groups gave up the town in the days after the incident. Thousands of people - rebels and civilians - left on buses to northern Syria, believing they could not reconcile with the government after it took over the town.

The evacuations were the latest in a string of population transfers around the Syrian capital that have displaced more than 60,000 people as the government reconsolidates control after seven years of civil war.

UN officials and human rights groups say the evacuations amount to a forced population displacement that may be a war crime.

Also on Saturday, Syrian government forces continued an offensive against rebel-held parts of the capital's outskirts, in a bid to drive out remaining armed opposition groups, according to state media and war monitors.

Rebel-held pockets near Damascus have been witnessing intense bombardment and shelling from Assad's forces since Thursday.

Some of the areas, including Hajar al-Aswad and Tadamun in the southern district of Damascus, have been under Islamic State of Iraq and the Levant (ISIL, also known as ISIS) group's control since April 2015.

The areas comprise the majority of the Palestinian Yarmouk refugee camp, which lies about 8km from central Damascus.

<https://www.aljazeera.com/news/2018/04/chemical-weapons-inspectors-reach-douma-probe-gas-attack-180421130414025.html>

France has proof Syrian government conducted chemical weapons attack: Macron

Ludovic Marin | Reuters

France has proof the Syrian government carried out a chemical weapons attack last week and will decide whether to strike back when all the necessary information has been gathered, President Emmanuel Macron said on Thursday.

France is expected to join the United States and Britain in carrying out air strikes or some other form of attack in response to the use of the weapons but it remains unclear when that might happen or even if it definitely will.

"We have proof that last week, now 10 days ago, that chemical weapons were used, at least with chlorine, and that they were used by the regime of (President) Bashar al-Assad," Macron said, without giving details on the evidence or how it was acquired.

The attack on the town of Douma on April 7 killed dozens of people, including children.

"Our teams have been working on this all week and we will need to take decisions in due course, when we judge it most useful and effective," Macron told broadcaster TF1 when asked whether a red line had been crossed.

U.S. President Donald Trump tweeted on Thursday morning: "Never said when an attack on Syria would take place. Could be very soon or not so soon at all!"

Macron said France wanted to remove the Syrian regime's chemical weapons capabilities. When asked whether those would be the targets of strikes he said: "When we decide it, and once we have verified all the information."

The French army is preparing itself for a possible riposte as it waits for the political

green light, military sources told Reuters, with several sources underscoring the difficulty of outlining the objectives of such an operation.

The sources said if France were to attack, the strikes would most likely come from warplanes rather than its naval frigate off the Lebanese coast, and that they would likely to take off from France rather than its Middle East bases.

The subject of chemical weapons' use in Syria has been a thorny issue for Macron. He has warned that he would not accept the use of chemical weapons, which he said was a "red line" that would draw French action, even unilateral.

However, after persistent reports of chlorine attacks over the last year, his foreign minister and aides have been more nuanced saying a response would hinge on French intelligence proving both the use of chemicals and fatalities, and a riposte would most likely be in coordination with the United States.

"France will not allow any escalation that could harm the stability of the region as a whole, but we can't let regimes that think they can do everything they want, including the worst things that violate international law, to act," Macron said.

<https://www.cnn.com/2018/04/12/france-has-proof-syrian-government-conducted-chemical-weapons-attack-macron.html>

Nipah virus has been contained, last persons who tested positive have recovered, says Kerala health minister

June 10, 2018

Kozhikode (Kerala): The deadly Nipah virus that struck Kozhikode last month and

claimed 16 lives in Kerala has been finally contained and the last of the two positive cases have fully recovered, said Kerala Health Minister KK Shailaja on Sunday.

People wear safety masks as a precaution against the Nipah virus in Kozhikode. File image. PTI

The virus struck at Kozhikode which saw 13 people dying, while three deaths were reported from nearby Malappuram district, and more than 2,000 patients with fever were kept under close observation.

After presiding over a review meeting, she told media persons that the virus scare is finally over.

"We visited the two Nipah positive patients who have been completely cured and according to many, this is something rare. The scare of this getting spread is finally over, as no more patients have tested positive, but a caution has to be there who are under observation, as they have to take complete rest," said Shailaja.

The district authorities, following the scare, had asked to wait for schools to reopen in the new academic year and now schools all set to open from Tuesday onwards while the ban of public functions also has been lifted.

The Kozhikode Medical College hospital, where a special Nipah ward was opened, is now seeing patients returning home, said an official.

<https://www.firstpost.com/india/nipah-virus-has-been-contained-last-persons-who-tested-positive-have-recovered-says-kerala-health-minister-4504665.html>

Nipah virus sparks Kuwait quarantine measures amid outbreak fears

KUWAIT has confirmed it is introducing new quarantine procedures to deal with anyone infected with the Nipah virus in the wake of warnings about its potential to spread around the world in a global pandemic.

CIARAN MCGRATH, June 10, 2018

An outbreak of the illness has already claimed the lives of 17 people in the Indian state of Kerala.

Non-profit organisation EcoHealth Alliance yesterday published a contagion map demonstrating how easily the illness could travel to other continents via a network of international flights.

Kuwait is 10th on the list of countries most closely connected with the outbreak's point of origin, while neighbouring Saudi Arabia is 3rd.

The Middle East North Africa Financial Network (MENAFN) website reported: "The Ministry of Health has adopted procedures that will be followed in case anyone is infected with Nipah virus.

"Sources confirmed these procedures are in line with the directive of the World Health Organisation (WHO) to monitor patients in hospitals, control the virus and implement the public health policy.

"Sources disclosed the procedures include isolation of the infected person.

Once the diagnosis is confirmed, patients in stable condition should be transferred to the Infectious Diseases Hospital and there is no need to confine them at the Intensive Care Unit (ICU), sources added.

"Sources said the ministry also stressed the need for coordination between doctors to

report suspected cases, especially those coming from epidemic areas."

GETTY

Nipah, is a zoonotic disease, meaning it is spread from animals to humans.

In this case, it appears to have been transferred from fruit bats to humans, via consumption of date palm sap which has been contaminated with a bat's urine or saliva.

Symptoms can include respiratory difficulties and swelling of the brain, with the virus having a fatality rate of between 40 and 75 percent.

The World Health Organisation (WHO) ranks Nipah as one of its R&D Blueprint priority diseases.

WHO is supporting affected and at risk countries with technical guidance on how to manage outbreaks of Nipah virus

The World Health Organisation

This refers to illnesses for which the WHO feels there is an urgent need for accelerated research and development of treatments and vaccines.

The WHO said: "In the absence of a vaccine, the only way to reduce or prevent infection in people is by raising awareness of the risk factors and educating people about the measures they can take to reduce exposure to the Nipah virus.

"WHO is supporting affected and at risk countries with technical guidance on how to manage outbreaks of Nipah virus and on how to prevent their occurrence."

EcoHealth Alliance Director of Data Science Toph Allen said in relation to its simulation: "In an increasingly connected world, we believe it's imperative we get in front of

outbreaks before they're given a chance to become full-blown pandemics.”

<https://www.express.co.uk/news/world/972221/nipah-virus-kuwait-quarantine-measures-possible-outbreak-pandemic>

North Korean defector's blood 'contains signs of anthrax infection' amid concerns over biological weapons

Josh Gabbatiss, December 27, 2017

The blood of a soldier who defected from North Korea this year has been found to contain antibodies suggesting exposure to anthrax (*Getty Images*)

A North Korean soldier who defected to the South earlier this year was reportedly found with antibodies in his bloodstream that suggest past exposure to anthrax.

Signs of the deadly bacterial infection have added to fears in South Korea that the North is developing biological weapons, according to local media.

The soldier was not identified, but South Korea authorities were quoted as saying he had developed immunity to the disease prior to his defection.

“Anthrax antibodies have been found in the North Korean soldier who defected this year,” an unnamed South Korean intelligence official told local news network Channel A on Tuesday.

Antibodies are molecules that indicate immunity to a disease, as they are produced in response to an infection and help neutralise potential threats in the body.

Their alleged presence in the soldier suggests he was either exposed to or vaccinated for

anthrax, a dangerous disease with a history as an agent of biological warfare.

North Korea has long been suspected of developing biological weapons.

Testimonies from defectors suggest a North Korean programme to develop biological weaponry has existed since the 1960s.

When the regime publicised the Pyongyang Biological Technology Research Institute in 2015, US analysts suggested the equipment there – allegedly used for pesticide research – could be used to make biological weapons.

“It is hard to avoid the conclusion that the institute is intended to produce military-size batches of anthrax,” wrote Melissa Hanham, a North Korea specialist at the James Martin Center for Nonproliferation Studies, in a blog post commenting on the facility.

“Regardless of whether the equipment is being used to produce anthrax today, it could be in the near future.”

Anthrax is found naturally in the soil, particularly in agricultural regions in developing countries.

Its appeal as an agent of biological warfare comes from the relative ease with which regimes can acquire the microbes responsible, and subsequently release them without arousing suspicion.

Both South Korea's National Intelligence Service and Defense Ministry told CNN they could not confirm the new report concerning the North Korean defector.

The Defense Ministry noted that none of the four soldiers who defected in 2017 are believed to have worked in North Korea's biochemical warfare unit.

Nevertheless, the report comes at a time of heightened tensions surrounding biological weapons in the region.

The recent US National Security Strategy stated: “North Korea – a country that starves its own people – has spent hundreds of millions of dollars on nuclear, chemical, and biological weapons.”

It went on to say: “North Korea is also pursuing chemical and biological weapons which could also be delivered by missile.”

The North Korean state-run Korean Central News Agency (KCNA) called these claims “groundless”.

KCNA also threatened “revenge” against the US for claiming North Korea is defying the terms of the Biological Weapons Convention, which bans the development, production and stockpiling of biological weapons.

South Korea’s military is working on an anthrax vaccine, but according to Defense Ministry spokeswoman Choi Hyun-soo one will only be developed by the end of 2019.

In the meantime, CNN reported that 1,000 doses of anthrax vaccines were imported to South Korea in November to be given to biochemical counterterrorism agents or civilians in the case of anthrax exposure.

<https://www.independent.co.uk/news/world/asia/north-korea-defector-anthrax-infection-blood-signs-biological-weapons-evidence-nuclear-testing-a8130456.html>

North Korea says it ‘will take revenge’ for US saying it is developing biological weapons

Mythili Sampathkumar, December 20, 2017

North Korea said it will “take revenge” on the US for saying Pyongyang is developing biological weapons.

North Korea said via its state media Korean Central News Agency that: “as a state party to the Biological Weapons Convention (BWC), [it] maintains its consistent stand to oppose development, manufacture, stockpiling and possession of biological weapons.”

“The more the US clings to the anti-[North Korea] stifling move...the more hardened the determination of our entire military personnel and people to take revenge will be,” said the KCNA.

KCNA called the US claims “groundless” and said it was just an excuse for harsher sanctions after President Donald Trump labelled North Korea as a state sponsor of terrorism.

The Trump administration made the assertion that the isolated Asian country was developing a missile capable of carrying the biological weapons as well in its National Security Strategy document.

The 55-page document focused on Mr Trump’s “America First” approach to security and stated: “North Korea—a country that starves its own people—has spent hundreds of millions of dollars on nuclear, chemical, and biological weapons that could threaten our homeland.”

The administration also wrote that: “North Korea is also pursuing chemical and biological weapons which could also be delivered by missile.”

According to a 2016 report by the Korea Institute for Defence Analyses, North Korea has 13 types of pathogens that can be weaponised such as anthrax and clostridium botulinum.

The US claims and subsequent North Korean denial come at a time when South Korean officials proposed a delay in military drills with the US in order to ensure a peaceful 2018 Winter Olympics, not ease tensions with North Korea and China.

South Korean President Moon Jae-in is seeking to soothe relations with Pyongyang and with China, the North's lone major ally, before the Olympics begin in South Korea in February.

China, which hosted years of on-again-off-again talks to try to end the North Korea standoff, resumed some blocks on group tours to South Korea and rebuked Seoul for firing warning shots at Chinese fishing boats.

A spokesperson for South Korean President Moon Jae-in said the proposed delay was “confined to our efforts to host a peaceful Olympics. We are only talking about the exercises which are supposed to take place during the Olympics and Paralympics.”

Mr Moon had travelled to China to discuss the proposal last week, after it had been presented to the US.

North Korea sees the regular joint exercises as preparation for war.

China has maintained that the deployment of a US anti-missile system known as the Terminal High Altitude Area Defence (Thaad) near Seoul is a threat to it because South Korea could use the powerful radar to see deep inside China's territory.

The South argues it needs Thaad to guard against the threat posed by North Korea.

China and Russia have proposed a “freeze for freeze” arrangement under which North Korea would stop its nuclear and missile tests in exchange for a halt to the exercises.

However, South Korea has denied that the proposed delay had anything to do with the “freeze” idea

<https://www.independent.co.uk/news/world/americas/us-politics/north-korea-biological-weapons-us-revenge-trump-kim-jong-un-pyongyang-a8120376.html>

DISARMAMENT

Chemical Weapons Convention Embodies Universal Values, Asserts OPCW Director-General During Visit to Italy

May 29, 2018

Speaking at the Open Day for Master of Science in European Economy and Business Law, the Director-General contended that to be effective, legal instruments – such as the Chemical Weapons Convention (CWC) – must be underpinned by universal values.

Ambassador Üzümcü stated that it is “the unwavering commitment of States Parties to the letter and the spirit of the Convention” that has enabled the success of global chemical disarmament.

However, the CWC's significance “reaches beyond the field of disarmament” as the treaty “embodies the moral dominion of respect for agreed norms over arbitrary and irresponsible behaviour. It reinforces the sanctity of humanitarian ideals over warfare and the importance of collaborative approaches to achieving peace.”

Tor Vergata's International Master Courses in Protection against Chemical, Biological,

Radiological, Nuclear and Explosive Events won the 2017 The OPCW-The Hague Award.

The courses educate the next generations of first responders and advisors to policymakers, and since 2009 have produced over 170 international experts.

Background

The annual OPCW–The Hague award was established in 2014 by the OPCW to recognise and honour individuals and institutions that have made an outstanding contribution towards the goal of a world permanently free of chemical weapons; such contributions include promoting the peaceful uses of chemistry and preventing its misuse.

The Award is a tribute reflecting the honour bestowed upon the OPCW for winning the Nobel Peace Prize in 2013 and is supported by a generous financial contribution from the City of The Hague.

As the implementing body for the Chemical Weapons Convention, the OPCW oversees the global endeavour to permanently and verifiably eliminate chemical weapons. Since the Convention's entry into force in 1997 – and with its 192 States Parties – it is the most successful disarmament treaty eliminating an entire class of weapons of mass destruction.

Over 96% of all chemical weapon stockpiles declared by possessor States have been destroyed under OPCW verification. For its extensive efforts in eliminating chemical weapons, the OPCW received the 2013 Nobel Peace Prize.

<https://www.opcw.org/news/article/chemical-weapons-convention-embodies-universal-values-asserts-opcw-director-general-during-visit-to-italy/>

OPCW Director-General Congratulates Iraq on Complete Destruction of Chemical Weapons Remnants

March 13, 2018

THE HAGUE, Netherlands — 13 March 2018 — The Director-General of the Organisation for the Prohibition of Chemical Weapons (OPCW), Ambassador Ahmet Üzümcü, congratulated the Government of Iraq on the completion of the destruction of the country's chemical weapons remnants, during today's visit of the Minister of Higher Education and Scientific Research of Iraq, H.E. Dr Abdulrazzaq Al Jaleel Essa.

“I welcome this notable achievement and congratulate the Iraqi Government for their efforts in ensuring the proper destruction of these dangerous chemicals and for fulfilling its obligations deriving from the Chemical Weapons Convention,” stated the Director-General.

Ambassador Üzümcü presented to the Minister a certificate recognising the Iraqi Government's complete destruction of its chemical weapons remnants.

The Director-General further briefed Minister Al Jaleel Essa on the OPCW's latest activities, including progress in the destruction of the declared former chemical weapons production facilities, the threat posed by non-State actors' access to chemical weapons, and peaceful uses of chemistry.

Minister Al Jaleel Essa's delegation included Iraq's Permanent Representative to the OPCW, H.E. Dr Hisham Al-Alawi; the Head of the Al Muthana project, Mr Magid Shannoon Khalaf, Spokesperson to the Minister, Dr Hayder Mohammed Jebur; and Ms Kani Shareef, First Secretary, Permanent Representation of Iraq to the OPCW.

Background

Iraq's initial declaration, submitted in March 2009, referred to remnants of chemical weapons stored in two storage bunkers at the Al Muthana site. Owing to the hazardous conditions within the bunkers, Iraq was not able to conduct a detailed on-site inventory immediately after the initial declaration. Destruction activities started in 2017, once the on-going security situation had been addressed.

In November 2017 and February 2018, OPCW's Technical Secretariat confirmed that the four former chemical weapons production facilities in Iraq were completely destroyed.

One former chemical weapons production facility in Iraq remains subject to inspection until 2028. In 2012, OPCW approved a detailed plan, submitted by Iraq, for this facility's conversion for purposes not prohibited under the Chemical Weapons Convention.

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<https://www.opcw.org/news/article/opcw-director-general-congratulates-iraq-on-complete-destruction-of-chemical-weapons-remnants/>

OPCW Director-General Praises Complete Destruction of Libya's Chemical Weapon Stockpile

January 11, 2018

THE HAGUE, Netherlands — 11 January 2018 — The Director-General of the Organisation for the Prohibition of Chemical Weapons (OPCW), Ambassador Ahmet Üzümcü, applauded the complete elimination of the Category 2 chemical materials removed from Libya and transported to Germany for destruction at ceremony hosted by the Government of Germany and held on 11 January at the chemical weapons destruction facility operated by GEKA mbH in Munster, Germany.

In attendance were high-level Libyan and German officials, including: Minister of Foreign Affairs of Libya, H.E. Mr Mohamed Taha Siala; State Secretary, German Federal Ministry of Defense, Dr Katrin Suder; Deputy Federal Commissioner for Disarmament and Arms Control, German Federal Foreign Office, Ms Susanne Baumann; as well as the Permanent Representatives to the OPCW for Libya, Dr Ali Gebril Werfeli, and for Germany, Ambassador Christine Weil.

The Director General stated in his remarks: "Today's event marks a historic occasion for disarmament and international security. It heralds the end of Libya's chemical demilitarisation process and another step towards fulfilling the core goal of the Chemical Weapons Convention – the complete and permanent eradication of all chemical weapons."

He further expressed that "the removal and destruction of approximately 500 metric tonnes of Libya's Category 2 chemical agents was an extraordinary operation that necessitated agility, creativity, and above all

close international cooperation”. The Libya operation represents “a prime example of the OPCW’s motto – working together for a world free of chemical weapons – in action”.

During the ceremony, the Director-General presented a certificate to the Libyan government in recognition of the complete destruction of all its declared chemical weapon stockpiles.

GEKA’s highly-capable specialised facility in Munster was designated to destroy the chemical weapons stockpile removed from Libyan territory in an international operation coordinated by the OPCW in 2016. The OPCW verified the completed destruction of these materials at GEKA on 23 November 2017.

Background

The Executive Council of the Organisation for the Prohibition of Chemical Weapons (OPCW) on 20 July 2016 adopted a decision calling for necessary international assistance in response to the Libyan Government of National Accord’s request for help destroying its remaining Category 2 chemical weapons on an expedited basis outside of Libya.

On 22 July 2016, the United Nations Security Council at UN headquarters in New York endorsed this decision and authorised urgent action.

Both UN Security Council resolution 2298 (2016) and the OPCW Executive Council decision recognised the extraordinary security and environmental challenges associated with these chemicals, which can be used by industry. As pre-cursors for chemical weapons, their removal and verified destruction guarantees they do not fall into the hands of non-State actors.

In August 2016, the OPCW facilitated and coordinated assistance among contributing

countries to support the timely destruction of Libya’s remaining chemical weapons in the safest and most secure manner.

Canada, Cyprus, Denmark, Finland, France, Germany, Italy, Malta, New Zealand, Spain, the United Kingdom and the United States contributed personnel, technical expertise, equipment and financial resources. Notably, Denmark provided maritime assets to transport the chemicals to Germany. The chemicals reached the GEKA facility, which had extensive experience in disposing the effluent from Syria’s neutralised chemical agents, at the beginning of September 2016.

The destruction of Libya’s remaining Category 2 chemical weapons in the GEKA facility brought the total amount of the Libyan Category 2 chemical weapons destroyed to 100 per cent. Libya had previously destroyed all of its Category 1 and 3 chemical weapons.

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<https://www.opcw.org/news/article/opcw-director-general-praises-complete-destruction-of-libyas-chemical-weapon-stockpile/>

INTERNATIONAL COOPERATION

OPCW Holds 10th Analytical Chemistry Course under Programme to Strengthen Cooperation with Africa

May 22, 2018

THE HAGUE, Netherlands – 22 May 2018 – Chemistry professionals from African Member States enhanced their chemical analysis capabilities during an Analytical Chemistry Course (ACC) jointly organised by the OPCW and Protechnik Laboratories of Armscor (Armaments Corporation of South Africa), held in Pretoria, South Africa from 7 to 18 May.

The participants were welcomed by Assistant Director of the Department of Trade and Industry, National Authority of South Africa to the OPCW, Ms Lebogang Philela; Senior Manager of Protechnik Laboratories, Dr Manilisi Shumane; Executive Manager of R&D Operations at Armscor, Ms Dikeledi Maema; and Ms Halimatussaadiah Mat Som, Programme Officer from OPCW's Technical Secretariat.

The course covered topics including sample preparation, quality control, health and environmental issues related to toxic chemicals, physical chemical properties of chemical warfare agents and an overview of national implementation of the Chemical Weapons Convention (CWC).

In addition to theoretical knowledge, the course offered intensive hands-on exercises in the handling of different sample matrices for subsequent analysis by gas chromatography (GC) with element-selective detectors and gas chromatography-mass spectrometry (GC-MS). Participants

also gained basic knowledge on the application of GC and GC-MS for the analysis of chemical samples in relation to the CWC.

The course provided a platform for participants to exchange their individual work experiences and challenges in GC and GC-MS techniques, including hardware, instrument testing and optimization, basic instrument maintenance and troubleshooting.

The course - modelled on the Analytical Skills Development Course (ASDC) by the respectable VERIFIN Institute in Finland - has been held annually since 2009 to better support National Authorities in implementing the CWC.

The programme welcomed 20 participants from: Algeria, Botswana, Burkina Faso, Cameroon, Democratic Republic of the Congo, Ethiopia, Ghana, Kenya, Malawi, Mauritius, Morocco, Namibia, Nigeria, Senegal, Sudan, Tanzania, Tunisia, Uganda, Zambia and Zimbabwe.

Background

The Analytical Chemistry Courses are designed to build and extend the capacity of laboratories in the countries in Africa to analyse chemicals relevant to the Chemical Weapons Convention (CWC).

The courses are part of a larger OPCW's Africa Programme that strives to strengthen the Organisation's cooperation with its Member States from Africa.

Established in 2007, Africa Programme aims to respond to the particular needs of African countries. The activities include capacity building and raising awareness of the CWC, through cooperation with the African Union and outreach to civil society and academic institutions.

The Components of an Agreed Framework for the Full Implementation of Article XI were established by the decision of the Conference of States Parties in 2011 (C-16/DEC.10 dated 1 December 2011).

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<https://www.opcw.org/news/article/opcw-holds-10th-analytical-chemistry-course-under-programme-to-strengthen-cooperation-with-africa/>

Experts from Asia Consider New Approaches to Chemical Safety and Security Risk Management

May 15, 2018

THE HAGUE, Netherlands – 15 May 2018 – Chemical safety and security experts from Asia shared expertise and best practises during a seminar run by the Organisation for the Prohibition of Chemical Weapons (OPCW), in Siem Reap, Cambodia, from 7 to 9 May 2018.

The seminar - organised in collaboration with the National Authority for Chemical Weapons in Cambodia - brought together 37 participants from 15 OPCW Member States, representing National Authorities, chemical

industry, industry associations, policy makers and academia.

Cambodia's Deputy Prime Minister and Minister of National Defence, H.E. Mr Tea Banch, stated that the seminar would help “create a regional vision to build and strengthen the capacity to respond to incidents [occurring] during chemical transport, storage, [due to] negligence, and/or during natural disasters.”

The Secretary of State of Foreign Affairs and International Cooperation of Cambodia, H. E. Mr Uch Borith, reflected that “The risk of non-State actors' access to sensitive materials remains a major challenge; it is absolutely imperative that such materials should be properly secured.”

OPCW's Senior International Cooperation Officer, Mr Rohan Perera, noted that, “This seminar testifies to the strong cooperation between the OPCW and the Kingdom of Cambodia in promoting the peaceful uses of chemistry and the full implementation of the Chemical Weapons Convention”.

The attendees exchanged views on various aspects of chemical safety and security management, including risk management; the role of industry associations in chemical processes and safety management; vulnerability assessments; chemical threat reduction; and, the development of national policy. Furthermore, participants highlighted the pivotal role of the OPCW in coordinating the creation of unified chemical safety and security guidelines for small and medium chemical enterprises.

The participants represented the following OPCW Member States: Australia, Cambodia, India, Indonesia, Jordan, Kazakhstan, Iraq, Republic of Korea, Myanmar, Nepal, Oman, Pakistan, Philippines, Sri Lanka, and Thailand.

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<https://www.opcw.org/news/article/experts-from-asia-consider-new-approaches-to-chemical-safety-and-security-risk-management/>

First Responders from Latin America and the Caribbean Enhance Chemical Emergency Response Capabilities

May 03, 2018

THE HAGUE, Netherlands — 3 May 2018 — First Responders from Latin America and the Caribbean enhanced their capabilities in emergency response to chemical incidents during a regional basic training course held in Panama City, Panama from 23 to 27 April 2018.

The training was jointly run by the Organisation for the Prohibition of Chemical Weapons (OPCW) and the Panamanian National Authority for the Chemical Weapons Convention (CWC) with the support of the Panamanian Firefighter Corps and the cooperation of the National Security Council.

Addressing the course participants, Cnl Jaime Villar, General Director of the

Panamanian Firefighter Corps stated: “I hope that this training will contribute to building preparedness in your respective states to respond quickly and effectively to chemical incidents - which is also a component of our common endeavours to enhance regional peace and security”.

The training strengthened the capacity of participant States Parties to respond to incidents involving both chemical warfare agents and toxic industrial chemicals. Furthermore, it provided the participants with knowledge on monitoring, detection, and decontamination operations, as well as first aid in the field.

In addition to theoretical knowledge, the course included a practical session where participants could apply their newly obtained knowledge.

Thirty-three participants represented 17 OPCW Member States: Argentina, Barbados, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Honduras, El Salvador, Mexico, Nicaragua, Panama, Paraguay, and Uruguay.

These first responders will continue their training at an upcoming advanced course and exercise in Argentina at the end of May.

Background

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<https://www.opcw.org/news/article/first-responders-from-latin-america-and-the-caribbean-enhance-chemical-emergency-response-capabilities/>

Latin America and the Caribbean OPCW Member States Review Initiatives in Green Chemistry

January 18, 2018

THE HAGUE, The Netherlands — 18 January 2018 —The Organisation for the Prohibition of Chemical Weapons' (OPCW) Member States from Latin America and the Caribbean (GRULAC) gathered for a workshop on Chemistry for Safety, Security and Environmental Protection in Buenos Aires, Argentina from 11-12 December 2017.

OPCW's Senior International Cooperation Officer, Mr Sergey Zinoviev, noted that, "Green or sustainable chemistry is a powerful tool in achieving the culture of sustainability, starting right from the design of chemical processes and products; mindful of its prominence, the OPCW strongly supports research and education in green chemistry". Mr Zinoviev further highlighted various capacity-building opportunities offered to scientists by the OPCW and invited the workshop participants to take part.

The Head of the National Authority of Argentina, Mr Mariano Simón Padrós, pointed out in his opening remarks that, "the advances in science and technology, and particularly in the field of chemistry, are key to the development of our countries and this is why Argentina actively promotes them".

During the workshop, scientists and representatives of governmental institutions reported on the latest developments in scientific research, technology, design and implementation of policies in green and sustainable chemistry.

The span of topics was considerable, ranging from advanced biofuels and valorisation of waste biomass, to greener alternative products and risk assessment of chemicals. Policy issues were also tackled, mainly concerning promotion of greener policies in industry to serve development in less advanced countries.

Participants put forward a set of recommendations. One such proposal underscored the need to form scientific bodies that would issue opinions free from political and private sector considerations. Attendees also urged setting up school and university curricula on green and sustainable chemistry.

The workshop gathered 27 participants representing 12 countries: Argentina, Brazil, Colombia, Costa Rica, Cuba, Ecuador, Honduras, Paraguay, Peru, Uruguay and Venezuela. Twenty observers from local institutions were also in attendance.

The workshop - held under the auspices of the National Institute of Industrial Technology of Argentina (INTI) - was organised by the OPCW and the International Foundation for Science (IFS). The National Authority of Argentina hosted the event.

Background

The workshop was part of OPCW's Programmes for Support of Research Projects that has been implemented since

1998 to promote the peaceful applications of chemistry under Article XI of the Chemical Weapons Convention.

As a result of the OPCW-IFS cooperation, 434 research projects have received support so far, including 106 from Latin America.

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<https://www.opcw.org/news/article/latin-america-and-the-caribbean-opcw-member-states-review-initiatives-in-green-chemistry/>

UNIVERSALITY

Chemical Weapons Convention Embodies Universal Values, Asserts OPCW Director-General During Visit to Italy

May 29, 2018

THE HAGUE, Netherlands – 29 May 2018 – The Director-General of the Organisation for the Prohibition of Chemical Weapons (OPCW), Ambassador Ahmet Üzümcü, delivered a keynote speech at the University of Rome Tor Vergata on 28 May .

Speaking at the Open Day for Master of Science in European Economy and Business Law, the Director-General contended that to be effective, legal instruments – such as the Chemical Weapons Convention (CWC) – must be underpinned by universal values.

Ambassador Üzümcü stated that it is “the unwavering commitment of States Parties to the letter and the spirit of the Convention” that has enabled the success of global chemical disarmament.

However, the CWC's significance “reaches beyond the field of disarmament” as the treaty “embodies the moral dominion of respect for agreed norms over arbitrary and irresponsible behaviour. It reinforces the sanctity of humanitarian ideals over warfare and the importance of collaborative approaches to achieving peace.”

Tor Vergata's International Master Courses in Protection against Chemical, Biological, Radiological, Nuclear and Explosive Events won the 2017 The OPCW-The Hague Award.

The courses educate the next generations of first responders and advisors to policymakers, and since 2009 have produced over 170 international experts.

Background

The annual OPCW–The Hague award was established in 2014 by the OPCW to recognise and honour individuals and institutions that have made an outstanding contribution towards the goal of a world permanently free of chemical weapons; such contributions include promoting the peaceful uses of chemistry and preventing its misuse.

The Award is a tribute reflecting the honour bestowed upon the OPCW for winning the Nobel Peace Prize in 2013 and is supported

by a generous financial contribution from the City of The Hague.

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<https://www.opcw.org/news/article/chemical-weapons-convention-embodies-universal-values-asserts-opcw-director-general-during-visit-to-italy/>

State of Palestine Accedes to the Chemical Weapons Convention

May 23, 2018

THE HAGUE, Netherlands – 23 May 2018 – The State of Palestine deposited on 17 May 2018 its instrument of accession to the Chemical Weapons Convention with the Secretary-General of the United Nations, the depositary of the Convention. The Convention will enter into force for the State of Palestine on 16 June 2018.

Background

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<https://www.opcw.org/news/article/state-of-palestine-accedes-to-the-chemical-weapons-convention/>

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