

Use of Chemical and Biological Weapons by Daesh/ISIS

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Summary

Chemical and Biological weapons remain a subversive threat to civilizational stability. Biological weapons in particular are a tremendous cause for concern given the difficulty in predicting/preparing for an attack and the complexities of post-attack rehabilitation. Furthermore, the problems of attrition and lack of culpability make it an even more tempting form of warfare for Non State Actors and Extremists. It is important therefore, to examine the current climate of extremism and the potential threat posed by the usage of Chemical and Biological weapons. Having gained access to Iraqi chemical weapon stockpiles, the Islamic State has already engaged in Chemical warfare. This paper attempts to conjecture the possibility of their move towards Biological warfare and the aids/deterrents that could facilitate or block such a transition.

The recent years have been witness to the rise of religious extremism, radicalization and increased conflict from Non State Actors. The tactics of anarchism and the spread of extremist hate and fear by these NSAs have intensified and the methods of propagandistic proliferation and fear mongering have also evolved as a consequence. Groups like the ISIS have capitalized on recent technological advancements to spread their base and reach out to a wider audience. Aside from ideological and symbolic proliferation vis-à-vis social media, the increased economic and logistical support provided to these groups has raised serious concerns regarding their ability to access and use Chemical, Biological, Radiological and Nuclear (CBRN) material for malicious purposes. This article attempts to examine the 'reality' of a biological weapons threat from ISIS and the transactional modalities involved therein.

The Islamic state of Iraq and Syria¹ (ISIS/ISIL/Daesh) is a Salafist, Jihadist militant group that follows a fundamentalist Wahhabi strain of Sunni Islam. Aside from the proliferation of its extremist ideological footprint, the group's primary aim is the establishment of an 'Islamist Caliphate'. The group has been declared a terrorist organization by the United Nations and several other countries worldwide, but there are several ways in which the groups religious ideology differs from its counterparts such as the Al Qaeda. "IS grew out of what was Al Qaeda in Iraq, which was formed by Sunni militants after the US-led invasion in 2003 and became a major force in the country's sectarian insurgency. In 2011, the group joined the rebellion against President Bashar al-Assad in Syria, where it found a safe haven and easy access to weapons²." One of the key differences

between IS and Al Qaeda is the former's "emphasis on eschatology and apocalypticism³." The group disregards interpretation and calls for a return to what it considers is 'pure Islam' which necessitates the founding of a Caliphate following Salafist doctrines through extremist means. Since its emergence, IS has gone on to become a global threat and its extremist philosophy has proliferated into countries like Pakistan, Afghanistan, etc.

One of IS's key strengths has been the use of non conventional methods of warfare for ideological proliferation. They have a tremendous social media presence, and tend to utilize the potential of Cyber anonymity for efficient ideological proliferation, radicalization and mobilization. Aside from their (now well known twitter presence) they use several encrypted technologies such as Telegram, etc. for the proliferation of their message and they also have a magazine 'Dabiq' that is used to further spread their propaganda. Aside from their Cyber presence and their use of conventional weapons and asymmetric warfare - car bombs and suicide bombers - IS has also made use of chemical weapons in Iraq and Syria. It is further suspected that the group is also engaged in research surrounding Biological and Nuclear weapons as well. One of the key reasons for turning towards Chemical Biological, Radiological and Nuclear (CBRN) weapons is due to "their capacity to cause significant disruption across sectors, as well as considerable revenue loss for governments. In particular, cleaning up after a CBRN incident could require that people, buildings, infrastructure and the environment undergo a cost intensive and lengthy decontamination process.⁴" The amorphous nature of the threat posed by CBRN weapons, usually means that States are ill equipped to place sufficient preventive measures against the same. This makes them an extremely cost effective as well as

strategically potent method of attack. While there are several treaties in place regarding the use/possession of Chemical and Nuclear substances, there are still loopholes that Non State Actors have exploited in the past to gain access to sensitive CBRN material. While the Chemical Weapons Convention (CWC) has incorporated a clause that "prohibits the weaponisation of all chemicals⁵". The Biological Weapons Convention (BWC) has a similar clause regarding the "prohibition on the weaponisation of biological pathogens and agents⁶", yet the dual use nature of research surrounding Chemical and Biological raw material makes them a constant vulnerability. Furthermore, the inability to limit the access to such materials due to their dual use nature becomes a constant vulnerability given the proliferation opportunities that emerge thereof. "The BWC does not have a verification mechanism for monitoring global sources of dangerous pathogens, but focuses its efforts instead on voluntary confidence-building measures⁷."

Historically speaking there have been uses of biological and chemical weapons by Non State Actors and Terrorists. While IS has used Chemical weapons and Mustard Gas in Syria and Iraq, the most well known biological attack that was carried out successfully was the "nerve gas attack in the Tokyo underground carried out by the apocalyptic Aum Shinrikyo sect in March 1995, which led to over 1000 casualties and 12 fatalities⁸." Biological Weapons are "deadly pathogens - bacteria, microorganisms or viruses - or toxins which can be deliberately released in order to inflict harm⁹." There are several methods of releasing the pathogens into public spaces and these organisms can be 'weaponized' and spread through inhalation, contact, absorption, medium transference¹⁰, etc. Given the current globalized world order, the transference of the threat and the domain it could possibly affect also increases

tremendously as a result. The use of Bioweapons and the effects thereof thus becomes a transnational threat and the dynamics of such an attack need to be examined. The primary vulnerabilities that could lead to pathogen proliferation would be the dual use nature of the source material conjoined with an 'insider threat'. Furthermore, the dual use threat is not limited to high end scientific research but also easy accessibility to potent chemicals through everyday objects. For example "When procured in sufficiently large quantities, solvents used in ballpoint pen ink can be converted into mustard gas."¹¹ Technological advancement also provides an anonymous platform with access to information regarding the creation and proliferation of Weapons of Mass Destruction (WMDs). Aside from surface level content that provides information, the deep dark web provides access to the requisite materials as well. This technological progress, coupled with an increasingly globalized world order, poses a tremendous vulnerability across the board. A biological attack while unlikely should still be considered an important threat as the devastation that it causes can wreak transnational havoc.

There are several reasons why terrorist groups are attracted towards Biological weapons, these include rapid proliferation, relatively lower cost of operation, multiple mediums of insertion¹², lengthy decontamination process¹³ which would require research and investment into the appropriate antibodies, easier access of material as compared to Nuclear material, problems of attrition, and relative ease of anonymous access. Furthermore, these attacks can also cause a tremendous amount of panic and instability that can deconstruct socio-economic order and affect critical architecture adversely thereby propagating the anarchic/malicious intent of the

perpetrator. There have been threats of IS experimenting with animal matter and other such hosts with pathogens. Sources have reported that Mohammed Abrini - the man responsible for the Paris attacks in 2015 was caught with the makings of a crude animal bomb that suggests that IS might be experimenting with biological matter and weaponizing them¹⁴. Furthermore, experts have gone on to state that it would not be impossible for IS to access the materials required for the construction of a Biological weapon. As Dany Shoham states "Suitable pathogens are readily available at academic laboratories, vaccine factories and pharmaceutical companies, all of which are civilian facilities¹⁵." While the prosecutor in Abrini's case later went on to state that the contents of the bag which included animal faecal matter could not be used for the construction of a bomb, the threat of using animal carcasses as host material for biological experimentation remains. With a lot of Non State Actors, the primary issue faced while dealing with Biological weaponization is the process of converting pathogens into weapons. After initial procurement most Non State Actors run into roadblocks as they lack the scientific expertise required for converting this raw material into an actual weapon. That is not a major issue with ISIS as they have a strong economic and scientific architecture in place for chemical and biological warfare experimentation. For example "In June 2014, ISIS took control of two bunkers in Iraq, 45 miles outside of Baghdad that held 2500 degraded chemical missiles armed with Sarin Gas and other Chemical agents.¹⁶" Given the area of operation and control experts have stated that ISIS has supporters all across the globe that fund its projects and it has taken control of Saddam Hussein's stockpiles from the Iraq war and the Syrian conflict. Therefore, it stands to reason that taking into account ISIS's access to Saddam

Hussein's stockpiles and scientific infrastructure, its implementation of a CBRN weaponization program might be challenging - given the collateral issues involved - but not entirely impossible.

However, that being said, there are several reasons deterring ISIS from launching a full scale bioweaponization program. Some of the key concerns surrounding Bioweaponization involve the inability to control the pathogen once it is released. Furthermore, the target area and recipients of the pathogen cannot be limited or contained either. Biological weapons fall under the realm of chaos theory wherein at any given point the entire operation could backfire and spiral out of control. While gaining access to pathogens might not be difficult, the nuances of weaponizing them and containing them in an insulated environment until it is time for release might be challenging. Furthermore, the factor of human error in the process of handling the pathogen could lead to either the death of the pathogen or the spread of the pathogen among the ranks of ISIS itself. Additionally, even if researchers were to come up with a potential antibody to immunize the ranks of the group against the pathogen, the issues of mutation and resistant strains remain. This is potentially why most biological attacks - Aum Shinrikyo's and the post 9/11 attacks - have been limited to the usage of Anthrax which is widespread but not as potent. Furthermore, ideologically speaking the use of bioweapons wouldn't fit in with ISIS's ideological conditioning strategy given that they'd be unable to pick and choose their targets. Furthermore, they have more than enough chemical stockpiles and conventional armament to wreak havoc and terror in precise and calculated strikes for now.

In conclusion, the use of CBRN materials and their possible weaponization into Weapons

of Mass Destruction remains a constant threat given the loopholes in the safeguarding mechanisms surrounding the materials. Yet the potential risks involved in the weaponization of biological pathogens and the collateral damage that could emerge as a result might serve as potential deterrents against their usage and proliferation. Nevertheless, it is essential to stockpile and recalibrate the transfer and proliferation of such material to prevent them from being used for malicious purposes. Furthermore, investing in preparedness and safety mechanisms against biological weapons might help safeguard civil society not only against an attack but also against accidents involving such volatile material. The ongoing march of technological progress is another factor that needs to be taken into account given how coterminous the relationship between Medicare and technology is.

The Internet of Things (IoT) is a lived reality that forms a part and parcel of daily existence which has definitely improved quality of life but it has simultaneously also increased the risk of attack and the dangers of intrusion. Most hospitals use high end technology to store biological materials for research but given the vulnerabilities of cybernetic frameworks, the slightest loophole in encrypted data management could lead to potentially disastrous effects. The use of social media for ideological proliferation is not new, but points to the sophisticated advancements being made within the ranks of Non State Actors like ISIS which are at times much better equipped to use cybernetic architecture to their advantage. Governments need to come together to understand the Technological threat that might emerge from this blurring of boundaries between CBRN and Technological research and experimentation. Given the transnational scope of the threat

governments need to pool their resources to safeguard their Information Technology architecture to protect Critical Infrastructure that might be dependent on these IT frameworks.

Endnotes:

1. Islamic State of Iraq and Syria is also known as the Islamic State of Iraq and the Levant, the Islamic State and Daesh.
2. "Islamic State and the crisis in Iraq and Syria in Maps" at <http://www.bbc.com/news/world-middle-east-27838034> Accessed on 20th November 2016
3. Graeme Wood "What ISIS really wants" at <http://www.theatlantic.com/magazine/archive/2015/03/what-isis-really-wants/384980/> Accessed on 26th October 2016
4. Chatham House "Use of Chemical, Biological, Radiological and Nuclear Weapons by Non State Actors" at <https://www.lloyds.com/~media/files/news%20and%20insight/risk%20insight/2016/cbrn.pdf>
5. Ibid
6. Ibid
7. Ibid
8. Alexander Kelle/Annette Schaper "Terrorism using Biological and Nuclear Weapons" at http://www.hsfk.de/fileadmin/HSFK/hsfk_downloads/prif64.pdf
9. Chatham House "Use of Chemical, Biological, Radiological and Nuclear Weapons by Non State Actors" at <https://www.lloyds.com/~media/files/news%20and%20insight/risk%20insight/2016/cbrn.pdf>
10. Such as water, poultry, etc.
11. Mustard gas was one of the key weapons used by IS in Syria and Iraq
12. Can be released into the air/water/through contact
13. which leaves governments and states vulnerable to further attack
14. Siobhan Mcfadyen "Animal bombs are a dangerous step towards ISIS biological warfare" at <http://www.express.co.uk/news/world/667874/isis-daesh-biological-warfare-dirty-bomb-animal-testicles-brussels> accessed on 24th October 2016
15. Aimee Amiga and Ruth Schuster "ISIS could commit Chemical or Biological attack" at <http://www.haaretz.com/middle-east-news/isis/1.691157> Accessed on 26th October 2016
16. R Weitz "Syria and Beyond" at <http://www.ifri.org/sites/default/files/atoms/files/pp51weitz.pdf> Accessed on 23rd November 2016