

Islamic state and CBRNe, the new threat

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ABSTRACT

1 We are about to enter 2016 and one of the most dangerous terrorist organization ever seems to be more brutal and stronger than the past, as the recent attack in Paris showed. Islamic State now controls land greater, in size, than the United Kingdom, hundreds of millions of dollars and thousands of armed

troops. Latest events depict a terrorist organization seeking any possible way to spread terror and conquer the world in the name of the caliphate promised by Allah, as its statements says, and one of the possible way, already ongoing, is the usage of Weapons of Mass Destruction (WMDs). Daesh operates in countries

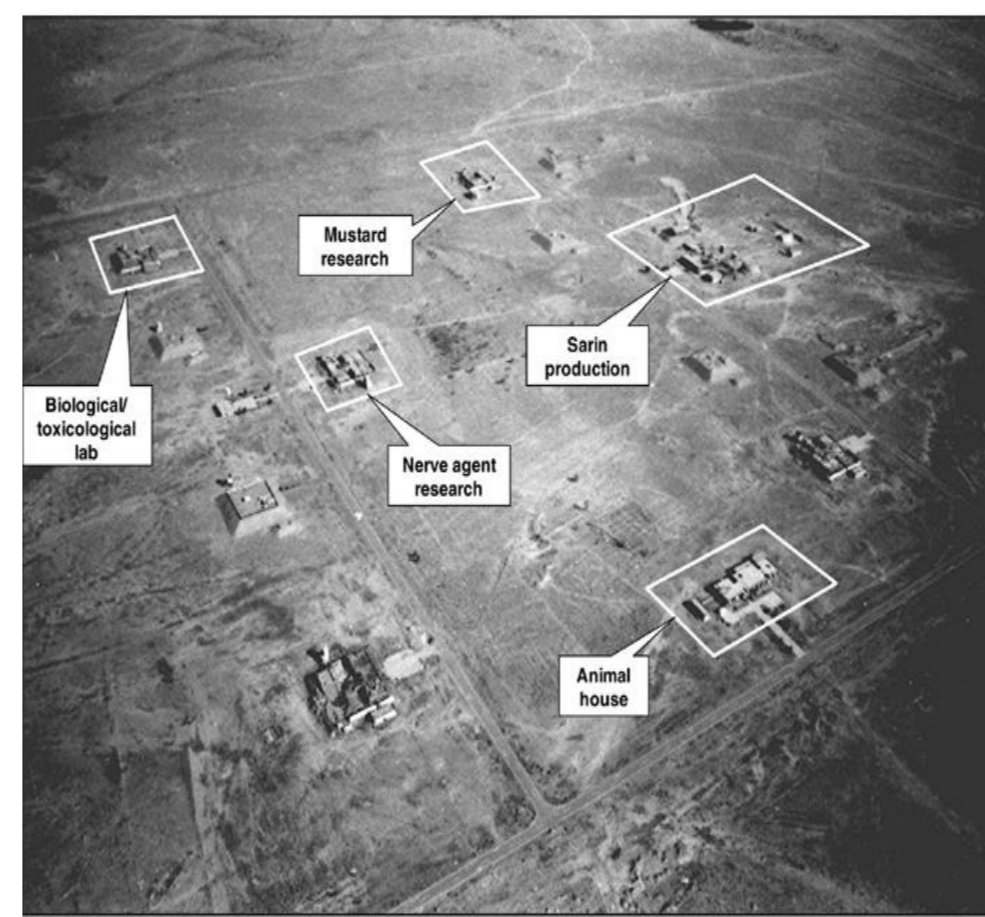
which produced, in the remote or recent past, WMDs, especially biological and chemical weapons. Reports told IS produced and seized material of different nature with the explicit intent to use it in terrorist attack. The aim hereby is to **assess the CBRNe threat** coming up from IS

through an analysis which consider not only if those materials have been really acquired, but if terrorists have the intention, financial capability, skill, know-how, equipment and specialized personnel who could transform a simple dangerous material in a Weapon of Mass Destruction.

2 Chemical threat: Iraq

Is seizes Hussein's Chemical Weapons Storage Facility

Muthanna complex, located 75 km north-west of Baghdad, was Iraq's CW production and storage site up to 1991 when it was severely damaged due to the bombing during Desert Storm. On June 11th 2014, a Daesh armed group took control of bunkers 13 and 41. Stating what declared by Iraqi government, those two bunkers contained a quantity of sarin filled munitions, nerve agents precursors (i.e. Sodium cyanide, potassium cyanide) vesicants precursor (i.e. arsenic trichloride) and waste decontaminated materiel.



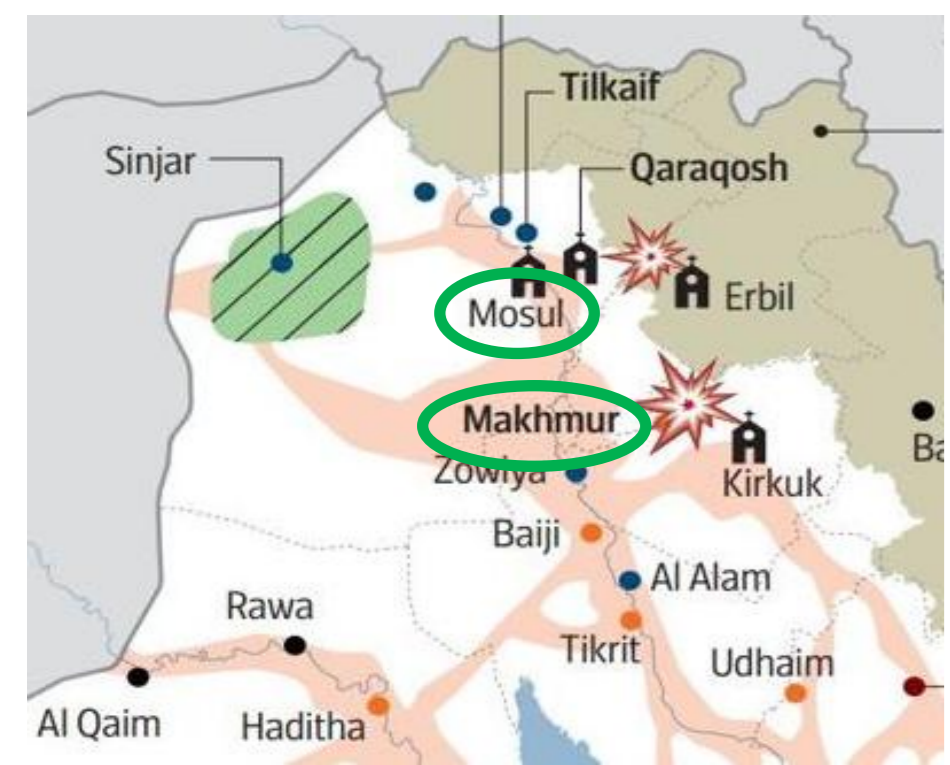
Al Muthanna complex

2014 – IS: alliance with a top military commander

Izzat Ibrahim al-Douri, top military commander and vice president to the deposed Saddam Hussein, head of the Naqshbani Army, a sunni coalition group in Mosul, met with IS leader **Abu Bakr al-Baghdadi** last year. Douri's alliance gave IS' Baghdadi access to a facility, probably in Mosul, that produced chemical agents under the direction of former Iraqi Military Industries **Brig. Gen. Adnan al-Dulaimi** (killed earlier this year). The use of chemical weapons by the Islamic State and other insurgent groups in the region is not unprecedented, but the manufacture of chemical weapons would represent a significant development in the group's capabilities.



Izzat Ibrahim al-Douri



Several alleged use of chlorine and vesicants

Several chlorine attacks have been reported **between 2014 and 2015** in many Iraqi regions: from Duluyah to Saqlawiya, from Baghdad to Mosul. Evidence of choking gas usage came from witnesses and doctors reporting the victims were affected by typical symptoms of asphyxiating agents like breathing difficulty, coughing and

vomiting. News speak about a quantity of chlorine seized from Iraqi major cities' water treatment plants and some kind of expert able to filling shells, bombs and explosive devices with it.

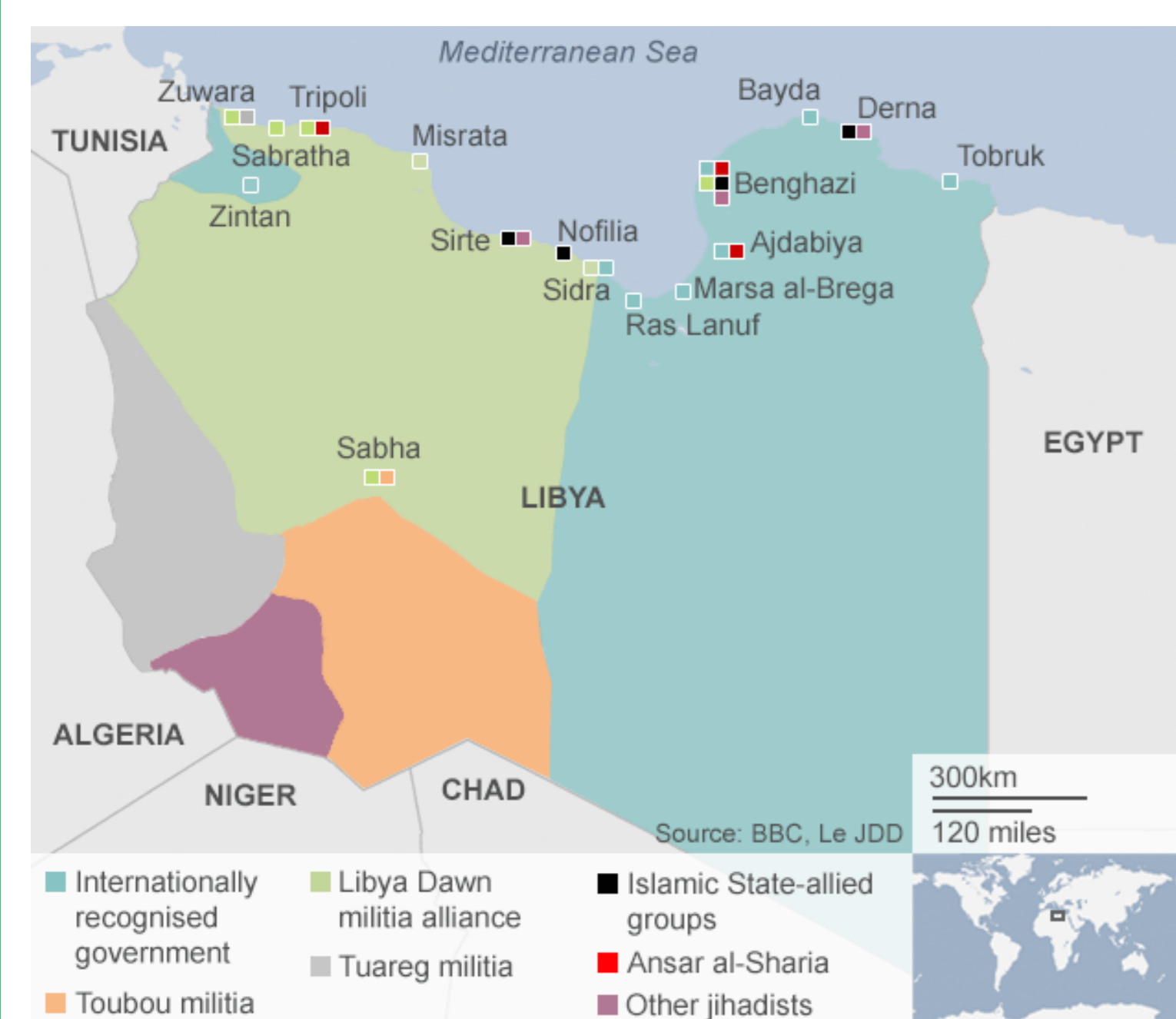
August 11th peshmerga forces, in the **Makhmur** area, 30 miles (50km) west of the city of Irbil, were attacked with Katyusha rockets filled with Mustard agent. About 80 German soldiers stationed in the Kurdistan Region to train the Peshmerga forces could confirm the attack. Following the Makhmur attack several other incidents have been reported in which chemical weapons may have been used (Anbar and Salah En Din). OPCW received mandate to investigate alleged used of vesicants during the August 11th attack. Investigations took place at the end of October and results are expected in very short time.



Kurd soldier after Makhmur attack

3 Chemical threat: Libya

- As of January 2004 Libya joined the Chemical Weapons Conventions declaring 25 tons of mustard agent, thousands of munitions designed to be filled with chemical agents, several facilities for the production of chemical agents.
- At the end of the civil war, October 2011, the new government declared thousands of munitions not previously declared by Moamer Gaddafi.
- As of February 2014 Libya announced the complete destruction of its stockpile of mustard agent included hundreds of bombs and artillery rounds filled with yperite dating back to the regime of Moamer Gaddafi.



But Libya is not a chemical free country yet. A lot of chemicals still remain into Libyan hands, something like 2.45 MT of polymerized HD agents (which, anyway, cannot be used to fulfill munitions), 350 MT of effluents produced during HD hydrolysis and 850 MT of chemical weapon precursors. OPCW stated that the destruction process will end by December 2016.

What could happen meanwhile if the terrorists take control of these stockings is quite easy to imagine.

By the end of February 2015, while IS was taking bunch of Libyan territory, many sources reported different news concerning this issue. Some of them told IS seized an unclear quantity of chemical weapons from arsenals located in the southern and central provinces of the country to use them against Libyan soldiers.

It is unclear if those lootings really happened, but it is sure that a lot of hazardous material are still stored with an unknown level of protection (maybe very low or absent) by Libyan national armed forces.

4 Chemical threat: Syria

2014 was an important year for warfare chemical agents in Syria due to the destruction of the entire stockpile which Assad declared. But, when destruction was complete, when all seemed to be ended, during the last months of 2014, Syria declared two more canister of sarin found in rebels-held areas, three more CWPFs and a ricin production site. At this point a question arise: **Joining the convention, did Assad made a reliable initial declaration to OPCW?** Of course some doubts still remains about the Initial Declaration's trustworthiness, making us believe that Syria could still stock unclear quantity of some sort of chemicals and an increasing threat like IS could easily take control of the possible CW still remaining stockpiles.

Adopting Resolution 2209 (2015), Security Council Condemns Use of Chlorine Gas as Weapon in Syria

From the moment Syria joined the convention and Assad's chemical stockpile was dismantled, by resolution 2118 (2013), warfare chemical agents were replaced by the most common chlorine. In the current conflict, the regime of Syrian President Bashar al-Assad has been repeatedly accused of using chlorine in bombs and the Syrian American Medical Society (SAMS), which runs medical facilities in the country, documented 31 attacks using chlorine dropped from helicopters over a three-month period this year. And ISIS, allegedly, is being using devices filled with chlorine against Kurdish forces and civilians as well, such as the shelling attack of a village in northeastern Syria occurred during the June 28, according to the Syrian Observatory for Human Rights.



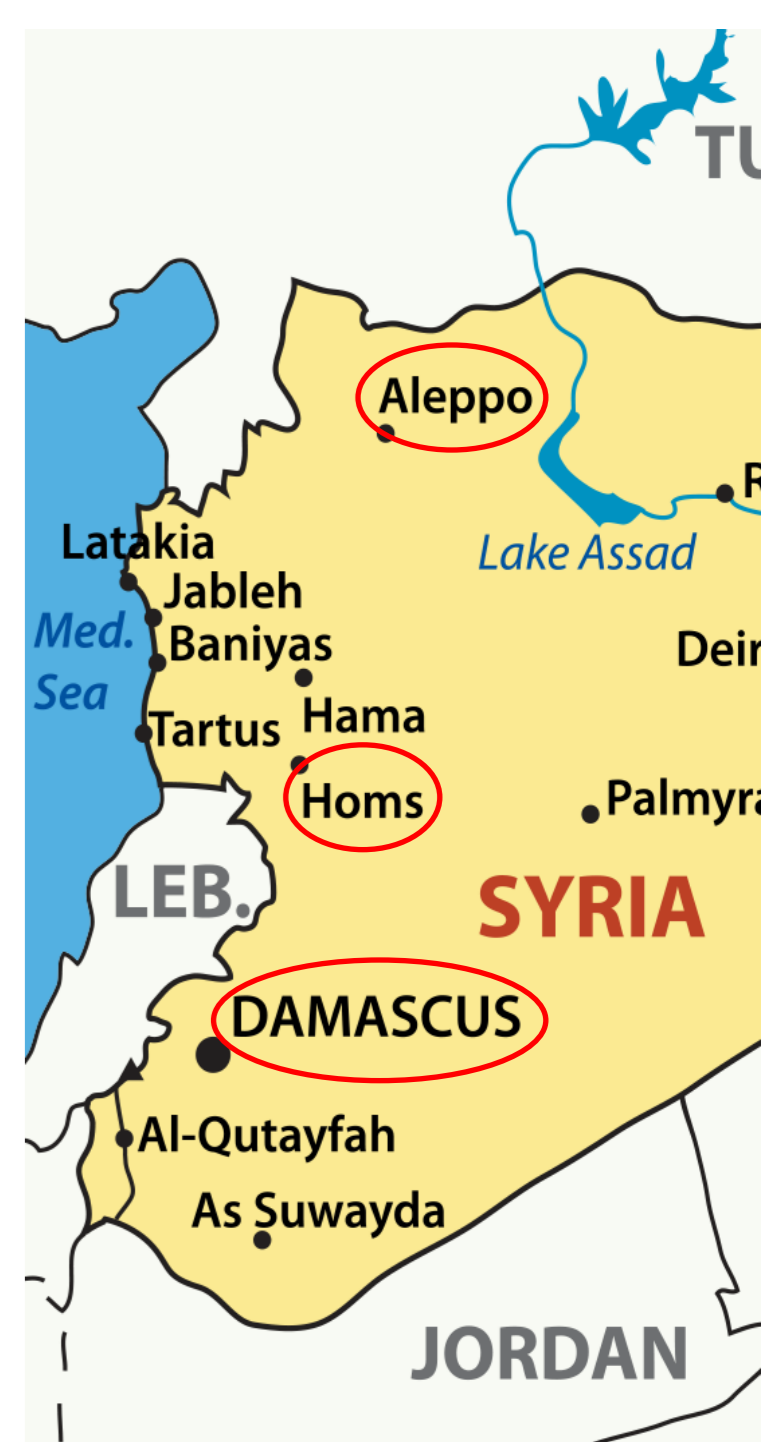
chlorine filled bomb explosion



Chlorine gas container - Syria

5 Biological threat

Biological threat related to Daesh is strictly connected to the Syrian production capabilities. Syrian Biological program has been mainly developed on the Scientific Studies and Research centre (SSRC) in Damascus, with government laboratories in destroyed cities of Aleppo and Homs. An Henry Jackson Society report, on October 2013, cites a witness as claiming to have seen a looted pharmaceutical laboratory, near Aleppo, which probably was a biological warfare production site. On 2013, jihadists were reported to take control of Assad's biological stockpile and, furthermore, many sources gave evidence that jihadists were in possession of Syrian *weaponized* toxic agents and pathogens. Another reason to prove the terrorists' interest in exploiting the Syrian bio potential was the presence of the Malaysian jihadist Yazid Sufaat, a biological weapon expert, attempting to enter Syria on February 2013.



6 Radiological threat

The Iraqi U.N. Ambassador Mohamed Ali Alhakim told U.N. Secretary-General Ban Ki-moon, in a July 8th 2014 letter, that IS seized the city of Mosul, also acquiring some 40 kilograms of uranium compounds, officially used for research purpose, from the local university.



IAEA official spokesman said it is 40 kilograms of low grade compounds of natural or depleted uranium, normally very less useful for terrorists trying to build a dirty bomb, thus not posing a significant security risk. All of the highly enriched uranium (HEU) that once existed in Iraq was removed after the 1991 war and Iraq's most dangerous radiological were largely removed in a cooperative effort after the 2003 war. But, what's new on the scene is what happened on December 1st 2014, when IS claimed on twitter they acquired a dirty bomb using the material stolen from the Mosul university in order to use it against London.

Threat assessment

B Gaining possession of Syrian stockpile of biological weapons would give an important and strategic advantage to IS terrorists but their possible usage of bio agents is unlikely because of two main reasons. The first one concerns the difficulty to control the spread of bioweapons. And the second one is the ability to disperse bio agents, notably a very problematic issue that, at this stage, terrorists didn't solve. Because of this, even if Daesh is in possess of biological warfare agents, as the evidence suggests, their **usage is very negligible and debatable**.

R Daesh seized low grade uranium probably to make a radiological dispersal device (RDD) to contaminate hundreds of people. But a detonation would destroy most of the uranium used to fill the bomb, therefore the few remaining radioactive material would cause very poor health effects also because it is just low grade (not enriched or weaponized) uranium. Moreover, the bomb's blast would be more effective and dangerous than any radiation released causing more disruption than destruction. For all these reasons the **radiological threat is possible**

C CWA seizures and small production laboratory: these are the two main items concerning Daesh and chemicals. The escalation of attacks (from conventional weapons to chlorine and now mustard agents) indicate a change of Daesh strategy which now incorporates chemical warfare agents and IEDs. Recent events demonstrate they really have this kind of weapon but it's still unclear where they found them. Reports can confirm that Daesh looted quantity of chlorine from different water treatment plants in the major

Iraqi cities, but what about the mustard agent used in Makhmur? Basically the possibilities are:

- As old CW in Iraq (probable)
- As old CW in Syria (less probable)
- As old CW in Lybia (less probable)
- As the product of a small Chemical Production Facility in Iraq (probable)

Based on what really happened and what was previously discussed, within the Daesh area of Operation, the assessment for **chemical threat is highly probable**.

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IW CBRNe 2015