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**The Syrian Civil War:  
Chemical Weapons Assessment**

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## Introduction

This *Discussion Paper* analyzes critical questions concerning the WMD landscape of the Syrian Civil War as a complementary assessment to our initial focus on the Syrian battleground, *The Syrian Civil War: A Military Strategic Assessment*<sup>1</sup>. The paper focuses on critical factors that either shaped, or are capable of shaping, key trends of the ongoing conflict without getting lost in political debates on the issue.

Firstly, the research addresses the simple but critical “what to use” question, examining Assad’s WMD inventory in military terms. Secondly, EDAM analysts answer the “how to use” question which refers to delivery options of the Baathist regime. Finally the research aims to shed light on the claims related to the use of Chemical Weapons (CW).

### Syria’s (Bio?)Chemical Arsenal:

In 1988 the Speaker of the Iranian Parliament Hashemi Rafsanjani quite accurately described chemical weapons as “the poor man’s atomic bomb”. Compared to other weapons of mass destruction, and especially nuclear weapons, the fabrication of chemical weapons is possible with less advanced industrial capabilities and lower budgets. Moreover, technologies and materials that are necessary for the production of chemical weapons are more accessible. Besides, depending on the dispersion methods and the population density of target areas, right concentrations of chemical and biological agents have the potential to inflict immense casualties.

Lacking the capital to pursue an independent nuclear program, Syria is assumed to have moved its efforts to obtaining chemical, and potentially biological, weapons at an early stage; and is now assumed to have one of the most advanced chemical warfare capabilities in the region<sup>2</sup>. The question of when Syria initiated its chemical program is still disputed, several sources suggest that Egypt supplied Syria with CW before the Yom Kippur War in 1973<sup>3</sup>, while some others argue that the program was launched later in the late-1970s or by the early 1980s<sup>4</sup>; but it is widely assumed that the *Centre D’Etudes et de Recherches Scientifiques (CERS)* in Damascus lies at the heart of Syria’s WMD program. The country’s main suppliers were large chemical brokerage houses in Western Europe, some of which were also involved in Iraq’s program<sup>5</sup>. The Syrian CW arsenals possess sarin, mustard

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<sup>1</sup> Kasapoglu, C.; Ergun, F. D. (2013, May 2) “The Syrian Civil War: A Military Strategic Assessment”, EDAM Discussion Paper: <http://edam.org.tr/eng/document/Syria%20Mil%20May2013.pdf>

<sup>2</sup> NTI. (2012, February). Country Profiles: Syria. April 25, 2012 tarihinde Nuclear Threat Initiative: <http://www.nti.org/country-profiles/syria/> adresinden alındı

<sup>3</sup> NTI. (2012, February). Country Profiles: Syria. April 25, 2012 tarihinde Nuclear Threat Initiative: <http://www.nti.org/country-profiles/syria/> adresinden alındı

<sup>4</sup> Normark, M., Lindblad, A., Norqvist, A., Sandström, B., & Waldenström, L. (2004). Syria and WMD: Incentives and Capabilities. Umea: Swedish Defence Research Agency. Jouejati, M. (2005, Vol. 59 No. 1). Syrian Motives for its WMD Programs and What to do About Them. *The Middle East Journal*, s. 52-61.

<sup>5</sup> Federation of American Scientists, (2000, May), Syria – Special Weapons. Retrieved on May 27, 2013 from Federation of American Scientists. <http://www.mafhoum.com/press2/75P3.htm>

gas and possibly VX according to the Nuclear Threat Initiative<sup>6</sup>, while Global Security adds tabun to the list as well<sup>7</sup>. Although there is only very few accessible open source information regarding where these chemical weapons are developed and stored, suggested facilities include those near Damascus, Homs, Hamah, Aleppo and Latakia<sup>8,9,10</sup>.

As for biological weapons, it appears that even if Syria possesses such capabilities, they are considerably less than the country's offensive chemical capabilities. American, Israeli and German sources have claimed that Syria has been involved in the research of anthrax, botulinum toxin and ricin<sup>11</sup>, while other sources add plague, tularemia, smallpox, aflatoxin, cholera and camelpox to the list as well<sup>12</sup>. Cerin and Damascus are claimed to be areas where such research has been conducted<sup>13</sup>. However there is no conclusive information to verify that these researches have been purely military-grade or these agents have been weaponized properly. Furthermore, some sources suggest that even if Syria has the capability to produce BW, it cannot do so in significant amounts on its own and has not spent enough major effort to put biological agents into missiles or other weapons<sup>14,15</sup>. On the other hand, meaningfully, Syria has a significant pharmaceutical industry, and became the leading Arab state with the highest number of advanced pharmaceutical companies in 2010<sup>16</sup>. Therefore it is plausible to assume that while Syria likely has the potential to develop biological weapons (or already has some biological capabilities) these would be rather complementary to its chemical weapons program and CW inventory. While even harder to confirm than the information mentioned above, states that are suspected (and most frequently mentioned) to have been involved in Syria's CBW program are Iran, Russia and the DPRK<sup>17,18</sup>.

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<sup>6</sup> Normark, M., Lindblad, A., Norqvist, A., Sandström, B., & Waldenström, L. (2004). Syria and WMD: Incentives and Capabilities. Umea: Swedish Defence Research Agency. Jouejati, M. (2005, Vol. 59 No. 1). Syrian Motives for its WMD Programs and What to do About Them. *The Middle East Journal*, s. 52-61.

<sup>7</sup> Global Security. (2013, April). Weapons of Mass Destruction: Syria: Chemical Weapons. Retrieved on May 27, 2013 from Global Security: <http://www.globalsecurity.org/wmd/world/syria/cw.htm>

<sup>8</sup> Global Security. (2013, April). Weapons of Mass Destruction: Syria: Chemical Weapons. Retrieved on May 27, 2013 from Global Security: <http://www.globalsecurity.org/wmd/world/syria/cw.htm>

<sup>9</sup> NTI. (2013, April) Interactive Syria Facilities Map. Retrieved on May 27, 2013 from Nuclear Threat Initiative: <http://www.nti.org/gmap/?country=syria&layers=biological,chemical,missile,nuclear>

<sup>10</sup> Jouejati, M. (2005, Vol. 59 No. 1). Syrian Motives for its WMD Programs and What to do About Them. *The Middle East Journal*, s. 52-61.

<sup>11</sup> NTI. (2012, February). Country Profiles: Syria. April 25, 2012 tarihinde Nuclear Threat Initiative: <http://www.nti.org/country-profiles/syria/> adresinden alındı

<sup>12</sup> Gordon, J., (2007, December), Syria's Bio-Warfare Threat: an interview with Dr. Jill Dekker. Retrieved on May 27, 2013 from New English Review: [http://www.newenglishreview.org/custpage.cfm/frm/13108/sec\\_id/13108](http://www.newenglishreview.org/custpage.cfm/frm/13108/sec_id/13108)

<sup>13</sup> Federation of American Scientists, (2000, May), Syria – Special Weapons. Retrieved on May 27, 2013 from Federation of American Scientists. <http://www.mafhous.com/press2/75P3.htm>

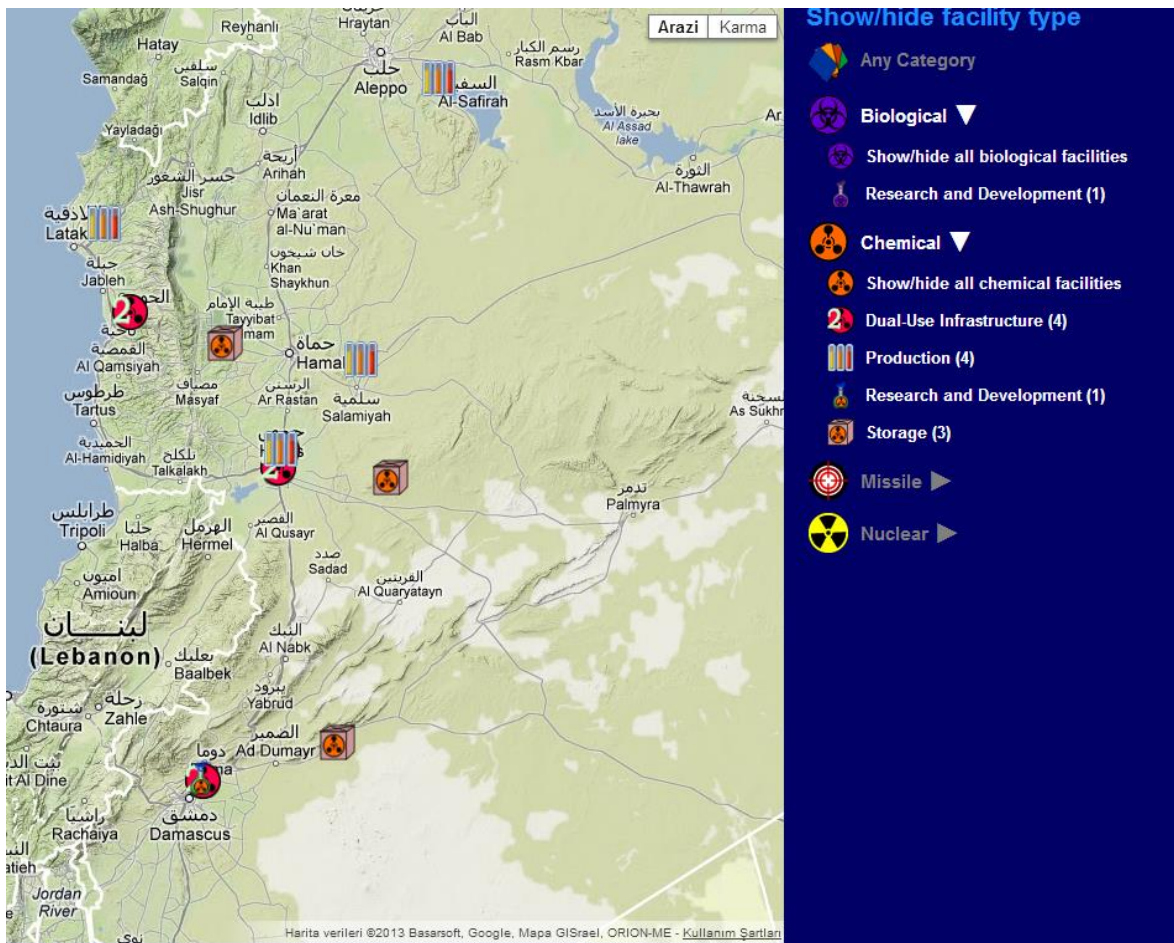
<sup>14</sup> Normark, M., Lindblad, A., Norqvist, A., Sandström, B., & Waldenström, L. (2004). Syria and WMD: Incentives and Capabilities. Umea: Swedish Defence Research Agency.

<sup>15</sup> Federation of American Scientists, (2000, May), Syria – Special Weapons. Retrieved on May 27, 2013 from Federation of American Scientists. <http://www.mafhous.com/press2/75P3.htm>

<sup>16</sup> NTI. (2013, February). Country Profiles: Syria: Biological. May 25, 2013 tarihinde Nuclear Threat Initiative: <http://www.nti.org/country-profiles/syria/biological/> adresinden alındı

<sup>17</sup> Gordon, J., (2007, December), Syria's Bio-Warfare Threat: an interview with Dr. Jill Dekker. Retrieved on May 27, 2013 from New English Review: [http://www.newenglishreview.org/custpage.cfm/frm/13108/sec\\_id/13108](http://www.newenglishreview.org/custpage.cfm/frm/13108/sec_id/13108)

<sup>18</sup> Federation of American Scientists, (2000, May), Syria – Special Weapons. Retrieved on May 27, 2013 from Federation of American Scientists. <http://www.mafhous.com/press2/75P3.htm>



*Retrieved from Nuclear Threat Initiative's Interactive Syria Facilities Map on May 27 2013:*

<http://www.nti.org/gmap/?country=syria&layers=biological,chemical,missile,nuclear>

### How to Assess the Baathist Dictatorship's Military Understanding of WMDs

Essentially, Syria's WMD arsenal was developed in order to balance Israel's (and other possible competitors') military and economic superiorities via "quick-fix solutions". By possessing "WMDs other than nuclear option", Damascus, who is not a party to Chemical Weapons Convention and did not ratify Biological Weapons Convention, aimed to avoid international pressure while arming itself with strategic weapons. Notably, chemical and allegedly biological weapons programs of Syria were combined with a threatening ballistic missile program in order to deter regional actors. Furthermore, as regime collapse in a WMD-holder dictatorship would be a matter of concern for the rest of the world, their WMD arsenal has always been seen as a "regime security" anchor among the Baathist circles. Clearly, Assad's dictatorship assumed that the world would see this tyranny as "iron-fist but rational enough" as it gets to secure and safeguard a terror arsenal more effectively than any other Syrian player that would aim to overthrow the regime.

The first and foremost problem with assessing how and why the Baathist dictatorship would employ –or already started employing– WMD assets in its brutal crackdown is the lack of an open-source strategic weapons doctrine. As indicated in the previous EDAM discussion paper, *The Syrian Civil War: A Military Strategic Assessment*, it is pretty hard to obtain precise data and information concerning defense postures of oppressive regimes like Assad’s rule in Damascus.

Yet, open-source information flowing from the Syrian battleground, key defectors’ testimonials, along with an analytical approach to the overall military picture may well give us a clear idea about the merits of WMD debates in Syria.

### **Delivering Chemical Weapons: Advantages and Handicaps of Different Military Conducts**

Even though chemical weapons are classified as WMDs, their practical impacts differ from those of nuclear and biological weapons. For one, in order to reach a significant “mass destructive” level, a potential aggressor has to use large quantities of weapon-ready chemical assets and to concentrate CW launches in target areas.<sup>19</sup> What is more, a weaponized chemical’s effectiveness (dispersion, persistence, and lethality) is heavily dependent on several variables such as atmospheric conditions, temperature, and even delivery means’ potential adverse effects such as ballistic missiles’ warhead explosions.

On the other hand, keeping clear of chemical contamination necessitates special gears and specific course of actions. Thus, in military terms, chemical weapons can well be employed for stopping armed elements’ progresses on the battlefield, as well as for conducting violent “punishment operations” against civilian populations.

Delivering CWs is another important part of the WMD operations. Clearly, an aggressor has to find a right balance between accuracy, range, effectively covering a target area, concentrating sufficient amount of ordnance, and calculating environmental factors. Then again, several variables bring about some tradeoffs between the parameters of CW operations’ military context. Clearly, battlefield use of CWs via artillery rockets or employing longer range ballistic missiles with unsatisfactory *CEP* (*circular error probable*) in strategic level would determine critical political-military outcomes.

Assad’s forces possess several delivery options in order to employ their WMD arsenal. Briefly, the Baathist dictatorship can use ballistic missiles, aerial bombs, and artillery rockets for delivering chemical and allegedly biological weapons within different operational environments regarding different scenarios.

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<sup>19</sup> Michael, Eisenstadt. *What are Chemical Weapons and How Would Syria Use Them*, Washington Institute for Near East Policy, March 2012.

First of all, delivery via Scud type short range ballistic missiles (*SRBM*) would be one of the most alarming options as these weapon systems would threaten not only Syrian people and the opposition, but also the region. Notably, the Baathist dictatorship has begun launching Scuds in December 2012, and since then, this became a “military standard” for Assad’s crackdown strategy. Scud type ballistic missiles enjoy an improved range for delivering both conventional and WMD warheads but with a relatively high *CEP* which brings about the aforementioned tradeoff between destructiveness, range, and accuracy. In that sense, Assad’s forces can use Scud Bs (*about 300 kms range and 450m CEP*), and more advanced SCUD Cs (*about 600kms range but with a higher CEP of some 700 – 1000m*) that are both capable of delivering chemical warheads. Employing Scuds would be much more beneficial against large and distant targets, such as large and critical military compounds captured by opposition elements and/or urban and suburban civilian settlements that are supporting the opposition. As a matter of fact, opposition held areas in Aleppo (Hamra, Tariq al Bab, Hanano) were hit by Scud type missiles as recently as February 2013.<sup>20</sup> Furthermore, the Assad regime has seen ballistic missiles as means of retaliation against critical opposition gains. For instance, as the opposition gained a significant momentum in the last winter by marking some important achievements such as seizure of Taftanaz and al Jarrah air bases, and al Thawra Dam in Raqqa, Assad’s forces gave weight to aggression through the use of ballistic missiles<sup>21</sup>. Notably, between January and February 2013, just within two months period, several sources recorded over 25 missile launches of which at least 10 were Scud types and variants.<sup>22</sup> In case the regime prefers a shorter range but more accurate weapon system, SS-21s would serve the purpose of hitting any target within 70 kms with 150m *CEP* (*via Scarab A model*), and within 120 kms with about 95m *CEP* (*via Scarab B model*).<sup>23</sup> Thus, SS-21 variants would meet the need for more precision, against smaller targets to be clear, within tactical range. In a SS-21 chemical-warhead scenario, the Baathist regime would probably aim either a robust opposition unit’s critical progress, a promising assault to one of the regime’s critical facilities for instance, or a crucial but relatively small installment captured by the opposition elements.

Finally, it should be noted that Assad regime’s chemical-weaponization and modernization level of Scud-D (a North Korean *SRBM* variant) is more or less unknown which still remains critical for neighboring countries. With an estimated range of 700–800kms<sup>24</sup>, CW-warhead Scud-Ds would be significantly menacing for not only opposition elements and Syrian people, but also for Turkey, Israel, and Jordan.

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<sup>20</sup> “Scud Missile Attack Reported in Aleppo”, *The New York Times*, 22 February 2013.

[http://www.nytimes.com/2013/02/23/world/middleeast/scud-missile-aleppo.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2013/02/23/world/middleeast/scud-missile-aleppo.html?pagewanted=all&_r=0)

Accessed on: 31 May 2013.

<sup>21</sup> Eddie, Box. et al. *The Syrian Regime’s Use of Surface-to-Surface Missiles*, Washington Institute for Near East Policy, April 2013.

<sup>22</sup> Joseph, Holliday. *The Assad Regime: From Counterinsurgency to Civil War*, ISW, Washington D.C., 2013. p. 58.

<sup>23</sup> Missile Threat, “OTR 21-A / 21-B (SS-21)”, <http://missilethreat.com/missiles/otr-21a-21b-ss-21/?country=syria#syria>

Accessed on: 04 June 2013.

<sup>24</sup> Missile Threat, “Scud-D Variant (Hwasong-7)”, <http://missilethreat.com/missiles/scud-d-variant-hwasong-7/?country=syria#syria>, Accessed on: 04 June 2013.

Apart from ballistic missiles, aerial bombs can be another way of delivering CWs. Syria's Su-24, MiG-23BN, and Su-20/22 aircraft can deliver Sarin and VX nerve agents against strategic, operational, and tactical targets.<sup>25</sup> Along with fixed-winged assets, the Baathist dictatorship can employ several rotary-winged platforms in order to deliver CWs. As a matter of fact, a reported chemical attack in Saraqeb was claimed to be conducted by the regime's helicopters.

Saraqeb, a key town due to its location at the intersection of *M4* and *M5* highways, witnessed reported chemical attacks in April 2013. Notably, the chemical attack allegations overlap with Assad's forces' spring offensive to halt the opposition progress, which started around November 2012, and to retake full control of this strategically crucial town. In late April 2013, Baathist forces began shelling the opposition deployments and civilian settlements in the area. Meanwhile, eyewitnesses reported helicopters dropping "canisters" that caused breathing and vomiting problems among hospitalized victims. Locals also reported a heavy "smell" following the aerial bombardment in Saraqeb.<sup>26</sup>

From a military standpoint, it would be fair to say that the Baathist dictatorship possesses both capabilities and intention for having conducted such an operation via limited CW assets carried by Syrian Air Force units. First, "helicopters carrying canisters" testimonials by the eyewitnesses make sense as the Syrian inventory holds various types of rotary-winged assets that can drop up to 1,500 kg aerial bombs by transport helicopters (*i.e. Mi-8, NATO reporting name 'Hip'*), along with attack helicopters that are able to carry up to 500 kg of aerial bomb armament (*i.e. Mi-25, NATO reporting name Hind D*).<sup>27</sup> Second, chemical agents, such as sarin as suspected in many cases during the Syrian Civil War, can be weaponized through Soviet *ZAB* series incendiary munitions.<sup>28</sup> As a matter of fact, since the earlier periods of the Syrian turmoil, clear evidences (including video leaks) have shown that the regime has actively employed *ZAB* series of aerial bombs, as well as cluster munitions.<sup>29</sup> Third, given the Baathist dictatorship's strategic reliance on the Syrian Air Force to carry on military campaigns in areas that are distant from the capital, and given the overstretched situations of the regime's combat-effective praetorian units due to heavy buildups in Homs and around Damascus, it would definitely be reasonable to assume that the regime intended to halt the opposition progress in one of the most critical locations, Saraqeb, with the quick-fix solution of limited-amount of chemical agents.

The only yet to be fully assessed detail about the Saraqeb case is the "smell", which was reported by the witnesses following the violent attack, because Sarin is odorless. However, recently a defected Syrian chemical scientist shed light on the "smell issue" explaining that during the conflict the regime

<sup>25</sup> IHS Jane's, *Strategic Weapon System-Syria*, Jane's Sentinel Security Assessment - Eastern Mediterranean, August 2012.p 9.

<sup>26</sup> "Syria Crisis: 'Strong Evidence' of Chemical Attacks in Saraqeb", *BBC*, 16 May 2013, <http://www.bbc.co.uk/news/world-middle-east-22551892> Accessed on: 31 May 2013.

<sup>27</sup> For a comprehensive list of the Syrian inventory see: IISS, *Military Balance 2013*, Routledge, London, 2013.

<sup>28</sup> Anthony, Cordesman. *Syrian Weapons of Mass Destruction*, CSIS, Washington D.C. 2008. pp. 13 – 14.

<sup>29</sup> Human Rights Watch, "Syria: Incendiary Weapons Used in Populated Areas", 12 December 2012. <http://www.hrw.org/news/2012/12/12/syria-incendiary-weapons-used-populated-areas> Accessed on 31 May 2013.

mixed lethal chemical assets, such as sarin in our case, with military-grade tear gas “in order to create a mélange of symptoms that would make the cause hard to identify”.<sup>30</sup>

On the other hand, an important drawback for the aerial bombing option would be air defenses of the opposition elements. Especially MANPADS would make it very difficult for rotary-winged delivery of CWs. Furthermore, when it comes to deterrence factor against neighboring countries, Syria’s ballistic missiles would be much more menacing when compared to fixed and rotary-winged inventory.

In addition to ballistic missiles and aerial bombs, the Baathist regime can employ artillery rockets with chemical warheads in order to support operating ground forces at battlefield-tactical level. One example is Frog-7 rocket systems that can be deployed for striking targets within some 68 kms range via mobile launchers. The Soviet-manufactured system can deliver chemical warheads, as significant as 216 kg of VX to be precise.<sup>31</sup> In case the regime aims covering a large area with chemical concentration, as theoretically required in major CW operations, BM-21 Grad type artillery rockets would answer this need due to its intensive salvo capabilities against relatively large areas, but with limited range that would not exceed battlefield-tactical level. Therefore, although artillery rockets, especially BM-21 Grad, would answer the need for concentration, their limited range would be a problem for the regime. Moreover, in case Assad’s forces employ artillery rocket – CW warheads for supporting ground troops, the regime’s engaging elements need protective gears and specific training to operate in WMD contaminated areas.

Such an option might be used in case the opposition successfully isolates Damascus from Homs, Aleppo, and coastal areas; and initiates a final effort towards the capital either by a siege or assaulting via jump-off positions located at close suburbs of Damascus. In this case scenario, the Baathist regime may resort to battlefield-tactical level CW use in a final survival endeavor.

### **Understanding the Baathist Dictatorship’s Military Approach: Why CWs?**

In light of points that were elaborated hitherto, it would be important to comprehend the “military logic” of the regime in its survival-crackdown strategy, as well as CWs’ possible role in this campaign. As indicated, we have no clear *Strategic Weapons Doctrine* either published by the Baathist dictatorship or leaked by defectors. However, testimonials of some key defectors that were affiliated with the notorious WMD program of Syria, Gen. Adnan Sillu for instance, may give an idea about the regime’s intentions and capabilities.

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<sup>30</sup> “Insider Sheds Light on Syria’s Chemical Arms”, *Al Jazeera*, 23 May 2013.

<http://www.aljazeera.com/indepth/features/2013/05/2013523155639566436.html> Accessed on: 31 May 2013.

<sup>31</sup> Missile Threat, “R-65 (Frog-7)”, <http://missilethreat.com/missiles/r-65-frog-7/?country=syria#syria> Accessed on: 03 June 2013.



In ex-chemical chief Sillu's words, we understand that the regime has seen CWs as a "last resort" way out in case Assad's forces completely lose control over one of the major cities, Aleppo for instance.<sup>32</sup>

What Gen. Sillu describes above is a strategic or operational level use of CWs as retaliation means in case of a major blow for the regime. However, what current claims and alleged evidence suggest is a battlefield-tactical level employment of limited amount of chemical agents. Thus, we witness a shift in the regime's CW calculus from strategic to tactical levels.

When assessing the usage of Baathist military machine's arsenal, what we see is a characteristic escalation strategy by gradually relying on more significant and destructive assets. Clearly, the regime has initiated its violent crackdown in a limited fashion, and then stepped up through indiscriminate shelling via artillery assets, employing rotary-winged elements, using fixed-winged assets for heavy air-ground bombardment, launching ballistic missiles at urban areas; and finally, the allegations concerning limited use of chemical weapons have surfaced. Therefore, in order to understand the reason behind employing limited amount of CWs for securing tactical gains one should focus on this "carefully escalated military trend" conducted by the Baathist regime. In other words, if CWs were employed up until now, or are to be employed soon, it will happen through a meaningful sequence and a cunning military rationale of "intensifying fire-power and destructiveness" and "checking for prospects of foreign intervention" at the same time. Thus, unless Assad anticipates a high probability of foreign intervention, he would carry on intensifying his inventory's usage, and the remaining asset would be CWs. Moreover, CW inventory is also variable. As a matter of fact, we have not seen allegations from the opposition concerning VX use yet. Even this fact shows that Assad sees his CW arsenal in an "escalatory way", starting from military-grade tear gas & sarin combinations to the lethal VX.

### **Allegations for the use of BCW in the Syrian Civil War**

Both the regime and the opposition have been accused of using chemical weapons during the conflict. While the accusations come up on the international media from time to time, they gained a significant momentum after an attack in the province of Khan al-Assal in rural Aleppo on 19 March 2013, which killed at least 25 people and injured some 80<sup>33</sup>. From thereon, "chemical" attacks have been reported in numerous provinces throughout the country, including Aleppo, Homs, Saraqeb and Damascus; which supposedly involved the use of materials ranging from ricin, sarin, cyanide, chlorine,

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<sup>32</sup> "Syrian Regime will Deploy Chemical Weapons as Last Resort", *The Telegraph*, 19 September 2012, <http://www.telegraph.co.uk/news/worldnews/middleeast/syria/9552147/Syrian-regime-will-deploy-chemical-weapons-as-last-resort.html> Accessed on: 04 June 2013.

<sup>33</sup> RT (2013, March 20). "At least 25 dead in Syrian 'chemical' attack as govt and rebels trade blame". Retrieved on 29 May, 2013 from TV-Novosti: <http://rt.com/news/syria-rebels-chemical-aleppo-479/>

echothiophate, phosphorus, to others<sup>34</sup>. Numerous reports and images of “gas attacks” conducted by the use of grenades, gas canisters, artillery and rockets<sup>35</sup>, along with alleged victims, that appear to be vomiting, coughing, having respiratory problems and white foaming mouths have also surfaced in media outlets<sup>36</sup> and Youtube. So far, reports have mainly alleged that chemical weapons were used in small scale, for example, to disperse entrenched enemy fighters in areas of heavy fighting<sup>37</sup>.

Since the outset of the civil war the use of WMD has been defined as a game changer that would potentially trigger foreign intervention, so there is plenty of reason for the issue to be the target of disinformation and manipulation. After the March 19<sup>th</sup> attack in Khan al-Assal, both pro-Assad and anti-regime sides agreed to have an independent UN probe into the issue. Unfortunately, this opportunity to have an independent inquiry into the allegations has been squandered by differences related to the scope of the investigation, political disputes and some technical details<sup>38</sup>.

So far, some Western nations have claimed that they have proof of the use of chemical weapons in the war. For example, U.S. Secretary of Defense, Chuck Hagel, has declared on April 25<sup>th</sup> that there is evidence to suggest that small amounts of sarin have been used during the conflict. While he argued that there was information to suggest that the Assad regime was behind the attacks, he did not go far as to claim that they had irrefutable proof of Assad’s involvement<sup>39</sup>. Ankara has also repeatedly blamed the Baathist dictatorship for using chemical weapons, while Prime Minister Erdogan called for the establishment of a Turkish commission to investigate the claims<sup>40</sup> he has also argued that the Turkish intelligence has evidence of at least 200 remainders of missiles that were used in chemical attacks in the country<sup>41</sup>. Moreover the Turkish media has claimed that traces of ricin were detected on soil and tissue samples<sup>42</sup>. More recently, French reporters for Le Monde<sup>43</sup>, who claim to have witnessed

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<sup>34</sup> Larson, Adam (2013, May 2). “Was the Syria Chemical Weapons Probe “Torpedoed” by the West?”. Retrieved on 29 May, 2013 from Global Research: <http://www.globalresearch.ca/was-the-syria-chemical-weapons-probe-torpedoed-by-the-west/5333671>

<sup>35</sup> Brown Moses Blog (2013, May 17). “Was The Attack In Saraqeb Chemical Weapons, Or Something Else?”. Retrieved on 29 May, 2013 from Brown Moses Blog: <http://brown-moses.blogspot.co.uk/2013/05/was-attack-in-saraqeb-chemical-weapons.html>

<sup>36</sup> BBC (2013, May 16). “Syrians describe effects of alleged gas attack”. Retrieved on 29 May, 2013 from BBC News: <http://www.bbc.co.uk/news/world-middle-east-22559421>

<sup>37</sup> Rémy, Jean-Philippe (2013, May 28) “Chemical warfare in Syria”. Retrieved on 30 May, 2013 from Le Monde: [http://www.lemonde.fr/proche-orient/article/2013/05/27/chemical-war-in-syria\\_3417708\\_3218.html](http://www.lemonde.fr/proche-orient/article/2013/05/27/chemical-war-in-syria_3417708_3218.html)

<sup>38</sup> Larson, Adam (2013, May 2). “Was the Syria Chemical Weapons Probe “Torpedoed” by the West?”. Retrieved on 29 May, 2013 from Global Research: <http://www.globalresearch.ca/was-the-syria-chemical-weapons-probe-torpedoed-by-the-west/5333671>

<sup>39</sup> CNN (2013, April 26). “U.S.: Intelligence points to small-scale use of sarin in Syria”. Retrieved on 29 May, 2013 from CNN: <http://edition.cnn.com/2013/04/25/world/meast/syria-civil-war>

<sup>40</sup> Hürriyet (2013, May 6). “Erdoğan’ dan Suriye talimatı”. Retrieved on 29 May, 2013 from Hürriyet: <http://www.hurriyet.com.tr/gundem/23214953.asp>

<sup>41</sup> Hürriyet (2013, May 10). “Esad halkına karşı kimyasal silah kullandı”. Retrieved on May 29, 2013 from Hürriyet: <http://www.hurriyet.com.tr/planet/23244990.asp>

<sup>42</sup> Star (2013, May 9). “Adli Tıp, Esad’ in kimyasal silah kullandığını kanıtladı”. Retrieved on May 29, 2013 from Star: <http://haber.stargazete.com/dunya/adli-tip-esadin-kimsayal-silah-kullandigini-kanitladi/haber-752428>

<sup>43</sup> Rémy, Jean-Philippe (2013, May 28) “Chemical warfare in Syria”. Retrieved on 30 May, 2013 from Le Monde: [http://www.lemonde.fr/proche-orient/article/2013/05/27/chemical-war-in-syria\\_3417708\\_3218.html](http://www.lemonde.fr/proche-orient/article/2013/05/27/chemical-war-in-syria_3417708_3218.html)

numerous chemical attacks, have released an article with a detailed account of events in Syria. Reportedly, samples smuggled out by the reporters are currently being analyzed in France<sup>44</sup>.

On the other hand, other news agencies, including some Russian ones<sup>45</sup>, have reported that the rebels have used chemical weapons against the regime forces. Yet more importantly was when a senior UN official, Carla Del Ponte, argued that there was “strong, concrete suspicions but not yet incontrovertible proof”<sup>46</sup> that the rebels have used sarin. Moreover, Turkish media reported on May 27<sup>th</sup> that six al-Nusra (an affiliate of al-Qaeda) affiliated terrorists who were allegedly in possession of two liters of sarin gas were caught in Adana, Turkey<sup>47</sup>.

There are also experts who argue that the video and images provided so far as evidences of chemical attacks can hardly be considered as proof. Without going into much detail, it can be said that these analysts argue that in the alleged attacks<sup>48</sup>; the suggested dispersion methods are either unsuitable for dispersing the chemical agent in question or are too inefficient to provide any strategic value of using a chemical round instead of a regular one; the alleged victims do not display signs of suffering from ricin, sarin, chlorine or other attacks – some suggest that the symptoms are more like a strong variant of tear gas; in some videos, the events look like they were staged since there is a lack of general panic, lack of cautionary measures when handling the “chemical rounds”, so on and so forth.

In short, as far as open source information goes at the time of writing, what we currently experience is information pollution and exchanged accusations, instead of seeing an international consensus on chemical attacks conducted in Syria by any of the involved parties. While some states claim to have evidence of chemical attacks, they have refrained from sharing this information with the public so far – perhaps in part because of the precedent of the 2003 Iraq War and the use of WMDs as its justification. At the time of writing, the latest development was a UN Human Rights investigation team headed by Paulo Pinheiro, which argued that “there are reasonable grounds to believe that limited quantities of toxic chemicals were used. It has not been possible, on the evidence available, to determine the precise chemical agents used, their delivery systems or the perpetrator.”<sup>49</sup> Whereas most

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<sup>44</sup> Reuters (2013, May 27). “France analyzing samples of suspected Syrian chemical weapon elements”. Retrieved on 30 May, 2013 from Reuters: <http://www.reuters.com/article/2013/05/28/us-syria-crisis-chemicals-france-idUSBRE94R00U20130528>

<sup>45</sup> The Voice of Russia (2013, May 24). “Russian journalists have proof Syrian insurgents used chemical weapons”. Retrieved on 30 May 2013 from The Voice of Russia: [http://english.ruvr.ru/news/2013\\_05\\_24/Russian-journalists-have-proof-Syrian-insurgents-used-chemical-weapons-089/](http://english.ruvr.ru/news/2013_05_24/Russian-journalists-have-proof-Syrian-insurgents-used-chemical-weapons-089/)

<sup>46</sup> BBC (2013, May 6). “UN's Del Ponte says evidence Syria rebels 'used sarin'”. Retrieved on 30 May 2013 from BBC: <http://www.bbc.co.uk/news/world-middle-east-22424188>

<sup>47</sup> Milliyet (2013, May 31). “Rusya ayrıntılı bilgi istiyor”. Retrieved on 31 May 2013 from Milliyet: <http://dunya.milliyet.com.tr/rusya-ayrintili-bilgi-istiyor/dunya/detay/1716752/default.htm>

<sup>48</sup> Brown Moses Blog (2013, May 21). “Three Chemical Weapon Specialist Answer Questions About Chemical Weapons In Syria”. Retrieved on 30 May 2013 from the Brown Moses Blog: <http://brown-moses.blogspot.co.uk/2013/05/three-chemical-weapon-specialist-answer.html>

<sup>49</sup> Hurriyet Daily News (2013, June 4) “UN rights team believes chemical weapons used in Syria”. Retrieved on June 5 2013 from Hurriyet Daily News: <http://www.hurriyetaidailynews.com/un-rights-team-believes-chemical-weapons-used-in-syria.aspx?pageID=238&nid=48167>

of the charges in the report are targeted against the regime's forces, they also underline that rebels have the potential to access and use chemical weapons too<sup>50</sup>.

### **The Chemical “Red-line”**

How the international community will react to the potential use of chemical weapons in Syria is another major aspect of the issue. President Obama drew a clear red line regarding the use of chemical weapons in December 2012, declaring that this will most certainly trigger US response<sup>51</sup>. Yet US policymakers have refrained from stating that this response would consist of a military intervention, as Washington has been wary of an intervention since the beginning of the conflict, and continue to display a rather lukewarm attitude to the issue even though Western intelligence agencies claim to have mounting evidence to suggest that chemical weapons were indeed used. The matter of public support is another side of the issue; according to three separate public surveys conducted in late-April and May by Reuters<sup>52</sup>, Fox News<sup>53</sup> and The New York Times<sup>54</sup>, more than 60 percent of the Americans were against a military intervention in Syria. It is unclear whether the public opinion will shift even if irrefutable evidence of the use of WMD in Syria surfaces – in addition to the notorious precedent of the 2003 Iraq War (and WMDs for its justification of course), both the public and officials may be unwilling to stir the hornet's nest in the midst of resurging fears of terror after the attacks at the Boston Marathon.

The European Union appears to be divided on the issue. While some countries, such as the UK and France, have been more vocal about being more involved in the civil war – as can be seen in their push for the lifting of the EU arms embargo<sup>55</sup> – others, such as Austria and Germany, are very much against getting involved, at least militarily. This trend is likely to be reflected in the discussions regarding the use of chemical weapons in the Syrian conflict and how to respond it. On another note, it seems that military involvement in Syria will have political costs for even the strongest supporters. For example, a recent poll in Britain has shown that only 24 percent of the British public is in favor of supplying

<sup>50</sup> CNNTURK (2013, June 4) “BM'den “Suriye'de kimyasal silah” raporu”. Retrieved on June 5 2013 from

CNNTURK: <http://www.cnntrk.com/2013/dunya/06/04/bmden.suriyede.kimyasa.lilak.raporu/710657.0/index.html>

<sup>51</sup> The New York Times (2012, December 3). “U.S. Warns Syria on Chemical Weapons”. Retrieved on 31 May, 2013 from the NYTimes: <http://www.nytimes.com/2012/12/04/world/middleeast/nato-prepares-missile-defenses-for-turkey.html>

<sup>52</sup> CNNTURK (2013, May 2) “ABD halkı, Suriye müdahalesine karşı”. Retrieved on 31 May, 2013 from CNNTURK:

<http://www.cnntrk.com/2013/dunya/05/02/abd.halki.suriye.mudahalesine.karsi/706439.0/index.html>

<sup>53</sup> Fox News (2013, May 22) “Fox News Poll: Voters say US should not intervene in Syria”. Retrieved on 31 May 2013 from Fox News: <http://www.foxnews.com/politics/2013/05/22/fox-news-poll-voters-say-us-should-not-intervene-in-syria/#ixzz2UrE0L0QN>

<sup>54</sup> The New York Times (2013, April 30) “Poll Shows Isolationist Streak in Americans”. Retrieved on 31 May, 2013 from The NYTimes: <http://www.nytimes.com/2013/05/01/world/american-public-opposes-action-in-syria-and-north-korea.html>

<sup>55</sup> The Guardian (2013, May 28) “UK forces EU to lift embargo on Syria rebel arms”. Retrieved on 4 June, 2013 from The Guardian: <http://www.guardian.co.uk/world/2013/may/28/uk-forced-eu-embargo-syria-rebel-arms>

arms to the rebels, whereas 78 percent has argued that Britain is too overstretched due to its involvement in Afghanistan and formerly Iraq, and should not intervene in Syria<sup>56</sup>.

Ankara has been one of the biggest supporters of a military intervention against the Assad dictatorship, even before the chemical issue was in the picture. In fact, before his Washington visit, Prime Minister Erdoğan argued that the Syrian regime has used chemical weapons numerous times and, when asked whether Turkey would support a U.S.-led no-fly zone in Syria, declared: “Right from the beginning...we would say 'yes’.”<sup>57</sup> Yet one thing must be clarified. Notwithstanding its stance of being very vocal about a military intervention, Ankara does not want to assume full and unilateral responsibility for a potential intervention itself – though it is very likely that Turkey will participate in a coalition of the willing intervention against the Baathist dictatorship by actively commissioning its armed forces. Gulf countries, including Saudi Arabia and Qatar who have been heavily involved in supplying rebels, will likely adopt a similar stance and partake, at least partially, in a potential intervention – the Qatari emir has already called for an intervention back in September 2012<sup>58</sup>.

If indeed a Western intervention occurs, it will be vital to watch Iran’s reaction. Iran has made numerous remarks supporting its ally in Damascus and urging against any foreign intervention in Syria. In fact, according to the state owned Iranian Press TV, Iranian Deputy Foreign Minister, Hossein Amir-Abdollahian, warned on May 29<sup>th</sup> that the country will make use of its experiences in the region to prevent the overthrow of the regime in Syria<sup>59</sup>. The Islamic Republic possesses many asymmetric assets - one of the most important of which is Hezbollah - which it can employ against NATO, Israel and other US allies. Iran and Hezbollah also have a strong presence in the Syrian battleground, and judging from its previous conduct, it is very unlikely that Iran will simply disband its militias in the country if an intervention occurs. It is much more likely that these militias, even if they avoid coming to direct contact with Western forces, will utilize disruptive attacks, such as well targeted terror attacks and/or work to create safe havens (such as an Alawite-enclave) for the groups that it supports. Another strong possibility is that while Iran will escalate the rhetoric against a Western military intervention and possibly make some threats along the way, it will remain in the sidelines until the “coast is clear” – that is to say, Iran will wait out the intervention until the intervening side is exhausted or has withdrawn at least some of its forces, and will only then move in to carve out pockets of influence inside the country.

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<sup>56</sup> The Guardian (2013, June 1) “Just a quarter of Britons back Hague on arming rebels in Syria” Retrieved on 5 June 2013 from The Guardian: <http://www.guardian.co.uk/world/2013/jun/01/syria-hague-arms-intervention-military>

<sup>57</sup> Hurriyet Daily News (2013, May 9) “Obama's 'red line' on Syria crossed long ago: Turkish PM Erdoğan”. Retrieved on 4 June 2013, from Hurriyet Daily News: <http://www.hurriyetdailynews.com/turkey-may-consider-us-led-action-in-syria-pm-erdogan.aspx?pageID=517&nID=46604&NewsCatID=359>

<sup>58</sup> Al Jazeera (2012, September 26) “Qatari emir: Arabs must intervene in Syria”. Retrieved on 4 June 2013, from Al Jazeera: <http://www.aljazeera.com/news/americas/2012/09/201292645421649378.html>

<sup>59</sup> Press TV (2013, May 30). “Iran will not allow overthrow of Syrian government: Iran deputy FM” Retrieved on June 4 2013 from Press TV: <http://www.presstv.ir/detail/2013/05/30/306272/iran-wont-allow-syria-govt-collapse/>

Both as a strong ally of the Assad regime and as a permanent member of the UN Security Council, Russia is another vital piece of the puzzle. The Russian government has continued to support the Assad regime politically, financially and militarily throughout the civil war. In fact, Russia has supplied and, as with the case of S-300 surface to air(SAM) missile debates, will probably continue to supply the Assad regime with critical SAM and anti-ship coastal defense assets that would be crucial to defend against a foreign intervention thanks to reinforced anti-access & area-denial capabilities. Moreover, news that Russia is to sell at least 10 Mig-29 fighter jets to Syria surfaced early June<sup>60</sup>; these are assets that would considerably strengthen the Assad regime's hand in a potential contest for air superiority and its capability to resist against potential *Suppression and Enemy Air Defenses* (SEAD) operations which would be the initial phase of any foreign intervention endeavors. Moscow has also denounced reports pointing towards the use of chemical weapons by Assad forces<sup>61</sup> and has continued to shield the regime diplomatically at the UN Security Council. Therefore even if it is indisputably proved that Assad has used chemical weapons against his people, it is unlikely that Russia will reverse its stance and allow for any Western involvement in the civil war.

In sum, the alleged use of chemical weapons in the Syrian conflict is highly politicized and opposing camps are trying to use the issue as a way to justify their current and prospective stances regarding the Syrian civil war. At the time of writing, there were no conclusive and indisputable evidences of use of CW by either the Baathist dictatorship's forces or the rebels. Moreover, even the states which are strongly against the Assad rule have many domestic and international challenges to overcome even if they decide to seek further military involvement in the conflict. The ongoing trend of arming different sides in the Syrian civil war (which resembles a proxy arms race) will likely increase if the use of chemical weapons are indeed proven, and may help prolong violence instead of preventing it.

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<sup>60</sup> The Moscow Times (2013, June 3). "Russia to Sell at Least 10 MiG Fighters to Syria". Retrieved on June 5 2013 from The Moscow Times: <http://www.themoscowtimes.com/news/article/russia-to-sell-at-least-10-mig-fighters-to-syria/480900.html>

<sup>61</sup> The Voice of Russia (2013, June 5). "Syrian chemical weapons claims doubtful – Gatilov" Retrieved on June 5 2013 from the Voice of Russia: [http://english.ruvr.ru/news/2013\\_06\\_05/Syrian-chemical-weapons-claims-doubtful-Gatilov-4196/](http://english.ruvr.ru/news/2013_06_05/Syrian-chemical-weapons-claims-doubtful-Gatilov-4196/)