

SWP Comment

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Beyond Obama's Red Lines: The Syrian Arab Army and Chemical Warfare

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The Syrian Arab Army's chemical warfare capacity has been a game-changer throughout the civil war. Unlike intelligence estimates, Bashar al-Assad's military planners considered these deadly weapons to be tactical arms for battlefield use, rather than last-resort strategic assets. During the reconstruction period, the West should pursue a comprehensive approach to address issues concerning Syria's weapons of mass destruction.

Recent studies have specified 336 chemical strikes in Syria to date over the course of the civil war. Estimates suggest that Assad's forces are responsible for 98 percent of these attacks. Notably, around 90 percent of the use of chemical weapons (CW) took place after the "red lines" were drawn by Barack Obama's administration back in 2012.

Prior to the civil war, experts had little information about the Syrian Arab Army's (SAA) chemical warfare doctrine. Intelligence reports from the Cold War era showed that only a small number of well-trusted personnel in the infamous strategic weapons proliferation hub CERS (Centre d'Etudes et de Recherches Scientifiques) took part in the Baath regime's shady efforts. Late President Hafez al-Assad exercised full control over the CW arsenal. Declassified CIA assessments predicted that the Scud ballistic missile variants were the primary delivery means.

Of the three characteristics of Syria's CW program — the president's centralized grip on the arsenal, the involvement of a limited number of personnel, and the principality of ballistic missiles as a means of delivery — only the latter has seemed to change throughout the civil war. Open-source intelligence suggests that the regime has primarily used barrel bombs in CW delivery for certain reasons. Chlorine — a commercially use chemical — was not included in the disarmament deal. It blurred the red lines and, unlike nerve agents, has not generated harsh international response. Thanks to help from Russia and Iran, the regime has managed to keep its rotary-wing platforms operational, despite heavy attrition. Besides, barrel bombs require few, if any, technical skills in order to be dropped from choppers. In brief, although the Syrian military has suffered from considerable manpower losses, it has managed to keep its helicopters flying and its chlorine/



barrel bomb production lines active. Nevertheless, in some critical cases, such as Ghouta, Saraqeb, and Khan Sheikhun, non-persistent nerve agents were the CW of choice to deliver devastating results. Notably, having analyzed environmental samples collected from the impact points following the April 2017 Khan Sheikhun attacks, French intelligence not only found the undeniable presence of sarin, but also hexamine, which is the signature stabilizer substance of the Syrian CW program used in the synthesis of sarin.

The Dark Art of Chemical Warfare

Chemical warfare aims at compensating for conventional shortfalls. A belligerent could deploy these dreadful weapons within a number of concepts of operations (CONOPS), such as leading an offensive blitz by delivering rapid shock-and-awe impact, displacing civilians or depopulating a settlement, or denying an area to the adversary. Chemical weapons are effective psychological warfare assets, too.

From a military standpoint, operational and tactical objectives determine the agent of choice. Persistency is a key parameter in this respect. For example, at 25°C, 1 cubic meter of air can hold approximately 22,000 mg of Sarin (a very deadly, non-persistent nerve agent), some 900 mg of sulfur mustard (a persistent blister agent), and 10 mg of VX (venomous agent X — a very persistent and very lethal nerve agent). Other critical factors are lethality and the rate of action. Environmental factors such as wind, temperature, and topography also affect the outcomes.

Whereas offensive planning would opt for the deployment of non-persistent agents with high rate of action, defensive planning would focus on persistent agents for denying terrain, disrupting enemy lines of communication, and slowing the adversary's operational tempo. Sarin variants, for example, would make ideal agents for staging aggressive assaults thanks to their strong neurotoxic effects, easy respiratory absorp-

tion when dispersed as aerosol, as well as their low persistency, which causes short-term, primary contamination, thereby allowing incursions by follow-on forces. The very persistent nerve agent VX and the persistent blister agent sulfur mustard would be more suitable for contaminating an area for a long period of time and denying it to the enemy. The latter has a relatively slow rate of action compared to nerve agents. It would take hours to observe blistering and edematous effects after exposure to sulfur mustard. However, since mustard lesions need months of medical care, the agent could significantly stress an adversary's operations by overstretching its military medicine capabilities. Alternatively, if the belligerent wants to keep a relatively low profile, it could use incapacitating choking agent derivatives of chlorine, as widely observed in Syria.

Thinking Like an SAA General

The military rationale behind the Baath regime's CW use roots back to a major degradation of the SAA's manpower at the outset of the conflict. Although the regime sent detachments from its elite units (such as the Republican Guard) to bulky conventional formations for keeping the discipline, the army lost nearly half of its personnel. Whereas the SAA had some 325,000 troops in 2011, the number fell below 180,000 in 2013. This was a major blow.

Even before the civil war, Syria had a very corrupted conscription and mobilization system that adversely affected regular units when the unrest broke out. The regime's efforts to call up the reservists (male Syrians in their 20s and 30s who completed their conscription service) backfired and triggered even more desertions.

However, interestingly, we have not witnessed a total collapse of the SAA. To grasp the unexpected resiliency of the Syrian military, one should have a closer look at the political-military legacy of Hafez al-Assad, and how Bashar capitalized on it. The Syrian defense apparatus has long

manifested the pronounced sectarian characteristics of the regime. The SAA's elite units (such as the 4th Armored Division, Air Force Intelligence, and the Republican Guard), which benefit from favoritism, are predominantly manned by the Alawites, a sect from which the ruling clans of Syria — most notably the Assads and the Makhloufs — hail. Hafez al-Assad had maintained the Alawite officer corps' loyalty through a complex socio-economic structure. Damascus' social fabric was redesigned by Hafez al-Assad based on regime security needs. The military housing system remains the most visible example in this respect. Hafez al-Assad initiated large-scale inhabitation projects for the Alawite-dominated "warrior class" and families in Damascus. Likewise, the praetorian units' headquarters were built along the gateways of the capital, ready to repel any attempt to overthrow the Baathist dictatorship. Sectarian policies for manning key military and security posts have linked nearly every Alawite tribe to the Syrian state apparatus in one way or another. This lucrative benefits system and social ascent of the Alawite community came at a price. The Assad clan has built a broad surveillance capacity resembling Moscow's firm oversight on the Red Army. The SAA's elite manpower has always been under strict scrutiny. Together, the above-mentioned factors have kept the regime's core warfighting capacity relatively intact, at the expense of attrition in large conventional formations due to Sunni desertions. Inevitably, Assad's military planners have adopted a "selective deployment" strategy, focusing on the key geopolitical axis across Damascus and Aleppo, and the Mediterranean coast. This military geostrategic approach was tantamount to defending around 20 percent of the country's territory with some 30,000 battle-hardened troops fighting alongside local pro-regime militia. In doing so, the SAA's generals considered the CW arsenal to be a tactical game-changer. Tellingly, the majority of chemical attacks took place along the Aleppo—Damascus axis, particularly in key choke points for depopulating opposition-held

areas, punishing the local populace, compensating for the lack of manpower, and terrorizing opponents.

Beyond the Red Lines

The history of intelligence analysis uncloaks many failures. The Japanese strike on Pearl Harbor, the Arab Spring, the Tet Offensive, the 1979 Iranian Revolution, and the 9/11 terrorist attacks would be the top mentions. Does the Syrian case mark yet another intelligence failure? Well, at the outset of the civil war, the Western strategic community fell short of anticipating the real meaning of CW for the Baath regime. Unlike most predictions, Assad's military planners have not considered their CW capacity to be a strategic asset of last resort, but a tactical means to compensate for conventional shortcomings. The Obama administration believed that drawing red lines — albeit without credible military coercion backing them — would deter Damascus and prevent chemical strikes. However, the regime was well aware of the fact that a Soviet Russia-style transition — in which the old security elite could keep their oligarchic positions in the new status quo — was not relevant for Syria at all. Any form of regime change would not only claim the positions of Syria's ruling clans, but probably the lives of Assad and his *nomenklatura*. Thus, the Syrian war machine was tasked to quell the uprising with all means necessary, including chemical warfare. Finally, the transparency of the regime's CW declarations to the Organisation for the Prohibition of Chemical Weapons was very problematic. All in all, the regime has carried on with chemical warfare well after the disarmament deal.

Maybe in an effort to undo the legacy of George W. Bush concerning the Iraq weapons of mass destruction case, the Obama administration and its followers badly needed *la belle époque* of disarmament and nonproliferation through diplomacy. In fact, as open-source intelligence writings suggest, the Syrian Baath regime's failure to report any

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VX in known operational sites should have served as a warning in the beginning. The impracticality of carrying out a chemical disarmament mission amidst a civil war being fiercely fought was another underestimated drawback.

Regarding CW, Syria was never totally disarmed, nor was Assad deterred by the “red lines.” Inevitably, the United States, the United Kingdom, and France had to conduct punitive military strikes. At the time of writing, the threat of CW was high in Idlib. Some sources have already reported chlorine use by the regime.

What the West Can Do?

Eliciting and attributing the use of CW in Syria go well beyond dealing with Middle Eastern affairs. A North Korean general in his well-decorated uniform revisiting preparations for military action along the demilitarized zone needs to know that he cannot get away with having any record of engaging in chemical warfare, given the fate of his Syrian counterparts. Failing to set a credible precedent in Syria could lead to an irreparable erosion in precious and hard-earned international norms. The West should use its political and economic leverage and pinpoint sanctions to weed out “chemical ringleaders” and perpetrators of crimes against humanity. In 2018, German authorities, for example, issued an arrest warrant against General Jamil Hassan, one of the strongest military figures in the Baath regime. As head of the Syrian Arab Air Force Intelligence Directorate, General Hassan commands the most critical security branch of the regime. Moreover, he came to prominence as the one and only Syrian general who shattered a taboo by criticizing Bashar al-Assad in a *Sputnik Arabic* interview. If Germany's efforts can prove that General Hassan is not untouchable, no other Syrian war criminal figure will be able to dream of a safe retirement.

Secondly, the Western policy community should map the regime's chemical warfare kill chain and publicly disclose the responsible personnel. Russia, which won the war at large but still badly needs a consensus for reconstructing Syria, has to understand that no war criminal general of the SAA can be pardoned or rehabilitated. Nor can they have a place in the country's defense apparatus in the future. In the absence of a viable and just security sector reform, no reconstruction fund should be initiated – apart from the humanitarian aid for the people of Syria through the United Nations and non-governmental agencies.

Thirdly, cutting the Baath regime's military ties with North Korea is essential to prevent the regime from fully restoring its offensive strategic weapons capacity. Preventing illegal shipments and the transfer of know-how remain critical.

Finally, the weapons of mass destruction programs of rogue nations generally depend on a narrow group of scientists and security elite. Putting Syria's CW circles under strict control should be a top priority for Western intelligence services – before, during, and after the reconstruction period.

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