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# CBW

# Magazine

Journal on Chemical and Biological Weapons

Volume 11

Number 3-4

Jul-Dec 2018

ISSN: 0974-0619

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## Executive Editor

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## Assistant Editor

Kritika Roy

The Bhopal gas tragedy of 1984, the world's worst chemical disaster, was a clear case of serious safety lapses and failed disaster responses. Safety and security being interlinked, any safety or security breaches in the chemical facilities and the chemical transportation chain would result in huge catastrophes causing immense human, animal and environmental losses. The Government and the chemical industry should speedily address this huge ticking time bomb writes Colonel H R Naidu Gade in his article 'Chemical Security India - Can Another Bhopal be Avoided?'

Dr Manish assesses the 2018 Meeting of States Parties (MSP) on the Biological Weapons Convention by analyzing the disappointing outcome of the Eighth Review Conference of the Biological Weapons Convention which was held in Geneva during 07-25 November 2016. The 2016 outcome has made further discussions on the subject of deliberate biological threats more challenging.

Earlier this year, the Dutch security services along with British officials were able to thwart the plan of a group of Russians to compromise and disrupt systems at the OPCW. Kritika Roy's article highlights the grave reality of cyber threats that international organisations face today.

Dr. Michael Crowley underscores the salience of the potential consequences of Riot Control Agents and the way forward.

This issue also comprises other 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: [cbwmagazineeditor@gmail.com](mailto:cbwmagazineeditor@gmail.com).**

## India and Chemical Security - Can Another Bhopal be Avoided?\*

**Col H. R. Naidu Gade (Retd)**

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### Summary

The Indian Chemical Industry manufacturing a large number of Toxic Industrial Chemicals and materials, not well regulated, has shortcomings relating to the security of the plants and the chemicals. The security threat could be at the plant, at the storage and during transportation of chemicals by various modes. Lack of adequate measures, to ensure security, could have disastrous consequences resulting in a great loss to life and property.

*“Basically, these hazardous chemical facilities are stationary weapons of mass destruction spread all around the country” - then Senator Barack Obama, 2006*

### Introduction

The Indian chemical industry estimated today to be about USD 180 billion value, ranking 6th in the world, is one of the largest industrial sectors in the Indian economy and a big employment generator.<sup>1</sup> The industry comprises about 70,000 chemical manufacturing units - small, medium and large-scale units, making a wide range of chemical products which include pharmaceuticals (29%), petrochemicals (21%), specialty chemicals (19%), fertilizers (17%), agrochemicals (3%) and other base chemicals (11 %).<sup>2</sup> Gujarat and Maharashtra are the two states where the majority of the chemical industries, including small, medium, and large enterprises, are concentrated. Andhra Pradesh, Tamil Nadu, Karnataka and West Bengal also have some chemical industry presence. The Industry is regulated by a host of central and state agencies on various aspects related to licensing, safety, security, pollution control, environmental impact, imports and exports. Indian Chemical Council, the industry association works closely with the government bodies in guiding members in implementing the above issues. The location of toxic chemical units in close proximity of population centres pose immense hazard to human beings, livestock, flora, fauna and the environment in general.

### Threats & Vulnerabilities - Hazardous Chemicals (HC) Industry

The essential elements of security in the HC Industry are: assessment of possible threats;

vulnerability analysis; security counter measures required; and mitigation and emergency response mechanisms in place. The threats to the Chemical Industries could broadly be to: Hazardous Chemical Facilities; Hazardous Chemical Transportation Systems; and Cyber threats to microprocessor controlled Hazardous Chemical Process Operations. Any of these above entities could be potential targets for deliberate actions by terrorists, criminals and even disgruntled employees. The major external threat to a facility could be from terrorists, anti-nationals, and militants, with a clear intention to cause a large toxic release, explosions, and inflicting a large number of casualties. The internal threats could be from disgruntled employees, contractors, with the intention to cause economic damage or disruption in business activity rather than inflicting injuries to people. The most serious threat could be from collaborative actions by insiders and external adversaries. The risks arising out of these threats are huge and must be assessed to determine adequate security measures required to be employed within the facility including the domains of cyber security and chemical logistics. The threats to a chemical processing industry could manifest in to: Release of HC on-site causing fire; explosion and toxic gas dispersion; theft of HC for use off-site; major damage to the infrastructure of plant; product tampering; theft of confidential information; and disruption of computer controlled equipment through cyber attacks.

Vulnerability Analysis (VA) determines the degree to which a facility/system is susceptible to hostile action. It involves identifying areas, the credible threats assessed in threat analysis could be realised. It is essential to be creative and imaginative in VA as the hostile elements may employ novel ways to strike facilities/systems. Vulnerabilities exist at each phase of chemical production, storage, transportation,

and distribution, which may be exploited by the threat elements. Therefore, the security counter measures should cater to timely detection, delay, response and mitigation from any possible threats and should encompass Information security, Physical security, Cyber security and well-established Security policies and procedures.

### **International Chemical Safety & Security Standards**

The US and Western nations have had ample experience with severe chemical incidents and with the looming threat of chemical terrorism, chemical manufacturers and internal security officials have been striving to improve chemical sector-specific standards, laws and countermeasures. Most advanced countries in the world have 'Responsible Care' Initiatives with stringent and verifiable Chemical Safety and Security Standards. The Chemical Security Standards mandate each high risk facility to carry out Security Vulnerability Assessment intended to assess the likelihood that unintended consequences would be prevented based on the security measures already in place at the facility; Thereafter these facilities are required to submit a Site-Security Plan (SSP) detailing planned security measures, both physical and procedural, intended to address identified vulnerabilities. These facilities are required to prove that they have adequately addressed the risks outlined by the Risk Based Performance Standards in their site-security plan. These standards pertain to aspects like Restricted-Area Perimeter, Secure Site Assets, Screen and Control Access, Deter, Detect, and Delay, Shipping, Receipt, and Storage, Theft and Diversion, Sabotage, Cyber, Response, Monitoring, Training, Personnel Surety, Elevated Threats, Specific Threats, Vulnerabilities, Risks, Report of Significant Security Incidents, Officials and Organizations and Records. After physical inspection of the

facility, the SSP is approved and a deadline given for successful implementation of that plan.

### **Indian Chemical Industry Security - Status**

The Indian Chemical industry supposedly operates within elaborate and stringent safety procedures and processes, periodically updated and upgraded. However, the record of physical compliance to these procedures by the industry is questionable because of lax regulatory/supervisory bodies not carrying out their required functions well and most industry members compromising on safety and security to make quick profits by adopting shortcuts. As of chemical security, the industry needs to walk a long mile revealing the ubiquitous inadequacies. The terms safety and security are often mixed up and there is a misnomer that facilities with good safety mechanisms in place are equally secure, which is not true. In India, an emerging nation, chemical sector safety and security remain woefully inadequate, and the facilities vulnerable to terrorism and catastrophic failures. Hence an immediate need to address areas such as process safety, chemical incompatibilities, emergency response systems, integrated training and mock exercises among stakeholders, comprehensive hazard vulnerability assessments, adequate warning and notification systems, accurate risk communication and public information, and improved cyber and physical security measures. That would do much to avert, mitigate, respond to, and recover from industrial chemical sector disasters and their aftermath.

The draft National Chemical Policy 2014, which is yet to be approved by the Government, provides for creation of a National Chemical Centre (NCC) mandated

to evolve, authenticate and issue the Chemical Safety and Security Standards aimed at putting in place a robust framework promoting safety and security of chemical facilities across the value chain and disaster resistant and resilient chemical industry operations. The policy document aims for the NCC and its organs to strictly and holistically regulate the Indian chemical industry. Additionally, the National Action Plan for Chemicals (NAPC) is being issued by the Ministry of Environment. Till such time the NCC comes in to being and is fully functional, the Indian Chemical Industry will perhaps continue to follow the present self-suiting security standards thereby posing a great threat and risk to the people and the environment around.

### **Conclusion**

Bhopal gas tragedy of 1984, world's worst chemical disaster, was a clear case of serious safety lapses and failed disaster responses. Safety and security being inter linked, any safety or security breaches in the chemical facilities and the chemicals transportation chain would result in huge catastrophes causing immense human, animal and environmental losses. The Government and the Chemical Industry should speedily address this huge ticking time bomb without further delays and vacillations lest there would be another Bhopal type catastrophe waiting to happen.

### **Endnotes:**

1. "Bright Future for Indian chemical Industry", KPMG, see <https://home.kpmg.com/xx/en/home/insights/2018/03/pro-growth-environment-pays-off-for-indian-chemical-companies.html>
  2. "Indian Chemical Industry", FICCI, see [http://ficci.in/sector/7/Project\\_docs/Chemical-Petrochemical-sector.pdf](http://ficci.in/sector/7/Project_docs/Chemical-Petrochemical-sector.pdf)
- \* [http://www.defensa.gob.es/ume/Boletin\\_nrbq/bibliografia\\_boletin\\_1/20170101\\_Stationary\\_WMD\\_xCBRNWx.pdf](http://www.defensa.gob.es/ume/Boletin_nrbq/bibliografia_boletin_1/20170101_Stationary_WMD_xCBRNWx.pdf)

## The 2018 Meeting of States Parties (MSP) on Biological Weapons Convention: An Assessment

**Dr. Manish**

*Dr Manish is currently Professor with the Centre for International Politics, School of International Studies, Central University of Gujarat, Gandhinagar, Gujarat.*

### Summary

It is extremely hard to assess prospects for the 2016 MSP. There have been a number of preparatory events in the run-up to this MSP. However, if there is no outcome from this Meeting of State Parties (MSPs), it is unlikely that agreement could be reached before 2021 BWC Review meeting. This MSP was the final chance for a BWC inter-sessional process. It is likely that governments will move activities to reduce deliberate biological threats away from the BWC. It would then be harder to promote discussions on the subject of deliberate biological threats. This would weaken the position of Geneva-based diplomats to influence policy on the BWC. And what would be the potential areas for future work for a programme on BWC between now and 2021 is now anyone's guess.

The Eighth Review Conference of the Biological Weapons Convention which was held in Geneva during 07-25 November 2016 had an extremely disappointing outcome. This Review Conference, as is now widely known, could not conclude. But more importantly, it could also not achieve a meaningful programme for the inter-sessional sessions which are preparatory to the next Review Conference, scheduled for 2021. Despite this the 2016 Review Conference had received a number of substantive proposals for inter-sessional activities. Infact, the final document prepared towards the closure of the Conference called for an annual Meeting of State Parties (MSPs). The first MSP was held in 2017. Though it did not have a specific agenda, it was able to establish a series of Meetings of Experts (MXs). The topics of these MXs and their Chairs as established in 2017 MSP which are enumerated below<sup>1</sup>:

- MX1 - Cooperation and Assistance, with a Particular Focus on Strengthening Cooperation and Assistance under Article X - Ambassador Maria Teresa Almojuela (Philippines)<sup>2</sup>
- MX2 - Review of Developments in the Field of Science and Technology Related to the Convention - Pedro Luiz Dalcero (Brazil)
- MX3 - Strengthening National Implementation - Ambassador Julio Herráiz Espana (Spain)
- MX4 - Assistance, Response and Preparedness - Daniel Nord (Sweden)
- MX5 - Institutional Strengthening of the Convention - Otakar Gorgol (Czech Republic)<sup>3</sup>

And it should now be known that the major agenda item for the recently concluded MSP, held at Geneva in December 2018, was to 'consider reports of the above mentioned MXs reflecting their deliberations, including possible outcomes' as a preparatory to the 2021 Ninth BWC Review Conference.

### **The Biological Weapons Convention in Review**

As known, the Biological Weapons Convention (BWC) is the only instrument which prohibits the weaponization of biological pathogens. Negotiated in 1972, it was the first ever multilateral treaty banning the production of the entire category of Bacteriological (Biological) and Toxin Weapons (BWC or BTWC). However, the BWC does not define what biological weapons (BW) are, rather it circumscribes its prohibitions by a general-purpose criterion. The BWC bans the development, stockpiling, transfer, and use of biological weapons (BW) worldwide. Only agents and toxins in types and quantities that have 'no justification for prophylactic, protective or other peaceful purposes' are banned.<sup>4</sup>

During the BWC negotiations, it was clarified that the term 'prophylactic' encompasses medical activities such as diagnosis, therapy and immunization, whereas 'protective' covers the development of protective equipment and warning devices. It must not be interpreted as permitting possession of biological agents and toxins for defence, retaliation or deterrence.

Therefore, by extension, the provisions of the BWC essentially express four principles:

- the prohibition to acquire or retain biological or toxin weapons;
- The prohibition to assist others to acquire such weapons;

- The obligation to take necessary measures to ensure that such weapons are prohibited at a domestic level;
- Finally, the commitment to ensure that peaceful use of biological science and technology may nevertheless develop.

Over the years, there has been a growing recognition of the challenges faced by BWC. Thus, a vigorous deliberations during the MSPs was called for. After a careful introspection of the BWC, it was clear that the scope of the BWC is rather ambiguous. What is to be banned and what is to be exempted from the BWC a bit doubtful. This is important because of the scientific and technological advances have lowered the barriers to acquiring and using a biological weapon. The debates about new developments-including gain-of-function experiments, potential pandemic pathogens, Crispr and other genome editing technologies, gene drives, and synthetic biology- make the BWC a weak instrument.

Secondly, there has been a lack of an enforcement mechanism. Thus, it is hard to confirm whether the member -states are complying with their BWC obligations. However, Article VI of the BWC offers only an ineffective option of appealing to the United Nations Security Council in cases of suspected noncompliance.<sup>5</sup>

Third, the central efforts to prevent biological terrorism and the spread of bioweapons is starting to shift away from the BWC towards the UN Security Council Resolution 1540. This resolution was first approved in 2004 and imposes an obligation on all UN members to improve their legal authorities and bureaucratic capacities to prevent non-state actors from acquiring, developing, or using nuclear, biological, and chemical weapons. While the bioweapons treaty provides one of the foundations for 1540's mandate, the

resolution appears to be becoming the preferred international vehicle for enhancing biosafety, biosecurity, export controls, and the criminalization of biological weapons.<sup>6</sup>

Fourth, the BWC's administrative body, the Implementation Support Unit, is understaffed. While the overall bioweapons nonproliferation regime has benefited greatly from 1540, the original mission of the regime risks becoming relegated to better-funded organizations.

Fifth, the issue of transparency, which is an important tool for reassuring members of one another's compliance with treaty obligations. The last two decades have seen a dramatic increase in biodefense activities and the number of facilities and researchers working with dangerous pathogens around the world. This has generated a number of trade-off risks related to safety, security, responsible science, and particularly transparency. A major risk here is that these expanding activities could be used as a cover for an offensive bioweapons program, or could be perceived as such. This, in turn, can provide other states with a justification for initiating or continuing offensive biowarfare programs. Only by encouraging trust and transparency among its members can the treaty hope to prevent such an escalation.

Most of these issues as mentioned earlier were part of the Eighth Review Conference agenda, held in November 2016. Indeed, a number of proposals for inter-sessional activities were also received by the Implementation Support Unit, which serves as a secretariat to the BWC. However, no consensus could be reached on a programme. Instead, the only Final Document that was agreed was one that did not include any substantive discussion topics for inter-sessional work. Nevertheless, it did include a provision to host an annual MSP. The idea of this MSP was to make progress on issues

of substance and process for the period before the next Review Conference, i.e 2021. Then there was a provision to hold Meeting of Experts (MX). Based on the MXs, the agenda for the 2018 MSP was set up and circulated along with a number of Working Papers (either informal or advance copy versions) along with other materials. The 2018 MSP should be necessarily seen against this backdrop.

### **Agenda & Procedural Aspects of the 2018 MSP**

During the general debate spanning between 04- 07 December 2018, the states' and their delegations delivered plenary statements, individually or in a group, to outline their positions.<sup>7</sup>

### **General Debates within the MSP**

The key themes and common threads which appeared to follow from the general debates are as follows: With roughly two-thirds of those on the speakers' list giving their statements on an opening day, it is possible to identify some themes and common threads which follow

*The first is the issue of BWC Universality.*

The 'universality gap', i.e. while a majority of states 182 as of 2018, have joined the BWC, still there are many off the hook. It should be noted that the efforts to prohibit biological weapons through the 1925 Geneva Protocol and the Biological Weapons Convention (BWC) have been very successful. The BWC enjoys near-universal membership, with now 182 member states party to the Convention. Today the prohibition of the use of biological weapons is a rule of customary international humanitarian law, binding on all parties to all armed conflicts, including non-state armed groups.<sup>8</sup> However, there are some states that have not yet signed or ratified

the treaty. Most members during the MSP believed that there can be no justification for remaining outside the BWC, and all States should be able to reap the benefits and protections that it affords. Despite successes in universality and adherence, the BWC has faced challenges in adapting to changing circumstances and improving the level of implementation.<sup>9</sup> This was made evident at last year's Review Conference, where a consensus could not be reached on an inter-sessional work programme.<sup>10</sup> Meanwhile, scientific and technological developments continue apace, and opportunities to enhance the world's safeguards against poisoning and the deliberate spread of disease are being missed.

*The second issue relates to the BWC finances*

Many statements noted that the root cause of the financial difficulties was the late payment of assessed contributions. Numerous calls were made for those states parties behind with payments to clear their arrears and, in future, to pay in full and pay on time. There were a number of expressions of support for some method to smooth cash flows such as a working capital fund. It was noted that such a fund could be established through voluntary contributions, by placing any credits from future budgetary underspends into it or by putting arrears payments from past financial years into it. On this issue, the MSP also received a briefing from managers involved in administering UN support to the BWC: Clemens Adams, Director of Administration, UN Office at Geneva and Anja Kaspersen, Director, Geneva Branch, UN Office for Disarmament Affairs.

*The third issue was related to the Meeting of Experts (MXs)*

The overall impression given from statements that the MXs were viewed more

positively than the previous MX arrangements. Indeed, most of the vitality to the 2018 MSP came from the MXs held during the month of August 2018. Assistance under Article VII was discussed in MX4.

*The fourth important issue was related to the threat perceptions*

There were a number of statements that talked about perceptions of threats. There were perceived threats from possible state programmes, from non-state actors/terrorists and from naturally occurring diseases. Lessons continue to be drawn from the outbreaks of Ebola Virus Disease in 2014 and subsequently other such disease outbreaks.

*Concerns over Article VII & responses to disease outbreaks*

There was a widespread recognition of a need for means to enable prompt assistance under Article VII. The Article VII of the BWC requires States Parties to assist States which have been exposed to danger as a result of a violation of the Convention. To date, these provisions have not been invoked. One topic to be discussed under the Assistance and Cooperation standing agenda item is capacity-building for detecting, reporting, and responding to outbreaks of infectious disease or biological weapons attacks, including in the areas of preparedness, response, and crisis management and mitigation. Over a period, state parties have discussed the need to promote interagency coordination and multi-sectoral cooperation to prepare for, detect, and respond to infectious disease outbreaks whether natural, accidental, or deliberate in nature. In addition, they discussed the importance of supporting states in building defences against new and emerging diseases and developing national capacity for responding to biological threats through detection, containment, and decontamination.

Recent Review Conferences have agreed upon the aforementioned including dangers from non-state actors. No country is likely to have all of the resources at its immediate disposal to respond to a severe biological attack and there is widespread recognition that there are many improvements that can be made in this area. The Article VII database proposal from France and India continue to receive support. Connections were made with 'one health' policies where the issues of diseases in humans, animals and plants (including in agricultural contexts for the latter two of these) are considered interconnected and therefore require some common approaches. This last aspect was also tied in with questions of capacity building.

#### *Other issues Article X*

The Article X of the Convention relates to access to the life sciences, and materials and equipment connected to them, for peaceful purposes; embodying a bargain that the renunciation of biological weapons (and thus the control of the hostile uses of the life sciences) should allow access to the use of the life sciences for peaceful purposes. Cooperation and assistance in this context also include issues such as capacity building. Rapid advances in the life sciences mean the BWC operates within a rapidly changing science and technology (S&T) context which changes the nature of challenges the Convention may need to counter as well as providing new opportunities for peaceful uses. These contexts need to be understood to ensure the BWC remains relevant. The improvement of the national implementation of the BWC in ways that are appropriate to national contexts has long been regarded as an important way of enhancing the effectiveness of the overall regime to control biological weapons. The BWC Confidence-Building Measures (CBMs) provide for returns to be submitted on certain relevant

activities and facilities. The CBMs now consists of six measures, A to G (without D) as enumerated below:

#### CBM A

Part 1: Exchange of data on research centres and laboratories;

Part 2: Exchange of information on national biological defence research and development programmes.

#### CBM B

Exchange of information on outbreaks of infectious diseases and similar occurrences caused by toxins.

#### CBM C

Encouragement of publication of results and promotion of the use of knowledge.

#### CBM E

Declaration of legislation, regulations and other measures.

#### CBM F

Declaration of past activities in offensive and/or defensive biological research and development programmes.

#### CBM G

Declaration of vaccine production facilities. While numbers of returns have been rising, there has been wide recognition that CBM participation could be improved further.

### **Conclusion**

From the above discussion, it is hard at this stage to assess prospects for the 2018 MSP. Though, it is clear that there have been a number of preparatory events in the run-up to this MSP. A Russian-led statement by the three BWC depositary states (Russia, UK

and USA), issued to coincide with the conference, stated 'it is vital to redouble efforts to build consensus around the next programme of work the adoption of which, in our common view must be the main outcome of the MSP - a further clear sign of a Russian intention to seek a substantive outcome. If there is no outcome from this MSP, it is unlikely that agreement could be reached before 2021, even if delegations used a loose interpretation of the mandate in future years. In other words, this MSP is the final chance for a BWC inter-sessional process. If there is no agreement at the MSP, it is likely that governments will move activities to reduce deliberate biological threats away from the BWC. With resources freed up from not holding an annual Meeting of Experts or convening Open-Ended Working Groups, meetings could be held on specific topics on an ad hoc basis, possibly away from Geneva. The upshot of this would be that there will be fewer gatherings of diplomats and experts on the BWC in Geneva. It would, therefore, be harder to promote discussions in the city on the subject of deliberate biological threats. This would weaken the position of Geneva-based diplomats to influence policy on the BWC. Finally, what would be the potential areas for future work that might be considered for a programme between now and 2021 is now anyone's guess.

## Endnotes:

1. The United Nations Office at Geneva, see <https://www.unog.ch/>
2. Richard Guthrie, "Informal Thursday: reports from the Meetings of Experts", BioWeapons Prevention Project, December 7, 2018, see <http://bwpp.eu/documents/Dailyreports/MSP18-04.pdf>
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7. The United Nations Office at Geneva, see [https://www.unog.ch/80256EE600585943/\(httpPages\)/C550A7F7B6D5A9A0C125830E002B2728?OpenDocument](https://www.unog.ch/80256EE600585943/(httpPages)/C550A7F7B6D5A9A0C125830E002B2728?OpenDocument)
8. Meeting of the States Parties to the Biological weapons convention - 2017, ICRC, December 06, 2017, see <https://www.icrc.org/en/document/meeting-states-parties-convention-prohibition-development-production-and-stockpiling>
9. Ibid.
10. n.8.

## Russia's Foiled Cyber Attack on OPCW

**Kritika Roy**

*Kritika Roy is a Research Analyst at the IDSA's Cyber Security Centre of Excellence.*

### Summary

Earlier this year, the Dutch Security services along with the help of British officials were able to thwart the plan of group of Russians to compromise and disrupt systems at the OPCW (Organisation for the Prohibition of Chemical Weapons). Russia's actions has brought to the forefront the grave reality of cyber threat that international organisations face today.

Russia's mushrooming cyber capabilities is well evident in the series of cyber activities that it has been undertaking lately. The country has been blamed for directing a host of cyber-attacks majorly to undermine western democracies by sowing seeds of confusion in everything from the 2016 presidential elections to the Global Chemical Weapons Watchdog. Earlier this year, the Dutch Security services along with the help of British officials were able to thwart the plan of group of Russians to compromise and disrupt systems at the OPCW (Organisation for the Prohibition of Chemical Weapons).

The OPCW is the implementing body for the Chemical Weapons convention. The OPCW with its member states has been instrumental in overseeing the global endeavor to permanently and verifiably eliminate Chemical weapons. Russia's actions has brought to the forefront the grave reality of cyber threat that international organisations face today. Attack on OPCW is actually a wakeup call for authorities to take stringent actions against states found involved in such activities.

### The Motive

The OPCW attack comes at a time when the organisation has been probing the poisoning of a former Russian spy Sergei Skripal and his daughter Yulin Skripal. Their poisoning has said to be caused by using a toxic military grade nerve agent called the Novichok. (Novichok was developed during the cold War and is known as the fourth generation chemical weapon. This nerve agent is said to be more toxic than Sarin and even harder to identify.<sup>1</sup> Once exposed to this nerve agent, the victim could experience pupil constriction, continuous convulsions and vomiting, which could lead to fatal outcomes

like death or coma). Sergei Skripal was convicted in Russia of spying for Britain before he was granted refuge in the UK after a high-profile spy swap in 2010 between the US and Russia.<sup>2</sup> The nerve Agent used for poisoning him and his daughter was brought to the Cathedral City of Salisbury by two Russians who claimed to be tourists. However, the British official's investigations found them to be Russian agents.<sup>3</sup>

Contrarily, Russians had also requested the British government to allow their participation in the investigation of Skripal's poisoning. This request has fallen into deaf ears and therefore, Russia believes that such allegations are politically motivated campaign by the west and its allies to berate Russia. Apparently, the announcement of alleged Russian attack came just hours after the British National Cyber Security Centre connected six cyber international attacks to the GRU. These allegations included the meandering of 2016 US Presidential election and an attempt to infiltrate the World Anti-Doping Agency's Networks. As a part of growing efforts by the Western allies, they have started "naming and shaming" GRU and Russia for its alleged cyber activities.<sup>4</sup>

Another reason for targeting OPCW is said to be the organisations investigation of the alleged chemical attack in Douma by Syria's Russian backed military.<sup>5</sup> Being the top watchdog of chemical weapons, OPCW has allocated itself new set of responsibilities i.e. assigning blame for attacks. This move was protested by Russia. Russia tagged OPCW as a "sinking ship" and asserted that the organization was going beyond its mandate.

### **The Plot and the Suspects**

Many reports suggests that proper planning and implementation was undertaken for the aforementioned cyber attack by Russia. The spying equipment's and the means of attack

speaks volume of the preparedness and research the suspects had put into. According to military intelligence agency of Netherlands', four Russians were caught with spying equipment in the car park of a hotel nearby the OPCW headquarters in The Hague. They were reportedly trying to get into the computer network of OPCW. The plan was to compromise and disrupt the computers in the building by attacking the Wi-Fi networks. This means of attack is also known as "drive-by" attacks often waged to penetrate a target by harbouring hardware weak links. These weak spots of the hardware can be exploited to grab traffic.<sup>6</sup> There were also reports that "close access" teams to disrupt the systems were sent as the previous mechanism of sending "spear phishing" emails to the OPCW headquarters failed to work in the envisaged manner.<sup>7</sup>

The identified suspects were linked to the Russian military intelligence unit called GRU which has often been accused of conducting cyber operations. Two of the suspects, named Yevgeny Serebriakov and Alexei Morenets, were supposedly the cyber-operators. While the other two, named Alexei Minin and Oleg Sotnikov, were the support providers of the operation.

### **Conclusion**

Despite all states have agreed that the international laws and norms of responsible state behaviour are encapsulating the cyberspace as well. Russia has continued its suspected activities in the cyberspace. In April 2018, the National Cyber Security Centre (NCSC) of UK, the Federal Bureau of Investigation (FBI) and the US Department of Homeland Security issued a joint alert about Russian cyber activity aimed at both the public sector, infrastructure and internet service providers (ISP).<sup>8</sup> Russians have refuted all the allegations by labeling them as "diabolical perfume cocktail" meant to

denigrate the Russian position in the international community.

There is no denying the fact that cyber attacks are a staunch reality in the Twenty-First Century. Waging cyber attacks gives nation states a strategic and asymmetric advantage as attribution and back tracing has always been a problem in investigating cyber attacks. However, targeting global organisations could actually raise several questions on safety and security of these organisation. Additionally, if these activities are gone unpunished then it could also give leeway to other rogue nations to undertake such initiatives in the foreseeable future, thus, undermining the international law and stability. It is high time that an example needs to be set such that a fear of consequence is instilled among the member nations. It is important to strengthen the resilience of the international institutions in the digital domain to restore faith in global organisations.

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## Stop Turning a Blind Eye to Tear Gas Misuse

**Dr. Michael Crowley**

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### Summary

Riot control agents, are often employed for law enforcement. They also are open to misuse. Despite the ongoing misuse of these chemicals by police and security forces, CWC States Parties have not publicly raised any such cases as matters of concern within the OPCW nor has any OPCW policymaking organ addressed the nature and scope of “law enforcement” under the CWC.

Riot control agents (RCAs), which are commonly known as tear gas and pepper spray, are defined by the Chemical Weapons Convention (CWC) as “any chemical not listed” in one of three schedules of toxic chemicals that can produce “rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure.”<sup>1</sup> Whilst their use as “a method of warfare” is specifically prohibited under the CWC<sup>2</sup>, they can be employed for “law enforcement including domestic riot control purposes”<sup>3</sup>, provided they are used in “types and quantities” consistent with such purposes.<sup>4</sup>

When employed in accordance with manufacturers' instructions and in line with international human rights law and standards, RCAs can provide an important alternative to other applications of force more likely to result in injury or death, such as firearms. Law enforcement officials throughout the world regularly use them to disperse violent crowds or to subdue dangerous individuals. Yet, they also are open to misuse. A study of reports from the United Nations and regional human rights bodies and international nongovernmental organizations identified human rights violations committed by law enforcement officials utilizing riot control agents in at least 95 countries or territories from 2009 to 2013.<sup>5</sup> This included misuse of RCAs to torture and ill-treat prisoners; for suppression of freedom of expression, association and assembly; or in conjunction with excessive force, including firearms.

And police and security forces have continued to misuse RCAs, notably to restrict, intimidate, or punish those involved in peaceful protest around the world, whether it be pro-democracy “umbrella movement”

demonstrations in Hong Kong in September 2014<sup>6</sup>; Kenyan primary school children opposing the seizure of their playground in Nairobi in January 2015<sup>7</sup>, or peaceful church protests in the Democratic Republic of Congo between December 2017 and February 2018<sup>8</sup>. Another worrying RCA application has been along borders against migrants, refugees and asylum seekers. For example, in February 2014 Spanish Civil Guards fired tear gas, rubber bullets and blank ammunition at 200 migrants seeking to swim from Morocco to the Spanish autonomous city of Ceuta; resulting in the death of at least 14 people.<sup>9</sup> More recently tear gas has been employed, firstly in October 2018 by Mexican Federal Police, and then in November 2018 by US border forces, against a group of refugees and migrants, including infants and children, from Central America seeking to enter the US.<sup>10</sup>

A recurring concern voiced by human rights organisations and the medical community has been the use of RCAs in excessive quantities in the open air or in confined spaces, including hospitals, prisons, and homes, where those targeted cannot escape. In such situations, serious injury or death can result from asphyxiation or from the toxic properties of the chemicals employed. This is particularly true for more vulnerable targets including infants, children, the elderly and those with underlying health issues such as asthma, bronchitis or cardiac disease.<sup>11</sup> In addition to contravening international human rights standards, the use of RCAs in such excessive amounts appears to breach the CWC “types and quantities” restriction. Regrettably, despite the ongoing misuse of these chemicals by police and security forces, CWC States Parties have not publicly raised any such cases as matters of concern within the Organisation for the Prohibition of Chemical Weapons (OPCW), nor has any OPCW

policymaking organ addressed the nature and scope of “law enforcement” under the CWC, clarified the range of permissible circumstances for RCA use and consequent constraints upon such use in line with CWC obligations and international human rights law.

If the OPCW does not take appropriate action, the situation could dramatically worsen as a result of ongoing development, marketing, and potential subsequent deployment of a range of systems capable of delivering far greater amounts of RCAs over wider areas or more extended distances than currently possible with standard law enforcement RCA dispersal mechanisms, such as hand-held sprays, grenades, and single-projectile launchers. In addition to these new “wide area” RCA delivery mechanisms, concerns have grown regarding the related development of “remote control” RCA means of delivery - incorporating automatic or semi-automatic systems where the controller is directing operation of the platform and/or RCA delivery device at a distance from the target.

Ongoing investigations by Bradford University and the Omega Research Foundation have uncovered the development and promotion by a range of State and commercial entities of a wide variety of such RCA means of delivery including: indoor fixed-installation dispersion devices; external area clearing or area denial devices; automatic grenade launchers; multiple munition launchers; large caliber RCA projectiles and munitions, and delivery mechanisms mounted on unmanned ground vehicles and unmanned aerial vehicles (drones).<sup>12</sup>

Whilst CWC States Parties are prohibited from developing RCA munitions for use in armed conflict, they may manufacture, acquire and utilise delivery systems to

disseminate appropriate “types and quantities” of RCAs for law enforcement. However, there is continuing ambiguity as to the nature and specifications of those means of delivery that are prohibited under the Convention. This ambiguity, allowing divergent interpretations, policy and practice amongst States Parties to emerge with regard to "wide area" and "remote control" RCA means of delivery, has potentially dangerous consequences, including:

- Employment in armed conflict: In previous conflicts RCA means of delivery were employed to drive enemy forces from fortified positions; to disable and incapacitate large numbers of combatants; or in conjunction with conventional arms. More recently, a range of contemporary RCA means of delivery, including certain "wide area" and "remote control" devices, have been promoted for use in counterinsurgency operations or urban warfare.
- Misuse to facilitate large scale human rights abuses: This could include the blanket application of significant quantities of RCAs against large peaceful gatherings resulting in en masse ill-treatment or punishment; or the employment of RCA means of delivery in conjunction with firearms as a "force multiplier", making such force more deadly.
- Proliferation to and misuse by non-State actors: Current weak trade controls and continuing commercial availability of "wide area" and "remote control" RCA means of delivery, including for example via drones, raises the danger of their acquisition and employment by a range of non-State actors including armed opposition forces, unregulated private military and security companies, and terrorist organisations.
- Potential use in chemical weapons programmes: A range of “wide area” delivery mechanisms such as cluster munitions, mortar shells or large calibre projectiles, ostensibly designated as RCA munitions could instead be used to disperse central nervous system (CNS)-acting agents or classic chemical warfare agents. Consequently, certain States might seek to evade CWC prohibitions by camouflaging illicit chemical weapons production under the guise of RCA law enforcement munitions programmes.
- Facilitate development and proliferation of autonomous weapons systems: Continuing research and development of “remote control” RCA delivery mechanisms and unmanned systems more broadly may potentially contribute to the future development, proliferation and use of fully autonomous weapons systems, i.e. unmanned systems with on-board computers, that once activated, can select and engage targets without further human intervention.

To date the majority of “wide area” or “remote control” RCA delivery mechanisms documented by Bradford University and the Omega Research Foundation do not currently appear to have been utilised by police or security forces. However we may now be at a tipping point - where proliferation, use and misuse may be beginning. A troubling indication of what could lie ahead was first witnessed in Israel from March 2018<sup>13</sup>, most notably during the response by Israeli security forces to wide spread Palestinian protests marking the “Great March of Return”, particularly on the border between Gaza and Israel. In addition to the use of standard hand-thrown or individual weapon-launched tear gas projectiles, the Israeli forces employed drones which flew above the crowds dropping tear gas projectiles onto the people

below, reportedly including peaceful protestors, bystanders and journalists.<sup>14</sup>

Despite the ongoing development and promotion of a range of “wide area” and “remote control” RCA means of delivery of potential concern, none of the OPCW policy making organs have effectively addressed this situation to date. However a very welcome development has been the intervention by the Scientific Advisory Board (SAB) on this issue, initially in their report to the 3<sup>rd</sup> Review Conference<sup>15</sup> and then in their April 2018 report to the 4<sup>th</sup> Review Conference.<sup>16</sup> In this report the SAB highlight the “continued development, testing, production and promotion of diverse munitions systems capable of disseminating RCAs by remote control” and warn that “availability of such systems opens up the possibility that they could be filled intentionally with alternate types of chemicals including CWAs [chemical warfare agents] or CNS-acting compounds.”<sup>17</sup>

In response to the evidence documented by Bradford University and the Omega Research Foundation, as well as the concerns highlighted by the SAB; the OPCW and its Member States should:

- Institute a review, by the Office of the Legal Advisor, of the existing constraints, under relevant international law (notably international human rights law), upon the use of RCAs and related means of delivery in law enforcement; and develop guidance on appropriate use (e.g. halting employment of tear gas in enclosed spaces where chemical concentrations may reach dangerous levels).
- Develop a process for determining which means of RCA delivery are prohibited under the CWC. Use of certain wide-area or remote control RCA delivery mechanisms may be justifiable in

particular large-scale law enforcement situations provided they comply with the CWC provision on “types and quantities” and are employed in strict conformity with international human rights standards. However other forms of RCA delivery mechanisms that have been developed, such as artillery shells, aerial bombs, large-caliber mortar shells, and cluster munitions, are completely inappropriate for any form of legitimate law enforcement; they should be considered to be chemical weapons, reported to the OPCW and destroyed.

- Strengthen existing RCA declaration and reporting measures, and explore the feasibility and utility of introducing appropriate monitoring and verification mechanisms.
- Utilise existing CWC consultation, investigation and fact-finding mechanisms where activities of potential concern come to the attention of Member States, such as the reported development, production, marketing, transfer, stockpiling or use of inappropriate RCA means of delivery.

Given the ongoing serious misuse of RCAs and standard delivery mechanisms by law enforcement officials; and the development and promotion of inappropriate RCA means of delivery; the OPCW should address these issues as a matter of urgency. If it fails to act, it will be turning a blind eye to the continued employment of toxic chemicals in human rights violations and will also be risking the future stability of the CWC itself.

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## The Fourth CWC Review Conference: Debates and Outcomes

(November 23-30, 2018)

Inputs based on reports by Richard Guthrie on day to day activities of the Fourth CWC Review Conference (see <http://www.cbw-events.org.uk/cwc-rep.html> ) and discussions with Jean Pascal Zanders

Compiled by Ms Kritika Roy

The Chemical Weapons Convention (CWC) is a multilateral treaty that bans chemical weapons and requires their destruction within a specified period of time. It came into effect on April 29, 1997.

CWC Review Conferences are five yearly reassessment mechanisms established as a means to ensure compliance, verification and assurance because of the global determination to stop the proliferation of chemical weapons and eliminate them altogether. The Fourth CWC Review conference was held from 21 to 30 November 2018 at the World Forum Convention Centre, The Hague, Netherlands. The First Review Conference was held between 28 April and 9 May 2003. The second review conference took place from 7 to 18 April 2008 and the Third Review Conference was held from 8 to 19 April 2013.

The outcome of the Fourth CWC review conference was a mixed bag of success and failures where the latter seemed to be outweighing the former. This report outlines the major debates and deliberations of the Fourth CWC Review conference and the final conclusion of the same.

### The Agenda

The Fourth five-yearly CWC Review Conference provided the opportunity “to undertake reviews of the operation of this Convention. Such reviews shall take into account any relevant scientific and technological developments.” This conference comes at a time when the modern day chemical threat is found reinventing itself, and today more than ever, nation states need to be aware of the dangers of negligence. Syria being a classic example where the last known chemical attack extended from January to July 2018 underscores the

salience of understanding the importance of collaborative efforts for the sake of countering such emergent threats.

Major issues that were debated in the conferences included the usage of nerve agent sarin on a large population in the region of East Ghouta, Syria, and the investigation report which was led by Sweden's Åke Sellström; adoption of the Kerry-Lavrov plan to remove all chemical weapons from Syria; removal of declared chemical weapons from Syria alongside contested allegations that the declaration was incomplete; numerous further allegations of use of chemical weapons in the territory of Syria; establishment of the UN-OPCW Joint Investigative Mechanism for a limited period; establishment of the OPCW Fact-Finding Mission and a majorly challenged debate about whether the mandate should be continued; culmination of demolition of declared chemical weapons in Russia and continuous debate on chemical weapons destruction in the United States; the completion of destruction of Libya's chemical weapons-related materials; the poisoning of Kim Jong-nam at Kuala Lumpur airport, Malaysia; and the poisoning of Sergei and Yulia Skripal in Salisbury, UK, with further exposures to three other people, leading to the death of one. Though the aforementioned list highlights a number of issues of significant political controversy, it no way undermines the positive developments that took place.

## **The Beginning**

The Fourth five-yearly Review Conference of the Chemical Weapons Convention (CWC) was opened on Wednesday 21 November 2018 by the current Chair of the Conference of State Parties, Ambassador Yun-Young Lee (Republic of Korea). The Conference then adopted its officers, confirming Ambassador Agustin Vásquez Gomez (El Salvador) as

Chair for the fourth Review Conference. Ambassador Marcin Czepelak (Poland) was agreed as Chair of the Committee of the Whole (CoW).

The opening statement was given by the OPCW Director-General Fernando Arias. Major aspects of his statement is enumerated below:

- The activities of the regular sessions of the CSP were delineated with those of the Review Conference where the later was suggested to be taking a "long view" and a more holistic approach to the issues of possession and destruction of chemical weapons.
- The efforts of CWC was well appreciated for being able to implement an 'effective global ban' which included the destruction of over 96 per cent of declared chemical weapons under international verification.
- CWC was also lauded for achieving significant milestones since the Third Review Conference (RC-3). Most significant achievement being the completion of destruction of declared chemical weapons by a major possessor state, Russia.<sup>1</sup> Additionally, declared chemical weapons had also been destroyed in Libya and Syria together with remnants of chemical weapons in Iraq and that the United States is well on track to complete its chemical weapons destruction in 2023.<sup>2</sup> It was therefore forecasted that in the foreseeable future the destruction of all declared chemical weapons will be complete, which will be a 'momentous development' of the CWC.
- This 'near-universal' Convention, with the CWC membership being 193 states parties in total.
- There had been notable developments since RC-3 on the issues of assistance and

protection and international cooperation and assistance. These developments included the creation of the Rapid Response and Assistance Mission (RRAM) to aid any state party dealing with a chemical incident caused by a non-state actor and the work of the Fact-Finding Mission and the Declaration Assessment Team in Syria. The establishment of the Advisory Board on Education and Outreach was also welcomed.

- The use of nerve agents in Malaysia and the UK and the use of chemical weapons in Iraq and in Syria by non-state actors is seen as ‘a chilling reality’. The first reported chemical attack in Syria was 23 December 2012 and the last being the continuous use of Chlorine from January to July 2018 by the Syrian government on the local populace showcases the gravity of the situation.<sup>3</sup>
- The OPCW had an ‘extraordinary and productive past’ and there is no reason for the future to be any different. However, there is a need to maintain the global norm against use of chemical weapons as ‘a permanent barrier against a form of cruelty that it has taken many generations to banish.’

## General Debates

Broadly the general debates outlined the view of various state parties. For many of the long-term issues, such as cooperation and assistance under Article XI, there was little change in the detail of what has been raised so far compared with previously expressed positions other than commenting on developments since RC-3. On other issues, such as allegations of use of chemical weapons in Syria there were divergent views and many new details since RC-3. Many statements welcomed the five new

states parties that have joined the Convention since the RC-3 - Somalia, Syria, Myanmar, Angola and the State of Palestine - making a total of 193 states parties.

- Universality - Universality is a subject that is frequently talked about in international treaties dealing with “global challenges” as the breadth of the membership is a reflection of overall effectiveness. Some statements recorded that the main aim of the CWC, that is, “the creation of a true chemical-weapon free world” will not be attained until all countries ratify the Convention. On the contrary, many suggested that should be no advantages to remaining a non-state party to the Convention.<sup>4</sup>
- Article XI - The subject of “access to peaceful uses of chemistry” is enclosed by Article XI of the Convention, demonstrating a trade off that the relinquishment of chemical weapons and the control of poisons as weapons has to be executed in such a manner so as to assist the use of chemistry for civilian purposes. The NAM statement welcomed the 2016, 2017 and 2018 annual review and evaluation workshops of the components of an agreed framework for the implementation of Article XI. Iran noted its working paper on ‘Full, Effective and Non-Discriminatory Implementation of Article XI’, a major proportion of which relates to regulation of transfers which the country suggests are implemented unfairly. There were numerous capacity building issues raised relating to this article and many references to the work of the OPCW’s Africa programme. It was noted that capacity building could assist in promoting broader geographical representation of designated laboratories.

- Allegations of use of chemical weapons - There were four sets of allegations of use that appeared regularly in statements: “by Syria within the territory of that country; by non-state actors in the territory of Iraq and Syria; the poisoning of Kim Jong-Nam at Kuala Lumpur airport; and the poisoning of Sergei Skripal in Salisbury in which others were also affected.” Out of these, only the Kuala Lumpur incident was uncontested in statements. Syria was explicit in claiming that ‘false flag’ attacks had taken place in its territory. Contentions relating to Syria were brought up in a number of statements and were central to most divergences of views expressed. Bangladesh, in a plea for unity, said ‘these allegations, unless held accountable, will come to haunt us’, and referred to exchanges on the subject as ‘bullets of duality’ that ‘split us into a subtle line of “us” and “them”’. Many statements expressed optimism regarding the use of chemical weapons which may become a thing of the past and that there would be no more victims.
- Investigations of alleged use - The primary arrangement for investigating alleged use of chemical weapons in Syria is the OPCW Fact-Finding Mission (FFM), established in 2014 through a decision of the Executive Council. The work of the FFM has been debated. Some statements were slightly coded, for example, the NAM statement said: ‘We take note of the work done so far by [the FFM] and look forward to receiving its reports on its ongoing activities. We expect the approach followed by the FFM teams would be uniform and consistent.’ Russia was more explicit and suggested the terms of reference of the FFM required ‘drastic revision’ in order to ‘fully bring in conformity with the provisions of the CWC’. Many member states were overt in their support for the Mission.
- Allegations of possession of chemical weapons - A number of statements alleged continuing possession of chemical weapons by Syria and noted the work of the Declaration Assessment Team (DAT). The Republic of Korea noted ‘with concern’ a recent report by the DAT that the OPCW remains unable to resolve ‘all of the identified gaps, inconsistencies, and discrepancies in Syria’s initial declaration’. The US highlighted ‘longstanding concerns’ that Iran ‘maintains a chemical weapons programme that it failed to declare to the OPCW’ and other concerns that Iran ‘is pursuing Central Nervous System-Acting Chemicals for offensive purposes’.
- Scientific and technological developments - As with earlier Review Conferences, there was recognition of the need for keeping the efforts to prevent acquisition and use of chemical weapons to take into account scientific and technological developments. Many references were made to plans to upgrade and add to the OPCW Laboratory to turn it into a ‘Centre for Chemistry and Technology’. As well as verbal support for this project, a number of delegations promised voluntary financial assistance; these included Belgium, France and the Republic of Korea.
- Central nervous system-acting chemicals - There has been an ongoing effort by some states to consider the implications of aerosolized CNS-acting chemicals that some governments have been exploring for possible use for ‘law enforcement’ purposes. Australia and Switzerland have been promoting a discussion on the subject and asking other governments to sign up to a paper which now appears to

have over 40 co-sponsors with Sweden getting added to the list. A typical statement of position of the co-sponsors of the paper is that of New Zealand which stated ‘We will only employ chemical agents which conform to the definition of riot control agents contained within the CWC, and which have been endorsed as such by the OPCW’s Scientific Advisory Board.’

- Schedule amendment proposal - A number of delegations referred to a joint suggestion by Canada, the Netherlands and the United States to amend the schedules of chemicals in the CWC. This would add the family of chemicals which includes the toxic substance to which the Skripals were exposed. This technical proposal has been caught up in some of the controversies around the Salisbury poisonings.
- Chemical weapons destruction and past disposal - The remaining US declared chemical weapons stocks awaiting destruction were highlighted a number of times. China and Japan both spoke of developments in the destruction of chemical weapons abandoned in the territory of the latter by the former, although each described progress in quite different terms. The risks from sea-dumped chemical munitions, that were disposed of before the CWC was agreed, were raised by Lithuania and Poland.
- Management activities - A number of issues relating to the management of the OPCW Technical Secretariat were raised. The issue of staff tenure (a policy adopted some years ago that limits employment within the OPCW for most staff to 7 years) was raised many times, especially regarding the balance between ensuring reasonable turnover of staff while at the same time fulfilling the need to retain

acquired expertise that can be highly specialized. The call to ensure fair geographic representation of staff was prominent as has been in previous Review Conferences. Gender issues had a much higher profile at this Review Conference than at earlier ones; Canada, in an aside from the prepared speech, noted that of the personnel on the stage during the Conference proceedings, 1 was a woman, while 11 were men and commented ‘we can do better.’

## Outcome

In conclusion, the Fourth CWC Review conference failed to build consensus among member states.<sup>5</sup> The main differences existed over the use of chemical weapons in Syria and attributing blame for chemical attacks. However, this was not reflected much in the statements on the final day of the meeting. Many countries chose to talk about the recognition of the State of Palestine<sup>6</sup> rather than assuming responsibility as a state party to uphold Article I of the CWC. Handling of the issue, particularly by the USA, prompted many delegations to take the floor in support of Palestine as a state party. This provided a distraction from the issues relating to how to deal with allegations of use of chemical weapons.

The outcome is further evidence of the breakdown of the multilateral system. However, the unison decision over the future programme and the respective budget highlights that there is a scope of making effective progress in the foreseeable future.

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5. It is important to note that some negotiations where many delegations had a single issue as their negotiating priority, the issues under consideration within the CWC overlapped each other and so the trade-offs between issues were complex and not necessarily apparent to those who were not within the relevant meetings, whether this is the formal proceedings of the Committee of the Whole or informal consultations that may take place inside rooms or in corridors.
6. On 16 June 2018 Palestine became a state Party to the convention. However, US's staunch Policies like US Public Law 101-246 (1990) that provides: “No funds authorized to be appropriated by this Act or any other Act shall be available for the United Nations or any specialized agency thereof which accords the Palestine Liberation Organization the same standing as member states” makes consensus building difficult and complex.

# Chemical and Biological News

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## NATIONAL AND INTERNATIONAL DEVELOPMENTS

### Chinese Researcher claims first gene edited baby

A researcher from China claims that he was able to deliver world's first genetically edited babies --- Twin girls born in November 26, 2018, whose DNA was altered with a powerful tool capable of rewriting the very blueprint of life. This is a first of its kind case where the genes were manipulated in embryos that were then used to produce babies. Correcting the genes of an embryo alters DNA in every cell, including the eggs or sperm, of a resulting person who had no say in the matter, and those changes will be passed on to the next generation. That impedes the principle that participants in clinical research must give their informed consent. This is important because editing with Crispr technology is experimental in humans and entails risks. The technique works by making cuts in DNA that may lead to unknown effects.

Many scientists have questioned the decision to allow alteration of only one of the embryos to be used in a pregnancy attempt. Although the other (unaltered) unborn child, really has almost nothing to be gained in terms of protection against HIV and yet exposing that child to all the unknown safety risks signifies that the only motive was testing editing than avoiding the disease altogether. It was also unclear whether participants fully understood the purpose and potential risks and benefits of the programme. Although these actions have sparked a high profile debate about the ethical implications of such work on the contrary the Chinese researcher

believes that success of this project would help many lives in the foreseeable future.

<https://www.bloomberg.com/news/articles/2018-11-28/brave-new-world-of-editing-human-dna-starts-in-china-quicktake>

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### Needle laced strawberries Spark fear in Australia

The strawberry industry, worth 116 million USD in Australia, was rocked this September following nearly 200 complaints of sewing needle found in strawberries and other fruits. Numerous notable supermarkets retracted the fruit as consumers abandoned purchasing strawberries. Thus, forcing some farmers to dump fruit amid warnings of widespread bankruptcies.

On 12 November 2018, a woman named My Ut Trinh was charged with seven cases of contamination. The investigation reports state that the woman was a former supervisor at a Queensland strawberry farm and was seeking revenge over a workplace grievance. Trinh will remain behind bars until her next hearing. She faces upto 10 years in jail if convicted. Almost 230 incidents were reported nationwide affecting 68 strawberry brands.

Although this case affected the strawberry market in a big way it has also led to harsher penalties being rushed through federal parliament for those caught tempering with food. The Queensland Police Service coordinated a national investigative response with multiple government, law enforcement

and intelligence agencies before the Caboolture woman's arrest.

<https://www.abc.net.au/news/2018-11-12/strawberry-needle-contamination-woman-to-face-court/10486770>

<https://www.theguardian.com/australia-news/2018/nov/11/strawberry-needle-contamination-queensland-police-arrest-50-year-old-woman>

### **Crop Programme or a Covert Biological Weapons Programme**

A group of scientists have been raising alarm regarding a DARPA (Defense Advanced Research Projects Agency) research programme called "Insect Allies" as the project has the potential to create Biological weapons. The project envisages to improve agriculture by genetically modifying crops on the field using insects. Generally, crops are genetically modified inside a lab to protect them from diseases, herbicides or other such threats. However, the DARPA project is envisaged to find out if genetic modification could be done on the field itself by the insects. The insects would distribute new genes to the crops by delivering a virus engineered to edit the genome of the plants using CRISPR technology. Thus, the fear of such technology falling into wrong hands that could easily unleash havoc.

<https://www.wgbh.org/news/science-and-technology/2018/10/29/critics-warn-crop-program-could-lead-to-biological-weapons>

<http://www.thedrive.com/the-war-zone/24078/darpas-virus-carrying-bugs-arent-officially-weapons-but-it-sure-sounds-like-they-could-be>

### **Syrian Governments Neglect Paving the Way for Biological Warfare?**

Syrian governments neglect towards public health infrastructure and the failure to provide basic amenities like clean water, sanitation, waste disposal, infection control and vaccination are actually ticking bombs. Withholding of these basic amenities may seem a deliberate act of biological warfare. In the long run, such delinquency may have adverse outcomes like breakout of severe diseases or of epidemics. Assad's major aim has been to weaken the population in the areas where his government is opposed. Thus, targeting these amenities seems as a simple strategy to achieve his objective. Many incidents of arrest of engineers and maintenance staff and also reports of failure to pay the basic salary of these people has put a full stop on water treatment and sanitation facilities. Thus, giving weightage to the skepticism that maybe it is Assad government's deliberate move.

<https://foreignpolicy.com/2018/10/24/bashar-al-assad-is-waging-biological-war-by-neglect/>

### **Khashoggi's report on Saudi use of chemical weapons in Yemen could have led to his death**

Jamal Kashoggi, a Saudi journalist and editor-in-chief of Al-Arab news channel, was murdered on 2 October 2018 at the Saudi consulate in Turkish city of Istanbul under questionable circumstances. Though many reasons have been traced back to his death, one such account claims that his death was related to the report he was preparing regarding the use Chemical Weapons during Riyadh's devastating military campaign in Yemen. Jamal Khashoggi who had been a staunch critique of the Saudi led intervention in neighbouring Yemen, that

has left almost 10,000 people dead since 2015 and sparked what UN has labelled as the "world's worst humanitarian crisis," was said to be collecting documentary evidence to substantiate his argument.

<https://english.almanar.com.lb/610480>

<https://www.alaraby.co.uk/english/news/2018/10/29/khashoggi-murdered-over-report-on-saudi-chemical-warfare-secrets>

<https://www.presstv.com/Detail/2018/10/28/578383/Khashoggi-chemical-weapons-yemen>

### **Russia Claims US running secret bio weapons lab in Georgia**

*Robert Burn and Angela Charlton  
October 05, 2018*

Russia claims that the US has been running a secret biological weapons lab in Georgia. Thus, posing a direct threat to Russia's national security. These allegations came pouring in just after, Russia's intelligence agency was named and shamed of being responsible for multiple cyber attacks including the one attempted on OPCW. Russian Defense Minister Maj Gen Igor Kirillov claimed the documents released by former Georgian State Security Minister Igor Giorgadze showed the facility (Center for Public Health Research) was fully backed by the U.S, while the Georgian ownership it has on paper was a mere camouflage.

The allegation by Russia were based largely on materials about the U.S. funded project as provided by Richard G. Lugar, Center for Public Health Research in Tbilisi, Georgia. However, the Pentagon's spokesperson, Eric Pahon, claimed otherwise and said the lab, a joint human and veterinary public health facility, was owned and operated by the Georgian National Center for Disease Control and Public Health (NCDC), not the United

States. "The mission of the Lugar Center is to contribute to protection of citizens from biological threats, promote public and animal health through infectious disease detection, epidemiological surveillance, and research for the benefit of Georgia, the Caucasus region and the global community."

[https://www.nzherald.co.nz/world/news/article.cfm?c\\_id=2&objectid=12137233](https://www.nzherald.co.nz/world/news/article.cfm?c_id=2&objectid=12137233)

### **OPCW Growing Concerns over Cyber Security**

*October 04, 2018*

The elevating level of crimes in the cyber realm are a source of concern for international organisations. With the attempted cyber attacks on the OPCW Headquarters' network and information system, OPCW has issued a statement on ensuring and exercising due diligence in protecting networks. Additionally, the Director-General has informed OPCW Member States about these activities and the OPCW Technical Secretariat has undertaken measures to mitigate them.

<https://www.opcw.org/media-centre/news/2018/10/opcw-spokespersons-statement-cyber-security>

### **New US Sanctions on Russia over Chemical Weapons**

*November 08, 2018*

Lately, US has been imposing a series of sanction on Russia, on the pretext that the later has been working against the likes of International Community. The latest sanctions of United States' on Russia is over Moscow's alleged involvement in the poisoning of former Russian intelligence officer Sergei Skripal and his daughter Yulia in the British city of Salisbury which came into effect on August 27. The State

department of US debates that Russia is in breach of the 1991 Chemical and Biological Weapons Control and Warfare Elimination Act.

Washington prohibited the supply of electronic devices and other dual-use products to Russia, but with a number of exceptions. Also, in 90 days' time the US authorities will take a call on another set of sanctions against Russia depending on whether it complies with a number of conditions set to it.

The second set of restrictions includes the curtailing the bilateral diplomatic relations or a total stop, a de-facto full ban on any US exports to Russia (except food) and Russian imports to US (including oil and oil products), prevention planes of any Russian government-controlled air carrier to land on American soil, and also barring loans for Moscow in the framework of international financial organizations.

Russia condemned this act of US by stating, "For the United States, this [statements on sanctions] has become a usual approach. Unfortunately, it shows not power, but weakness, just inability to solve real issues facing the US and real issues with the US participation on the international arena. This is distracting attention from real impotence to take steps on those issues, which are really on the agenda. Naturally, it's impossible to frighten Russia by any ultimatums."

## **Background**

On March 04, 2018 former Russian intelligence officer and convicted British spy Sergei Skripal and his daughter Yulia were allegedly poisoned with a nerve agent, according to British investigators. Later on, London stated that this nerve agent had been developed in Russia and blamed the country for being behind the incident (based on the assumption).

Moscow refuted all accusations, saying that neither the former Soviet Union, nor Russia had any programmes for developing this agent. Specialists from the British chemical laboratory in Porton Down were unable to identify the agent's point of origin that was used in the poisoning of the Skripals.

<http://tass.com/politics/1029832>

## **DISARMAMENT**

### **OPCW Director-General Provides Vision for Addressing Disarmament and Non-Proliferation Challenges at Asser Institute Training**

*October 01, 2018*

The Director-General of the OPCW, Ambassador Fernando Arias, delivered the keynote address at the opening of the Asser Institute's Ninth Annual Training Programme on Disarmament and Non-Proliferation of Weapons of Mass Destruction (WMD), which is jointly organised with the OPCW and takes place in The Hague.

The training course, that took place from 1-5 October 2018, provided clear insights into the legal, scientific, diplomatic and geo-political issues relating to chemical weapons and other WMDs in the contemporary world.

In his keynote speech, Ambassador Arias reminded the attendees that: "Disarmament and non-proliferation are not simple issues that lend themselves to simple solutions. They require specialised knowledge and training in a variety of cross-cutting areas, both technical and non-technical in nature."

After describing the various challenges to the global norm against chemical weapons, the Director-General encouraged the future policy makers, implementers, and influencers to use this training to acquire a comprehensive overview of the different perspectives on WMD disarmament, and to

become "better contributors to multilateral action".

"For disarmament to be a success, we need leaders and innovators prepared to think outside the box in order to put weapons of mass destruction back into theirs," emphasised the Director-General.

Throughout the week, the participants acquired knowledge from leading WMD experts, including those from the OPCW who provided insights into the Organisation's achievements and challenges in the implementation of the Chemical Weapons Convention, the OPCW inspection and verification regime, the role of science in biochemical disarmament, and the growing threat of chemical terrorism.

## **Background**

The T.M.C Asser Institute and the OPCW launched the Programme on Disarmament and Non-Proliferation of WMDs in 2010.

The programme has established itself as a highly regarded educational resource for advanced graduate students and early- to mid-career professionals with interests in WMD diplomacy and treaty implementation. The WMD training programme continually evolves and addresses cross-cutting aspects in high-level panels and interactive elements such as a debate and simulation exercises.

<https://www.opcw.org/media-centre/news/2018/10/opcw-director-general-provides-vision-addressing-disarmament-and-non>

## **OPCW Issues Fact-Finding Mission Reports on Chemical Weapons Use Allegations in Douma, Syria in 2018 and in Al-Hamadaniya and Karm Al-Tarrab in 2016**

*July 06, 2018*

The Fact-Finding Mission (FFM) of the OPCW, issued an interim report on the

FFM's investigation to date regarding the allegations of chemical weapons use in Douma, Syria on April 07, 2018.

The FFM's activities in Douma included on-site visits to collect environmental samples, interviews with witnesses, data collection. In a neighbouring country, the FFM team gathered or received biological and environmental samples, and conducted witness interviews. The OPCW lab analysis show that no organophosphorous nerve agents or their degradation products were detected in the environmental samples or in the plasma samples taken from alleged casualties. Along with explosive residues, various chlorinated organic chemicals were found in samples from two sites, for which there is full chain of custody. Work by the team to establish the significance of these results is on-going. The FFM team will continue its work to draw final conclusions.

The Fact-Finding Mission also issued a report on 2 July 2018 addressing allegations of chemical weapons use in Al-Hamadaniya, Syria on 30 October 2016, and Karm al-Tarrab, Syria on 13 November 2016. On the basis of the information received and analysed, the prevailing narrative of the interviews, and the results of the laboratory analyses, the FFM cannot confidently determine whether or not a specific chemical was used as a weapon in the incidents that took place in the neighbourhood of Al-Hamadaniyah and in the area of Karm al-Tarrab. The FFM noted that the persons affected in the reported incidents may, in some instances, have been exposed to some type of non-persistent, irritating substance.

The FFM's reports on the allegations of chemical weapons use in Douma, Al-Hamadaniya, and Karm Al-Tarrab have been shared with States Parties to the Chemical Weapons Convention. The reports

were also transmitted to the UN Security Council through the UN Secretary-General.

## **Background**

In response to persistent allegations of chemical weapon attacks in Syria, the OPCW Fact-Finding Mission (FFM) was set up in 2014 with an on-going mandate "to establish facts surrounding allegations of the use of toxic chemicals, reportedly chlorine, for hostile purposes in the Syrian Arab Republic".

The FFM's mandate is to determine whether chemical weapons or toxic chemicals as weapons have been used in Syria. It does not include identifying who is responsible for alleged attacks. Attribution was part of the mandate of the OPCW-UN Joint Investigative Mechanism, set up by the UN Security Council, which expired in November 2017.

The FFM has previously confirmed with a "high degree of confidence" the use of chlorine, sulfur mustard, and sarin as weapons.

The FFM is required to study available information relating to allegations of use of chemical weapons in Syria, including information provided by the Syrian Arab Republic and others. The FFM employs investigative methods to determine if chemical weapons have been used. It interviews witnesses and obtains environmental and bio-medical samples and physical evidence for analysis.

<https://www.opcw.org/media-centre/news/2018/07/opcw-issues-fact-finding-mission-reports-chemical-weapons-use-allegations>

## **INTERNATIONAL COOPERATION**

### **Legal Framework on Countering Chemical Terrorism by Sahel and West Africa States**

*October 29, 2018*

Chemical terrorism has been a prevailing source of concern across the international community. In this context, the National Authority representatives from The Hague, Netherlands came together with security and legal experts from the Sahel and West Africa in order to strengthen their capacities to address chemical terrorism in a workshop on "the role of implementing legislation of the Chemical Weapons Convention" in addressing the threats posed by the non-state actors misusing chemicals constitutes pose a serious threat to the peace and security of Africa.

In the opening remark, Mr Gabriel Aduda, Permanent Secretary, Political and Economic Affairs Office and Chairman of the National Authority on the Chemical and Biological Weapons Convention, highlighted the risk of Non-state actors misusing chemical weapons and hence posing a serious threat to the peace and Security of Africa. The OPCW Technical Secretariat gave an overview of its activities linked to countering chemical terrorism, discussed the contribution of Article VI of the CWC in preventing the possible hostile use of toxic chemicals, and outlined the national legal provisions that effectively address the threat of chemical terrorism.

The participants stressed the importance of the OPCW's role in raising awareness as well as providing technical assistance in drafting legislation, customs procedures, developing

emergency preparedness and response plans, and laboratory analysis.

<https://www.opcw.org/media-centre/news/2018/10/sahel-and-west-africa-states-formulate-legal-approaches-counterering>

### **OPCW Director-General Addresses International Council of Chemical Associations**

*October 29, 2018*

The Director-General of the OPCW, H.E. Mr. Fernando Arias, addressed the annual meeting of the Board of Directors of the International Council of Chemical Associations (ICCA) about the importance of cooperation between and chemical industry for attaining the goals of the Chemical Weapons Convention. In the meeting, which took place in Amsterdam on 26 October 2018, the Director-General expressed: "Cooperation between us is vital for the fulfilment of the promise of the Convention - a world free of chemical weapons." He also highlighted challenges facing the OPCW like the "re-emergence of chemical weapons." He underscored, "The re-emergence of chemical weapons is a collective threat that can only be dealt with through collective action". The ICCA Board members expressed their continuing commitment to work together for the use of chemistry to the benefit of humankind.

<https://www.opcw.org/media-centre/news/2018/10/opcw-director-general-addresses-international-council-chemical>

### **OPCW Assists Guinea and Chad in Formulating Plans to Implement Chemical Weapons Convention**

*August 07, 2018*

Guinea and Chad have taken steps towards the full implementation of the Chemical Weapons Convention (CWC) by developing their national legislations, during the 19th edition of Internship Programme for Legal Drafters and National Authority Representatives, held in The Hague from 6 - 10 August, 2018.

The Programme is directed at enhancing the understanding of the goal of the OPCW, and assisting relevant OPCW Member States in drafting national implementing legislation. This year's agenda covers a range of topics, including legal requirements under the CWC, legal issues related to national implementation, initial and annual declarations to the OPCW, and the role of national implementing legislation in preventing chemical terrorism.

### **Background**

Since its launch in 2012, the Internship Programme has benefited 37 States Parties to the CWC. Among these, Cape Verde, Grenada, Panama, Paraguay, Uganda and Lao People's Democratic Republic have successfully enacted national legislation, while others are at various stages of the adoption process.

<https://www.opcw.org/media-centre/news/2018/08/opcw-assists-guinea-and-chad-formulating-plans-implement-chemical-weapons>

# CBW Magazine

Journal on Chemical and Biological Weapons

Winter / July-December 2018



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