

## I. Allegations of use of chemical weapons in Syria

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The United Nations, the Organisation for the Prohibition of Chemical Weapons (OPCW), various governments and civil society continued to examine allegations of chemical weapon (CW) use in Syria throughout 2017. However, the UN Security Council and the OPCW Executive Council remained deadlocked on the question of Syrian Government responsibility for CW use. This section describes the ad hoc international arrangements used to evaluate Syria's declarations under the 1993 Chemical Weapons Convention (CWC) and reviews the reports of the OPCW Fact-finding Mission (FFM).<sup>1</sup> It also describes developments in Syria in 2017, including the use of sarin at Khan Shaykhun on 4 April, which prompted the United States to launch retaliatory Tomahawk cruise missile strikes against a Syrian airbase. Finally, the section discusses the likely future focus of the work of the OPCW in Syria and the issue of CW-related sanctions.

### **The ad hoc arrangements for evaluating Syria's CWC declarations**

The OPCW FFM has collected and analysed information related to the numerous instances of suspected CW use in Syria since it was established in 2014.<sup>2</sup> The FFM provided the information baseline that supported the work of the OPCW–UN Joint Investigative Mechanism (JIM), which was established in August 2015.<sup>3</sup> While it operated, the JIM issued seven reports and attributed responsibility for CW use to both the Syrian Government and non-state actors.<sup>4</sup> The JIM's mandate ended on 16 November 2017. The ad hoc arrangements involving the FFM on CW use allegations and the OPCW Declarations Assessment Team (DAT) continued to investigate the completeness and correctness of Syria's declarations under the CWC.

The CWC negotiators intended that the convention's provisions on investigations of alleged use of CWs and, in other suspected cases of fundamental non-compliance, challenge inspections, should be used, rather than such ad

<sup>1</sup> On the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (Chemical Weapons Convention, CWC) see also annex A, section I, in this volume.

<sup>2</sup> See Hart, J., 'Chemical disarmament in conflict areas', *SIPRI Yearbook 2015*, pp. 584–85; Hart, J., 'Investigation of alleged chemical weapon use in Syria and other locations in the Middle East', *SIPRI Yearbook 2016*, pp. 731–39; and Hart, J., 'Achieving clarity on Syrian chemical weapon declarations to the OPCW and continued chemical weapon use allegations', *SIPRI Yearbook 2017*, pp. 518–19.

<sup>3</sup> UN Security Council Resolution 2235, 7 Aug. 2015.

<sup>4</sup> United Nations, Security Council, first–seventh reports of the Organization for the Prohibition of Chemical Weapons–United Nations Joint Investigative Mechanism, S/2016/142, 12 Feb. 2016; S/2016/530, 10 June 2016; S/2016/738, 24 Aug. 2016; S/2016/888, 21 Oct. 2016; S/2017/131, 13 Feb. 2017; S/2017/552, 28 June 2017; and S/2017/904, 26 Oct. 2017.

**Table 8.1.** Summary of attributions by the Joint Investigative Mechanism of responsibility for chemical weapon use in Syria

Location	Date	Attribution	Chemical weapon agent
Marea	21 Aug. 2015	Non-state actor	Sulphur mustard
Umm Hawsh	16 Sep. 2016	Non-state actor	Sulphur mustard
Talmenes	21 Apr. 2014	Syrian Government	Chlorine
Qmenas	16 Mar. 2015	Syrian Government	Chlorine
Sarmin	16 Mar. 2015	Syrian Government	Chlorine
Khan Shaykhun	4 Apr. 2017	Syrian Government	Sarin (or 'sarin-like')

*Source:* United Nations, Security Council, 'Third report of the Organization for the Prohibition of Chemical Weapons–United Nations Joint Investigative Mechanism', S/2016/738, 24 Aug. 2016; and United Nations, Security Council, 'Seventh report of the Organisation for the Prohibition of Chemical Weapons–United Nations Joint Investigative Mechanism', S/2017/904, 26 Oct. 2017.

hoc arrangements.<sup>5</sup> However, they did not anticipate that a state might join the convention in a time of civil war, much less one that was part of a wider, longer-term regional armed conflict. In addition, a state's legal obligations are based on the understanding that its territory is under full governmental jurisdiction and control. Given the lack of security and clear understanding of who has controlled much of Syria's territory since 2013 when Syria joined the CWC, the OPCW declaration and verification procedures have had to be adjusted to reflect variable, on-the-ground physical security exigencies. Nor did the negotiators anticipate a geopolitical process whereby accession to the convention would be facilitated by an agreed framework concluded by two permanent members of the UN Security Council—Russia and the USA—or that the Security Council and the OPCW Executive Council would jointly supervise specially created verification mechanisms over a multi-year period, yielding results that have been partly interpreted according to broader, political interests. In particular, the UN Security Council and the OPCW Executive Council were unable to achieve consensus on the JIM's attribution of responsibility to the Syrian Government (see table 16.1).

Of the 27 chemical weapon production facilities (CWPFs) ultimately declared by Syria, the final two to remain outside of Syrian Government control—Al Dhamir 1 near Aleppo and Al Dhamir 2 near Damascus—were finally visited by the OPCW in late 2017, following a reduction in the fighting.

The DAT continued to seek further clarity on the nature and role of facilities belonging to Syria's Scientific Studies and Research Centre (SSRC). In

<sup>5</sup> Such violations are distinct from lesser violations of a more technical or administrative nature. CWC (note 1), Article IX, paras 8–25, Verification Annex, Parts X and XI. See also Hart, J., 'Political and technical aspects of challenge inspections under the Chemical Weapons Convention', Paper presented at 'EU seminar on "challenge inspections" in the framework of the CWC', Vienna, 24–25 June 2004.

2017 the OPCW Technical Secretariat conducted two rounds of inspections of SSRC facilities, triggered by the results of previous visits and analyses of samples taken during inspections conducted prior to 2017. The results indicated that Syria had not fully disclosed all the relevant chemicals in its CW programme. The identity of these chemicals has not been officially released to the public.<sup>6</sup>

On 30 September 2017 Syria supplemented its initial declaration to the OPCW by declaring additional laboratories and rooms at the SSRC.<sup>7</sup> On 2 October 2017 Syria also provided an overview of general activities at the SSRC, including Institute 3000.<sup>8</sup> On 10 November 2017 Syria provided 19 documents (around 450 pages) to the OPCW describing research and development activities at SSRC declared laboratories for the period 1995–2010.<sup>9</sup> The OPCW conducted a second round of inspections at the Barzah and Jamraya facilities of the SSRC on 14–21 November 2017.<sup>10</sup>

### Reports by the OPCW Fact-finding Mission

In 2017 the FFM issued at least eight reports dealing with three incidents of alleged chemical weapon use and a summary report of its investigation activities throughout 2017.<sup>11</sup>

The first report was on an incident involving the use of sulphur mustard at Um-Housh on 16 September 2016.<sup>12</sup> The FFM interviewed casualties, took blood samples for analysis and examined a mortar round that had been made available by specialists from a Russian chemical, biological, radiological and nuclear technical team working with the SSRC in Barzi. The FFM found that

<sup>6</sup> Hart, *SIPRI Yearbook 2017* (note 2), pp. 514–15.

<sup>7</sup> OPCW, 'Progress in the elimination of the Syrian Chemical weapons programme', Note by the Director-General, EC-87/DG.4, 24 Nov. 2017, para. 8, p. 2.

<sup>8</sup> OPCW, EC-87/DG.4 (note 7), para. 8, p. 2.

<sup>9</sup> OPCW, EC-87/DG.4 (note 7), para. 10, p. 3.

<sup>10</sup> OPCW, EC-87/DG.4 (note 7), para. 11, p. 3.

<sup>11</sup> OPCW, Technical Secretariat, 'Report of the OPCW Fact-finding Mission in Syria regarding the incident of 16 September 2016 as reported in the note verbale of the Syrian Arab Republic number 113 dated 29 November 2016', S/1491/2017, 1 May 2017; 'Status update of the OPCW Fact-finding Mission in Syria regarding a reported incident in Khan Shaykhun, 4 April 2017', S/1497/2017, 12 May 2017; 'Report of the OPCW Fact-finding Mission in Syria regarding an alleged incident in Khan Shaykhun, Syrian Arab Republic, April 2017', S/1510/2017, 29 June 2017; 'Analysis results of the samples provided by the Government of the Syrian Arab Republic in relation to the alleged incident in Khan Shaykhun, Syrian Arab Republic, April 2017', S/1521/2017, 28 July 2017; 'Analysis results of samples relating to the alleged use of chemicals as weapons in Ltamenah, Hama Governorate, Syrian Arab Republic, March 2017', S/1544/2017, 12 Oct. 2017; 'Further clarifications why the OPCW Fact-finding Mission did not deploy to Khan Shaykhun', S/1545/2017, 17 Oct. 2017; 'Report of the OPCW Fact-finding Mission in Syria regarding an alleged incident in Ltamenah, the Syrian Arab Republic, 30 March 2017', S/1548/2017, 2 Nov. 2017; and 'Summary update of the activities carried out by the OPCW Fact-finding Mission in Syria in 2017', S/1556/2017, 14 Nov. 2017.

<sup>12</sup> OPCW, S/1491/2017 (note 11).

a 217-millimetre calibre projectile had contained sulphur mustard, and that two casualties had been exposed to sulphur mustard.

The FFM issued two reports—a preliminary report dated 12 May 2017 followed by a full FFM report of 29 June 2017—on the 4 April sarin incident at Khan Shaykhun.<sup>13</sup> The FFM concluded that at least 86 people had died from exposure to sarin or a sarin-like substance but did not attribute responsibility as this was outside its mandate. The chemical originated from a single crater caused by an aerial munition, either an air-launched rocket or an aerial bomb. The normal OPCW chain-of-custody procedure was not observed for the samples analysed. Russia has been highly critical on this point. The FFM did not deploy to Khan Shaykhun or the Shayrat Airfield, which housed the aircraft that had attacked the location.<sup>14</sup> FFM members did, however, attend autopsies in a neighbouring country, collect biomedical specimens and receive environmental samples from third parties. DNA analyses of biomedical samples obtained by third parties and samples collected by the FFM team enabled it to link the individuals it had interviewed and who tested positive for sarin to samples collected in Khan Shaykhun by third parties. The FFM also received samples from the Government of Syria, which were analysed by the OPCW chemical laboratory as well as two designated laboratories. These showed the presence of CWC-relevant chemicals, such as sarin, diisopropyl methylphosphonate (DIMP) and hexamine.<sup>15</sup> Hexamine and methylphosphonyl difluoride (DF) have been used by Syria in the synthesis of sarin as part of its prior programme declared to the OPCW in 2013.

The FFM also investigated the alleged use of a chemical weapon in Ltamenah, Hama Governorate, in March 2017. The FFM was unable to visit the incident location but it did interview casualties and medical staff in a neighbouring country and obtained environmental samples, including munition parts. A report on the analysis of these soil and metal samples confirmed the presence of sarin and a number of related degradation products, as well as products related to sarin synthesis.<sup>16</sup> The FFM report published on the incident in November 2017 concluded that it was ‘more than likely’ that sarin had been used at Ltamenah.<sup>17</sup> Once again it did not attribute responsibility as this was outside its mandate.

<sup>13</sup> OPCW, S/1497/2017 (note 11); and OPCW, S/1510/2017 (note 11).

<sup>14</sup> For a detailed explanation see OPCW, S/1545/2017 (note 11).

<sup>15</sup> OPCW, S/1521/2017 (note 11).

<sup>16</sup> OPCW, S/1544/2017 (note 11).

<sup>17</sup> OPCW, S/1548/2017 (note 11).

## Developments in Syria in 2017

The fighting in Syria intensified early in 2017 but diminished towards the end of the year.<sup>18</sup> Government forces recaptured Wadi Barada and al-Waar in Homs in mid-February, while in February and March opposition forces with some coordination with the al-Nusra Front launched offensives in Daraa, Damascus and Hama.<sup>19</sup>

On 28 February 2017 China and Russia vetoed a UN Security Council resolution that would have sanctioned Syria for CW use based on the findings of the JIM.<sup>20</sup> On 27 April 2017 the three-member Senior Leadership Panel of the JIM was reconstituted by the new UN Secretary-General, António Guterres. Ambassador Edmond Mulet of Guatemala replaced Virginia Gamba of Argentina as head of the JIM. The other two new members were Stefan Mogl of Switzerland and Judy Cheng-Hopkins of Malaysia.<sup>21</sup>

### *Chemical weapon attack at Khan Shaykhun*

The CW attack on Khan Shaykhun in southern Idlib on 4 April 2017 occurred in the context of fighting by government forces to retake territory recently lost in northern Hama.<sup>22</sup> As noted above, the incident resulted in the deaths of at least 86 people.<sup>23</sup> In response, the USA attacked the Shayrat Airfield in Homs Governorate with 59 Raytheon RGM-109 Tomahawk Land Attack Missiles (TLAMs) on 7 April.<sup>24</sup> According to the US Department of Defense (DOD), the purpose of the strike was to ‘deter the [Syrian] regime from using chemical weapons’ and thus ‘proportionality is measured against that outcome’.<sup>25</sup> The USA stated that the airbase had stored chemical weapons previously and that it had a high level of confidence that the airbase was used to launch the CW attack.<sup>26</sup> The Syrian General Command characterized the US strike as a ‘blatant act of aggression’.<sup>27</sup>

<sup>18</sup> Ripley, T., ‘Syrian Government forces complete multiple encirclements of IS fighters’, *Jane’s Defence Weekly*, vol. 54, no. 35 (30 Aug. 2017), p. 4. On the conflict in Syria see chapter 2, section V, this volume.

<sup>19</sup> United Nations, ‘Syria: As US responds militarily to chemical attack, UN urges restraint to avoid escalation’, UN News Centre, 7 Apr. 2017.

<sup>20</sup> United Nations, ‘Russia blocks Security Council action on reported use of chemical weapons in Syria’s Khan Shaykhun’, UN News Centre, 12 Apr. 2017.

<sup>21</sup> United Nations, ‘Secretary-General appoints Edmond Mulet of Guatemala head of Security Council Joint Investigative Mechanism on chemical weapon use in Syria’, Press release, 27 Apr. 2017.

<sup>22</sup> United Nations (note 19).

<sup>23</sup> United Nations (note 19).

<sup>24</sup> Ferdinando, L., ‘US strike designed to deter Assad regime’s use of chemical weapons’, US DOD Press release, 7 Apr. 2017. For a summary of Russian air defence systems in Syria at the time see Johnson, R. F., ‘Tomahawk strike in Syria stokes debate about Russian air defences’, *Jane’s Defence Weekly*, vol. 54, no. 16 (19 Apr. 2017), p. 4.

<sup>25</sup> Ferdinando (note 24).

<sup>26</sup> Ferdinando (note 24).

<sup>27</sup> United Nations (note 19).

At the UN Security Council, Iran and Russia condemned the US strike, while Australia, Germany, Italy, Japan, the Netherlands, New Zealand, Saudi Arabia, Turkey and the United Kingdom expressed 'some support' for the USA.<sup>28</sup> US President Donald J. Trump justified the attack as a proportionate response, arguing that it was in the 'vital national security interest of the United States to prevent and deter the spread and use of deadly chemical weapons'.<sup>29</sup>

According to the US DOD, although the USA was not 'tracking the airfield as an active chemical site', it did take precautions against hitting items that might result in the release of toxic chemicals or their precursors.<sup>30</sup> The attack resulted in the destruction of approximately 20 aircraft, as well as some surface-to-air missile systems and hangars.<sup>31</sup> The DOD estimated that there had been damage to aircraft, hardened aircraft shelters, petroleum and logistical storage, ammunition supply bunkers, air defence systems and radar.<sup>32</sup>

Saudi Arabia characterized the US strike as a 'courageous decision'.<sup>33</sup> On 8 April Iran's President Hassan Rouhani called for an impartial investigation into the Khan Shaykhun attack.<sup>34</sup> The following day he criticized the US strike as 'flagrant US aggression on Syria'.<sup>35</sup> On the same day the Joint Command Centre, comprising Iranian, Russian and Syrian Government forces and allied militia groups, issued a statement that the US attack on the Syrian airbase had crossed 'red lines', and that the USA would be responsible for any increase in their level of support for the Syrian Government and associated additional violence.<sup>36</sup>

On 11 April the White House released a summary of US Government intelligence concerning the Syrian Government's responsibility for the chemical weapon attack.<sup>37</sup> On 12 April Russia vetoed a proposed UN Security Council resolution drafted by France, the UK and the USA that would have condemned the 4 April attack and would have called on the Syrian Government to comply with the relevant recommendations of the OPCW FFM and

<sup>28</sup> United Nations (note 19).

<sup>29</sup> The White House, Office of the Press Secretary, 'Statement by President Trump on Syria', Press release, 6 Apr. 2017.

<sup>30</sup> Ferdinando (note 24).

<sup>31</sup> Ferdinando (note 24).

<sup>32</sup> Garamone, J., 'Trump orders missile attack in retaliation for Syrian chemical strikes', Press release, US Department of Defense, 6 Apr. 2017.

<sup>33</sup> 'Iran's Rouhani condemns US attack on Syria, chides Gulf Arabs', Reuters, 9 Apr. 2017.

<sup>34</sup> 'Iran's Rouhani condemns US attack on Syria, chides Gulf Arabs' (note 33).

<sup>35</sup> 'Iran's Rouhani condemns US attack on Syria, chides Gulf Arabs' (note 33).

<sup>36</sup> Al-Khalidi, S., 'Assad's allies say US attack crosses "red lines"', Reuters, 9 Apr. 2017.

<sup>37</sup> The White House, 'The Assad regime's use of chemical weapons on April 4, 2017', Press release, 11 Apr. 2017.

the JIM.<sup>38</sup> Ten Security Council members voted in favour, two (including Russia) voted against, while China, Ethiopia and Kazakhstan abstained.<sup>39</sup>

In an interview published on 13 April 2017 the Syrian President, Bashar al-Assad, stated that Syria did not possess any chemical weapons, having relinquished its CW stockpile, and that even if Syria did have CWs it would not use them. He added that Syria had never used CWs, that the children seen in news footage could have been brought in from elsewhere, that al-Qaeda members have been known to 'shave their beards and put on white helmets' [i.e. Syrian Civil Defence Forces which operate in opposition-controlled areas], and that the USA was working hand in hand with 'terrorists' and had fabricated the sarin attack story.<sup>40</sup> On 12 April Syria proposed that the OPCW Director-General send a new 'technical mission' to Khan Shaykhun and Shayrat airbase to investigate the matter.<sup>41</sup>

#### *April meeting of the OPCW Executive Council*

On 13 April the OPCW Executive Council met to review the FFM's preliminary analysis and findings on the CW attack. Some members of the Executive Council did not take a position on whether Syria was responsible for the attack, while some that made statements did not authorize the OPCW to place them on its website.

Canada accused 'Syria and its allies of deflecting attention from technical conclusions they do not like by questioning the credibility of the exercise and seeking to introduce competing processes to the mix'.<sup>42</sup>

Cuba, by contrast, stated that 'using the alleged use of chemical weapons by the government of Syria as a pretext is a grave violation of the Charter of the United Nations and International Law and an outrage against a sovereign State, which worsens the conflict in the country and the region and delays the achievement of a negotiated solution'.<sup>43</sup>

Iran stated that:

every necessary step towards the complete removal and elimination of the Syrian chemical weapons programme have been undertaken by the OPCW and this significant and noticeable progress has been made in the light of full cooperation by the Syrian Arab Republic . . . the government of Syria was verifiably disarmed from all chemical arms by the United Nations. Thus, the undeniable fact is that, among others, Al-Nusrah Front and Daesh, are the only parties in possession of chemical weapons, with internationally documented track record of having used them, in

<sup>38</sup> United Nations (note 20).

<sup>39</sup> United Nations (note 20).

<sup>40</sup> ClarityNews43, 'President Assad: Latest interview 4/13/2017', 13 Apr. 2017, YouTube; and 'Syria chemical attack "fabricated", Assad', BBC News, 13 Apr. 2017.

<sup>41</sup> The proposal itself does not appear to be public. Canada referred to it in its statement to the Executive Council. OPCW, Executive Council, 54th meeting, Statement of Canada, 13 Apr. 2017, p. 1.

<sup>42</sup> OPCW, Statement of Canada (note 41), p. 2.

<sup>43</sup> OPCW, Executive Council, 54th meeting, Statement of Cuba, 13 Apr. 2017, pp. 1-2.



Iraq and Syria. In this regard, the Islamic Republic of Iran calls for formation of an impartial and professional international Team of experts to investigate comprehensively both incidents on-site and clarify how and through what borders these chemical weapons entered and used in the Syrian Arab Republic.<sup>44</sup>

Ireland supported the referral of ‘possible war crimes and crimes against humanity perpetrated in Syria to the International Criminal Court’.<sup>45</sup> The UK stated that, based on analysis of samples taken from Khan Shaykhun which tested positive for sarin or a ‘sarin-like substance’, ‘it is highly likely that the Syrian Government was responsible for a sarin attack on Khan Shaykhun on 4 April’.<sup>46</sup>

The USA was critical of Russia’s stance:

On April 7, the Press Service of the President of Russia issued an official statement asserting ‘the fact of the destruction of all Syrian Chemical weapons’ stockpiles has been recorded and verified by the OPCW, a specialized UN body.’ . . . As Russia is no doubt aware, nothing could be further from the truth as the Director-General on several occasions has made clear that ‘the Secretariat is not able to resolve all identified gaps, inconsistencies and discrepancies in Syria’s declaration, and therefore cannot fully verify that Syria has submitted a declaration that can be considered accurate and complete in accordance with the Chemical Weapons Convention or Council decision EC-M-33/DEC.1, dated 27 September 2013.’ Russia should immediately issue an official retraction of this blatant distortion.<sup>47</sup>

The Executive Council reconvened on 19 April to discuss the 4 April attack. The OPCW Director-General, Ahmet Üzümcü, reported that:

The bio-medical samples collected from three victims at autopsy were analysed at two OPCW designated labs. The results of analysis indicate that these victims were exposed to sarin or a sarin like substance. Bio-medical samples from seven individuals undergoing treatment at hospitals were also analysed in two other OPCW designated labs . . . the results of these analyses indicate exposure to Sarin or a Sarin like substance . . . while further details of laboratory analyses will follow, the analytical results are incontrovertible.<sup>48</sup>

‘Sarin-like’ may refer to detection of the methyl-phosphonate moiety (functional group) in the biomedical samples. The biomedical analytical techniques employed do not detect intact sarin. In principle the methyl-phosphonate moiety could derive from a sarin analogue based on a different alcohol. The term may also have been used to avoid the use of more definite language in legal and political circles.

<sup>44</sup> OPCW, Executive Council, 54th meeting, Statement of Iran, 13 Apr. 2017, pp. 1–3.

<sup>45</sup> OPCW, Executive Council, 54th meeting, Statement of Ireland, 13 Apr. 2017, p. 2.

<sup>46</sup> OPCW, Executive Council, 54th meeting, Statement of the United Kingdom, 13 Apr. 2017, pp. 1–3.

<sup>47</sup> OPCW, Executive Council, 54th meeting, Statement of the United States, 13 Apr. 2017, pp. 1–3.

<sup>48</sup> OPCW, ‘OPCW Director-General shares incontrovertible laboratory results concluding exposure to sarin’, Press release, 19 Apr. 2017.



France later issued statements and summaries of unclassified intelligence reports on the 4 April attack.<sup>49</sup> Russia maintained that there was no reliable evidence to indicate Syrian Government responsibility for CW use.<sup>50</sup>

The Executive Council rejected a draft decision tabled by Iran and Russia that would have entailed the establishment of a new technical investigative body.<sup>51</sup>

### *Towards an attribution of responsibility by the JIM*

On 6 July Mulet briefed the UN Security Council on the progress made by the JIM. After the meeting, Mulet told media representatives: 'We do receive, unfortunately, direct and indirect messages all the time from many sides telling us how to do our work'. He added that nearly 20 actors had provided their views to JIM members on whether the Syrian Government was responsible for any (or none) of the CW attacks.

As of 6 July the FFM was prioritizing six or seven other investigations of alleged use. Mulet remained open to the idea of the JIM visiting the Khan Shaykhun site and the Shayrat airbase if the security situation allowed. Mulet stated that Syria had not provided the information required for the airbase visit, such as flight logs, details of movement around the base and the names of the people that the JIM would be interviewing.

Mulet observed that the JIM was working in a highly politicized environment and appealed to the members of the UN Security Council to allow it to carry out its work. He promised that any findings would be based on facts and science.<sup>52</sup>

### *JIM October report*

On 6 October Russia sent a letter to the UN Secretary-General criticizing the methods of work of the FFM and the JIM.<sup>53</sup> Russia stated that it wished to review the report on Khan Shaykhun prior to deciding whether to extend

<sup>49</sup> French Ministry for Europe and Foreign Affairs, 'Chemical attack in Syria: National evaluation presented by Jean-Marc Ayrault following the Defense Council Meeting', 26 Apr. 2017.

<sup>50</sup> Russian Ministry of Foreign Affairs, 'Comment by the Information and Press Department on the investigation launched by France into the alleged use of chemical weapons in Khan Shaykhun', 27 Apr. 2017, Press release.

<sup>51</sup> OPCW, Executive Council, 'Addressing the situation around the alleged use of chemical weapons in the Khan Shaykhun area of southern Idlib in the Syrian Arab Republic', Draft decision EC-M-54/DEC/CRP.1, 13 Apr. 2017.

<sup>52</sup> United Nations Radio, 'Syria chemical weapons investigations proceeding "objectively, impartially"', 6 July 2017. See also United Nations, 'Edmond Mulet (OPCW-UN Joint Investigative Mechanism) on chemical weapon use in Syria—SC stakeout', 6 July 2017.

<sup>53</sup> United Nations, General Assembly and Security Council, Letter dated 6 October 2017 from the Permanent Representative of the Russian Federation to the United Nations addressed to the Secretary-General, S/2017/848, 10 Oct. 2017; and 'Vote on the Syria Joint Investigative Mechanism', What's in Blue, 23 Oct. 2017.

the JIM's mandate for a further 12 months. The USA maintained that the JIM's mandate should be extended prior to the report's release.<sup>54</sup>

According to the Director of the Russian Foreign Ministry's Non-proliferation and Arms Control Department, Mikhail Ulyanov:

the JIM staff investigated the incident in Khan Shaykhun remotely, mostly from The Hague and New York offices . . . Although they should have visited both Khan Shaykhun, where the April 4 chemical weapon incident took place, and the Shayrat air base, where according to Americans, sarin used in Khan Shaykhun had been stored . . . the situation looks like a subversion . . . First, the UN mission refused to visit the incident scene in Khan Shaykhun. They carried out their investigations in a country neighboring Syria, referring to a lack of necessary security conditions . . . it has turned out recently that this does not correspond to reality. Two weeks ago, the UN Secretariat's Department of Safety and Security confirmed at the Security Council that in fact safe and secure access to the scene was guaranteed to UN staff by local field commanders.<sup>55</sup>

Syria rejected the findings of the JIM's seventh report, condemning 'the reliance of the [JIM] on the words of criminals who committed this immoral act in Khan Sheikhoun and those of suspect witnesses, as well as so-called open sources'.<sup>56</sup>

The JIM's mandate expired in November.<sup>57</sup> Consequently, the OPCW can only formally investigate the continued use of CWs in Syria via the FFM or on the basis of a request by its members to initiate an investigation of alleged use or a challenge inspection. It is possible that the OPCW could use the forensic capacity of its Rapid Response and Assistance Mission (RRAM), which was established in 2016.<sup>58</sup> The consideration of such factors will be informed by impending changes to the OPCW leadership, when Fernando Arias replaces Üzümcü as OPCW Director-General in July 2018.

### *Other developments*

The work of international bodies that do not specialize in arms control and the understandings and statements of security and defence sector officials with close or direct involvement in Syria provide further insight into this case and its wider geopolitical implications. In 2017 the Independent International Commission of Inquiry on the Syrian Arab Republic, which was established by the UN Human Rights Council in 2011 to investigate human

<sup>54</sup> Landry, C., 'US, Russia headed for clash over UN gas attack probe', AFP News, 18 Oct. 2017.

<sup>55</sup> 'Probe into chemical weapon incidents in Syria looks like subversion, diplomat says', TASS, 20 Oct. 2017.

<sup>56</sup> Dadouch, S., 'Syria rejects report blaming it for April sarin attack: State media', Reuters, 27 Oct. 2017.

<sup>57</sup> On the work of the JIM see also Hart, *SIPRI Yearbook 2016* (note 2), pp. 730–31; and Hart, *SIPRI Yearbook 2017* (note 2), pp. 519–22.

<sup>58</sup> The RRAM was meant to strengthen the treaty regime's general response capacity and is not Syria-specific. See OPCW, Technical Secretariat, 'Establishment of a rapid response assistance team', S/1381/2016, 10 May 2016.

rights abuses, noted that ‘Throughout 2016, Syrian air forces launched air strikes using chlorine bombs in eastern Aleppo city. There is no information to support the claim that the Russian military ever used any chemical weapons in the Syrian Arab Republic. While civilians exposed to chlorine may exhibit symptoms similar to those exposed to vesicants, such as sulphur mustard, chlorine gas was identified as the most likely agent in several cases.’<sup>59</sup>

Brigadier-General Zaher al-Sakat, who reportedly headed the chemical warfare unit of the 5th Division of the Syrian Army prior to defecting in 2013, told a British newspaper in 2017 that the Syrian Government had not declared to the OPCW ‘large amounts of sarin precursor chemicals and other toxic materials’.<sup>60</sup>

On 19 April 2017 an unnamed senior member of the Israel Defense Forces (IDF) stated that the 4 April attack had been authorized by senior Syrian Government officials ‘possibly with the full personal knowledge of President Assad himself’.<sup>61</sup> The officer observed ‘In the past, Assad had possessed some 1200 tons of chemical warfare agents fitted to missiles, artillery shells and airborne munitions, and most of this arsenal was destroyed. What he has now are just a few remaining tons of chemical warfare agents. The attack using Sarin gas reflects frustration and distress on Assad’s part.’<sup>62</sup>

### **The future of the Syria case**

The future focus of the OPCW in Syria will be on (a) clarifying the completeness and correctness of Syria’s declaration, with a focus on SSRC facilities through the DAT; (b) reaching closure on the allegations of CW use through the FFM; (c) verifying the destruction of two above-ground CWPFs; and (d) conducting routine annual CWC-mandated inspections of underground structures already destroyed, including CWPFs. The DAT’s focus on Syria’s declarations will be on (a) the role of the SSRC in Syria’s CW programme; (b) clarifying the results of analyses of samples taken by the OPCW at multiple locations in Syria; and (c) clarifying the nature of ‘other chemical

<sup>59</sup> United Nations, Human Rights Council, ‘Report of the Independent International Commission of Inquiry on the Syrian Arab Republic’, A/HRC/34/64, 2 Feb. 2017, para. 17, p. 6.

<sup>60</sup> Ensor, J., ‘Bashar al-Assad still has “hundreds of tons” of chemicals stockpiled, former Syrian weapons research chief claims’, *Daily Telegraph*, 15 Apr. 2017.

<sup>61</sup> Heller, O., ‘IDF: “High-ranking Syrian officers ordered the chemical attack in Idlib’, Israel Defense, 20 Apr. 2017. More complete information is provided in the Hebrew-language version, <<http://www.israeldefense.co.il/he/node/29287>>.

<sup>62</sup> Heller (note 61). See also Chulov, M., ‘Qatari royal family members used as leverage in Syrian population swap’, *The Guardian*, 14 Apr. 2017.

weapons-related activities' that occurred prior to Syria's accession to the CWC in 2013.<sup>63</sup>

In addition, scientific research on the victims of CWs in Iraq and Syria underwent peer review in 2017 prior to publication. The research included a cohort study of a family exposed to sulphur mustard in Syria in August 2015 and analyses of degradation products characteristic of the impurities associated with sulphur mustard produced by the Levinstein process.<sup>64</sup> Further information and studies were published on conventional weapons research and development projects, including improvised explosive devices (IEDs), carried out by Islamic State affiliates in Iraq and Syria. As a consequence of the use of CWs in Iraq and Syria, biomedical sampling and analysis protocols have now been standardized in the chemical weapons disarmament and arms control fields, including in annual OPCW laboratory proficiency tests. The preliminary procedures, which began to be adopted in 2016, were agreed on a provisional basis within the framework of the OPCW Scientific Advisory Board. The OPCW continued to conduct proficiency tests to designate laboratories for the analysis of biomedical samples.<sup>65</sup>

Finally the fact that some JIM staff are no longer employed on the Syria case and are therefore more able to speak publicly may help eventually to achieve a common understanding among governments on the responsibility for all documented instances of CW use in Syria.

### **Sanctions related to the use of chemical weapons in Syria**

Canada, France, the UK, the USA and the European Union (EU) are among those to have publicly identified individuals and entities involved in the acquisition of toxic chemicals and their precursors for use as a method of warfare in Syria.<sup>66</sup>

<sup>63</sup> OPCW, Executive Council, 'Progress in the elimination of the Syrian chemical weapons programme', Note by the Director-General, EC-87/DG.2, 23 Oct. 2017, para. 8, pp. 2–3.

<sup>64</sup> Sezigen, S. et al. 'A Syrian family who were exposed to blister agent', poster presented by University of Health Sciences (Ankara) and Tarsus State Hospital (Mersin) at 16th Medical Chemical Defense Conference proceedings, Bundeswehr Institute of Pharmacology and Toxicology, Munich, 5–6 Apr. 2017; and OPCW, Scientific Advisory Board, 'Report of the Scientific Advisory Board at its twenty-fifth session', SAB-25/1, 31 Mar. 2017. See also Blum, M.-M., Bickelhaupt, M. and Poater, J., 'P 01 investigation of sulfur mustard, polysulfide analogues and reactive intermediates from Levinstein mustard density functional theory (DFT)', 16th Medical Chemical Defense Conference proceedings, Bundeswehr Institute of Pharmacology and Toxicology, Munich, 5–6 Apr. 2017, p. 76. The Levinstein process involves reacting disulphur dichloride and ethylene. The process typically yields mixtures of approximately 70% H/HD.

<sup>65</sup> See OPCW, Technical Secretariat, 'Status of the laboratories designated for the analysis of authentic biomedical samples', Note by the Director-General, S/1516/2017, 11 July 2017.

<sup>66</sup> E.g. for Canada, 'Special Economic Measures Act: Regulations amending the special economic measures (Syria) regulations', *Canada Gazette*, vol. 151, no. 9 (3 May 2017); for the EU, European Council, 'Use of chemical weapons in Syria: EU imposes sanctions against 16 additional persons', Press release, 17 July 2017; for France, French Treasury, 'Liste unique de gels' [Single list of asset

On 20 March the EU imposed sanctions against four Syrian military officials for their role in the use of CWs.<sup>67</sup>

In January 2017 the US Department of the Treasury published the names of the individuals and entities it was sanctioning in connection with Syria's CW-related activities, and in connection with the findings of the JIM.<sup>68</sup> On 24 April it imposed sanctions on 271 SSRC staff members in connection with the sarin attack on Khan Shaykhun.<sup>69</sup> On 12 June 2017 the US Treasury targeted an Islamic State leader, Attallah Salman 'Abd Kafi al-Jaburi, for, among other things the development of CWs. Al-Jaburi is described as 'an Iraq-based [Islamic State] senior leader in charge of factories producing [IEDs], vehicle-borne [IEDs], and explosives', and as being 'involved in the development of chemical weapons'.<sup>70</sup> On the same day the US Department of State designated Marwan Ibrahim Hussayn Tah al-Azawi an 'Iraqi [Islamic State] leader connected to [Islamic State's] development of chemical weapons for use in ongoing combat against Iraqi Security Forces'. It also stated that since mid-2016 al-Jaburi had been the Islamic State's 'chemical weapons and explosives manager' located in Kirkuk Province, and in mid-January 2016 the Islamic State had asked al-Jaburi to work on a chemical weapons project for use against the Peshmerga forces operating in the northern region of Iraq. The USA stated that al-Jaburi had received chemical weapon training in Syria (presumably during the civil war) and returned to Iraq in 2015.<sup>71</sup>

freezes], [n.d.]; and for the UK, British Treasury, 'Guidance: Financial sanctions targets, list of all asset freeze targets', 1 Mar. 2018.

<sup>67</sup> European Council, 'Use of chemical weapons in Syria: EU imposes sanctions against 4 high-ranking military officials', Press Release 137/17, 20 Mar. 2017.

<sup>68</sup> US Department of the Treasury, 'Treasury sanctions Syrian officials in connection with OPCW-UN findings of regime's use of chemical weapons on civilians', Press release, 12 Jan. 2017; and US Department of the Treasury, 'Resource Center: Non-proliferation designations; Syria designations; Zimbabwe designations removal', 12 Jan. 2017.

<sup>69</sup> US Department of the Treasury, 'Treasury sanctions 271 Syrian Scientific Studies and Research Center staff in response to sarin attack on Khan Sheikhoun', Press release, 24 Apr. 2017; and US Department of the Treasury, 'Syria designations', 24 Apr. 2017.

<sup>70</sup> US Department of the Treasury, 'Treasury targets ISIS leader involved in chemical weapons development', Press release, 12 June 2017.

<sup>71</sup> US Department of the Treasury (note 70).